PSYCHONOMIC SOCIETY®

ABSTRACTS

of the PSYCHONOMIC SOCIETY

67th ANNUAL MEETING
SAN DIEGO, CALIFORNIA, USA • NOVEMBER 19-22, 2026



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CONTENTS

Keynote Address 3
General Information 4
Registration 4
Policies 7
Hotel Reservations 9
Venue and Meeting Rooms 9
Scientific Program 10
Exhibit Hall Schedule 10
Program & Conference Organization 10
Future Meetings 10
Special Events 11
Receptions 11
Lunchtime Workshops 11
Coffee Breaks 12
Special Sessions 12
Jogonomics 12
Awards and Business Meeting 12
Floor Plans 13
Symposia 14
Awards 18
2026 Clifford T. Morgan Distinguished Leadership Award Recipients 18
2026 Mid-Career Award Recipients 19
2026 Early Career Award Recipients 21
2026 Best Article Award Recipients 23
2026 J. Frank Yates Student Travel Award Recipients 24
2026 Graduate Travel Award Recipients 27
2026 Student Travel Award from Developing Nations Recipients 30
2026 Governing Board 31
2026 Program Committee 32
Psychonomic Society Journals 33
In Memoriam 34
Advertisers, Exhibitors, & Sponsors 36
Affiliate Meetings 37
Condensed Schedule 49
Thursday 49
Friday 49
Saturday 51
Sunday 53
Symposia & Spoken Abstracts 54
Thursday 55
Friday 55
Saturday 107
Sunday 159
Poster Abstracts 186
Thursday, Poster Session I 187
Friday, Poster Session II 245
Friday, Poster Session III 310
Saturday, Poster Session IV 374
Saturday, Poster Session V 436
Author Index 493

KEYNOTE ADDRESS



Imagine No Resources: Attention is Selection and Normalization for Choice

Thursday, November 19, 7:30 - 8:30 PM PST
Marriott Grand Ballroom 5 & 8 (North Tower, Lobby Level)

Gordon D. Logan
Vanderbilt University, USA

For many years, research on attention has been dominated by theories based on the assumption that attention is limited in capacity. These include the limited-capacity channel theories of Welford and Broadbent and capacity or resource theories of Moray, Posner, and Kahneman. I will challenge those theories and their many descendants by asking why capacity is limited and what role capacity plays in the computations required to perform attention tasks. There are few satisfactory answers in limited-capacity and resource theories of attention. I will show that the effects of load on performance, which are commonly interpreted as evidence for limited capacity, can be produced by models that assume unlimited, limited, and fixed capacity. I argue that attention is better construed as selection of information that we need to achieve our goals. Following current research on computational models of attention in associative learning, categorization, perceptual learning, cognitive development, neuroscience, and artificial intelligence, I propose that attention is a process of choice, in which selection is implemented as multiplicative gain control and processing is constrained by normalization. This perspective focuses on interactions between representations and decision processes applied to them, explaining many attentional phenomena without assuming attention is a limited resource. Imagine no resources. It's easy if you try.

About Dr. Logan
Gordon Logan currently serves as a Centennial Professor of Psychology and has conducted influential research in automaticity and skill acquisition, attention and performance, spatial cognition, executive control strategies and processes, stopping behavior, mental arithmetic, and attention deficits in hyperactive children. A member of the Psychonomic Society since 1979, Logan has received numerous awards throughout his distinguished career.

This event will be recorded.

GENERAL INFORMATION

Registration

The 2026 Annual Meeting promises to be a global gathering, with nearly 2,000 colleagues from more than 35 countries converging in San Diego, California, USA.

Included in registration:

- More than 250 spoken presentations (abstract-driven)
- 5 symposia (member submitted)
- 1,000+ posters in 5 sessions (abstract-driven)
- All Psychonomic Society receptions
- Morning coffee breaks
- Special sessions including the keynote address, 6 lunchtime workshops, and more!
- Opportunities for collaboration with an interdisciplinary network of early career, mid-career, and senior scientists.

Registration fees are based on our membership categories. You must have a current membership to take advantage of the discounted registration fees. If you have questions about your membership category (e.g., in between studies or working in a "pre-PhD" status such as a lab manager or research assistant), please contact Member Services for guidance at info@psychonomic.org.

2026 Registration Fees (USD)

Membership Category	Early Registration Ends Aug. 31	Regular Registration Sept. 1–Oct. 31	Late Registration Nov. 1 or later
Fellow	$200	$250	$300
Member	$200	$250	$300
Emeritus Fellow	$100	$125	$150
Emeritus Member	$100	$125	$150
Graduate Student	$60	$75	$125
Undergraduate Student	$40	$50	$100
Guest*	$40	$50	$60
Non-member**	$380	$475	$500

***Guest**
The Guest registration category is for guests who are partners or traveling companions of registered attendees. Attendees eligible to register for the annual meeting as an attendee may not register as a guest. (Guests are allowed to attend our receptions but are not eligible to participate in the educational programming.)

****Non-member**
To register at the non-member rate, you MUST create a user account (if you have not already done so) to register online. Go to psychonomic.org/page/member, and follow the instructions for joining as a member but do not pay for membership. After creating and saving your profile, go to psychonomic.org/page/2026registration to register for the meeting as a non-member.

*****Companion Passes**
Companion Passes are available for attendees who will provide support for presenters or attendees who have special needs or require accommodations in order to access the programs. No fees are charged for companion passes. Questions? Contact **info@psychonomic.org.**

Children Aged 17 and Under
Individuals aged 17 and under can only attend the annual meeting with adult supervision. Children will not register or receive badges. Group leaders must contact staff at **info@psychonomic.org** for permission to bring high school groups to the meeting.

Onsite Registration
The onsite registration desk will be located in the Pacific Ballroom Foyer (North Tower, First Floor) in the Marriott Marquis San Diego Marina Hotel. We strongly encourage all attendees to register early to avoid higher onsite fees, expedite your check-in process, and reduce waiting times for all attendees.

Registration Hours

Wednesday, November 18	4:00 PM–8:00 PM
Thursday, November 19	7:00 AM–8:30 PM
Friday, November 20	7:00 AM–6:00 PM
Saturday, November 21	7:00 AM–6:00 PM
Sunday, November 22	7:00 AM–12:00 PM



Become a Member!

Join the Psychonomic Society to connect with more than 4,300 cognitive and experimental psychologists from around the world! Our members include some of the most distinguished researchers in the field. Many of us are concerned with the application of psychology to health, technology, and education, and many of us use converging methods such as neuroscience and computational science to achieve our research goals. Join online at www.psychonomic.org/member and your membership will be paid through December 31, 2027.

Undergraduate Student
Qualifications: Applications require a letter certifying enrollment in an undergraduate program in psychology or an allied field.
2026 Dues: $15 USD

Graduate Student
Qualifications: Graduate Student membership requires a letter certifying enrollment in a graduate student program in psychology or an allied field.
2026 Dues: $25 USD

Member
Qualifications: Must have a PhD or equivalent in psychology or an allied field.
2026 Dues: $85 USD

Fellow (by application only)
Qualifications: Applications are due September 1, 2026. Please visit psychonomic.org/fellows for more details.
2026 Dues: $120 USD

Emeritus
Qualifications: Fellows and Members in good standing who have retired may request Emeritus status.
2026 Dues: No Dues



Policies

Registration Cancellation & Refund Policy
Notice of registration cancellation for the Annual Meeting must be made in writing to info@psychonomic.org. Cancellations will not be accepted by telephone.

Meeting cancellations received before September 30 will be refunded in full. Cancellations received October 1–31 will incur a $50 administrative fee. No refunds will be provided after October 31.

All refunds are issued via the same method used for payment. Refunds are processed within 30 days after the conclusion of the meeting.

Statement on Harassment
The Psychonomic Society is an inclusive and welcoming organization, and our meeting should reflect those values. Conference attendees and visitors should enjoy freedom of speech, freedom of thought, and freedom from harassment and discrimination of all kinds.

We encourage members to be mindful of others' perspectives and to consider how a question, comment, or invitation might be received, particularly when there is a power differential between parties. Constructive criticism is an essential part of science. No participant should feel vulnerable to harassment or discrimination, nor should they endure a climate of fear or hostility, at our meetings or in our digital events.

Let's all work together to ensure that our values of inclusion, respect, and professionalism are ones that are enjoyed by all of our members and event participants.

Code of Conduct for Meetings, Events, Press & Media, and Workshops
The Psychonomic Society is dedicated to creating a safe and productive setting for meetings, events, and workshops while providing a valuable platform for the presentation and discussion of diverse scientific perspectives in a structured, respectful, and equitable format.

We advocate for equal treatment and opportunities for all attendees, maintaining a space free from harassment and discrimination. Respectful and considerate behavior toward others is expected, alongside compliance with venue regulations. Attendees are encouraged to promptly notify staff or security of any situation or individuals in need. Speakers also are urged to adhere to principles of scientific integrity and professional ethics, disclosing any potential conflicts of interest (e.g., financial support from an evaluated product) to Psychonomic Society staff before the event. View the full Code of Conduct for Meetings, Events, & Workshops here.

Name Badges
For everyone's security and enjoyment, we require all attendees to wear their official name badge throughout the meeting. You'll receive your badge at the registration desk. Badges are non-transferable and may be checked by staff. Lost or damaged badges can be replaced free of charge. Please return your badge for recycling at the end of the meeting. For your safety, we advise removing your badge when outside the hotel.

Photography & Recording Policy
Attendee photography and recording of presentations and exhibits should not be disruptive. Flash photography is not permitted. Devices should be handheld.

All attendees will immediately honor the request of the presenter and/or session chair to stop photographing or recording the talk, as a matter of scientific and professional courtesy.

Large cameras and other equipment such as tripods, monopods, etc., are prohibited unless used by staff or the official meeting photographer.

For the 2026 Annual Meeting, the Psychonomic Society reserves the right to live stream or record any presentation for later viewing by meeting attendees or Psychonomic Society members

and to publish still photographs online or in any printed material for marketing purposes at its sole discretion. If you do not wish to have your video or photograph used for such purposes, notify us at info@psychonomic.org. The Psychonomic Society will consider such requests but does not guarantee they can be honored.

All-Gender Restroom/Family Restroom
The family restrooms at the Marriott Hotel are designated as gender-neutral and available for use by all attendees. Located in the Grand Ballroom area on the Lobby Level of the North Tower, these facilities provide an inclusive and accessible option throughout the event.

Family & Guest Policy
The guest registration category is for guests who are partners or traveling companions of registered attendees. Guests are allowed to attend our receptions but are not eligible to participate in educational programming unless they are providing support for the presenter (e.g., ASL/voice interpreter) and have secured a Companion Pass.

Attendees who are eligible to register for the Annual Meeting as an attendee may not register as a guest.

Accessibility & Accommodations
The Psychonomic Society is committed to making our events accessible and welcoming for everyone. We strive to host inclusive events that enable everyone, including individuals with disabilities, not just to attend, but to engage fully.

View the full Accessibility/Accommodations Policy here.

Hotel Wi-Fi
Wi-Fi access included in the registration fee for attendees in the annual meeting space is optimized for single-device use for email, messaging, and event schedule updates in the hotel meeting spaces. Please be considerate of fellow attendees and limit your access to one device. High-bandwidth use (e.g., streaming and video downloads) is not supported and may be restricted to ensure connection quality for all attendees.

Wellness Room
A small wellness area is available at the hotel for lactation, meditation, administering self-injections, or other private needs during the meeting. The room is a private area equipped with refrigeration located in the Marriott Grand Ballroom Foyer. Attendees may not use this room for babysitting purposes. To reserve this space, please go to the PS onsite registration desk located in the Pacific Ballroom Foyer (North Tower, First Floor).

Visa Letter of Invitation
Visa letters are provided only to accepted speakers, poster presenters, and fully paid attendees of the Annual Meeting. Request a visa letter of invitation here.

Certificates of Attendance or Participation
To receive a certificate of attendance or participation, submit your request in writing to info@psychonomic.org after the meeting.

Press & Media Policy
Journalists who are employed by accredited news organizations attending the meeting for the purpose of editorial coverage will be granted media credentials. Access information for Press & Media here.

Acknowledgements

Supporting the Society's Program Committee and Secretary in the development of the 2026 Annual Meeting were: Fábio Leite, Interim Executive Director; Cora Brumley, Associate Director; Brooke Miller, Director of Meetings; Bill Stoeffler, IT and Abstracts Manager; Cori VanGalder, Association Manager; Jeannette Moon, Association Specialist; Kris Rockouski, Affiliates & Exhibits Manager; Mandy Engels, Association Registrar; and Kenzie Trezise, Production & Graphics Manager.

Hotel Reservations

Special rates are available for attendees at the Marriott Marquis San Diego Marina. All events will take place in the Marriott. To take advantage of these special rates, book by **October 26** or before the room block is filled, whichever comes first.

- Get the lowest guaranteed rate at the hotel during the meeting.
- Your support by booking within our reserved blocks helps avoid financial penalties for the Society.

Marriott Marquis San Diego Marina
333 W. Harbor Drive
San Diego, California, USA
+1-619-234-1500

Special Rates
- $229 USD single/double occupancy (Attendee)
- $259 USD triple occupancy
- $289 USD quad occupancy

(Plus applicable government taxes and destination fees)



Venue and Meeting Rooms

All spoken presentations, receptions, special events, and poster presentations will take place at the Marriott Marquis San Diego Marina.

Speaker-Ready Room
All presentations for spoken sessions must be submitted to the speaker-ready room located in **Rancho Santa Fe 1 (North Tower, Lobby Level)** at the hotel. Each presentation then will be distributed to the appropriate computer by our technicians. No direct loading will be available in the session rooms.

The computers in the speaker ready room and session rooms are alike. If your presentation looks good in the speaker ready room, it will look good in the session. Please prepare your presentation in a **16:9 ratio** format. If your presentation has audio, please inform a technician in the speaker ready room. It is strongly recommended that you test your presentation in the speaker-ready room at least two hours before your presentation. Session chairs are encouraged to solicit papers from individuals in their sessions prior to the meeting and to load presentations in the speaker ready room prior to the session.

Audiovisual support is available in the speaker ready room to help with loading presentations and to answer any questions you may have during the following hours:

Thursday, November 19	4:00 PM–7:00 PM PST
Friday, November 20	7:00 AM–5:00 PM PST
Saturday, November 21	7:00 AM–5:00 PM PST
Sunday, November 22	7:00 AM–11:00 AM PST

Weather/Conference Attire
San Diego's average high in November ranges from daytime highs in the mid-70s °F during the day and the mid to lower 60s °F overnight; expect breezy weather and partly cloudy conditions. There are plenty of events to check out and activities to try indoors and outdoors in San Diego during this time. Meeting room temperatures tend to vary. Please bring a light sweater or jacket to all meetings.

Scientific Program

2026 Program
There were 1,256 submissions, of which 1,240 were accepted. Of the 1,240 placed on the program, 306 are spoken, 38 are data blitzes, and 896 are posters. In addition, there are 5 accepted symposia.

Program History

2025–Denver	1,089
2024–New York	1,650
2023–San Francisco	1,323
2022–Boston (hybrid)	1,326
2021–Virtual	1,297
2020–Virtual	1,294

Poster Sessions
All poster sessions will take place in-person in the Pacific Ballroom in the North Tower on the First Level of the Marriott Marquis San Diego Marina. *(All times listed are Pacific Standard Time.)*

- **Poster Session I:** Thursday, November 19, 6:00–7:30 PM
- **Poster Session II:** Friday, November 20, Noon–1:30 PM
- **Poster Session III:** Friday, November 20, 6:00–7:30 PM
- **Poster Session IV:** Saturday, November 21, Noon–1:30 PM
- **Poster Session V:** Saturday, November 21, 6:00 PM–7:30 PM

Exhibit Hall Schedule

All times listed are Pacific Standard Time.

Thursday, November 19	3:30 PM–9:30 PM
Friday, November 20	9:30 AM–6:00 PM
Saturday, November 21	9:30 AM–6:00 PM

Exhibitor booths will be in the Marriott Grand Ballroom Foyer in the North Tower on the Lobby Level of the Marriott Marquis San Diego Marina. More information about this year's exhibitors can be found **here** or in the meeting mobile app.

Program & Conference Organization

The Secretary, Marianne Lloyd, is responsible for organizing the program, and the Program Committee reviews all submissions. The Psychonomic Society does not disallow Governing Board members to be part of symposia or workshops (e.g., lunchtime workshop) for the six years they serve the Society. However, any Program Committee member who is part of a symposium/workshop submission is required to be recused from judging that submission. Additionally, any other Program Committee member on the Governing Board is required to recuse themselves from rating any fellow Governing Board member's submissions.

Future Meeting

2027 New Orleans, Louisiana, USA, November 18–21

SPECIAL EVENTS

Receptions

Opening Reception
Thursday, November 19, 8:30–9:30 PM PST
(Immediately following the Keynote Address.)
Marriott Grand Ballroom Foyer & Terrace (North Tower, Lobby Level)

Diversity & Inclusion Reception
Sponsored by the Psychonomic Society's Diversity & Inclusion Committee
Friday, November 20, 5:45–7:00 PM PST
Presidio 1 + 2 (North Tower, Lobby Level)

Please join us for a reception to celebrate diversity, equity, and inclusion in our field. We hope to foster an environment of inclusiveness, where all individuals feel welcome, valued, and heard. We encourage you to engage with one another, share your experiences, and celebrate the unique perspectives that each of you bring to the conversation.

Friday Poster Session Reception (Cash Bar)
Friday, November 20, 6:00–8:00 PM PST
Pacific Ballroom (North Tower, First Level)

Graduate Student Social
Friday, November 20, 7:30–10:30 PM PST
Marriott Marquis San Diego Marina Hotel
South Pool Patio

Kick back and relax as you meet other student members at the Annual Meeting. Light hors d'oeuvres and one drink ticket good for beer, wine, soda, or bottled water will be handed out per person (limited availability). You must be over 21 to attend. Bring an appropriate ID and your PS Annual Meeting name badge.

Saturday Poster Session Reception (Cash Bar)
Saturday, November 21, 6:00–8:00 PM PST
Pacific Ballroom (North Tower, First Level)

Lunchtime Workshops

AI in the Publication Lifecycle: Views from Publishers, Societies, and Editors
Friday, November 20, 12:00 – 1:30 PM PST
Marriott Grand Ballroom 12 (North Tower, Lobby Level)
Organizer: Morgan Ryan, Springer Nature, USA

Members of Psychonomics Are Researchers. But We Are Classroom Professors Too
Friday, November 20, 12:00 – 1:30 PM PST
Rancho Santa Fe 2-3 (North Tower, Lobby Level)
Organizer: Harvey Langholtz, William & Mary University, USA

Supporting Undergraduates at Psychonomics (UP): A Faculty Panel on Graduate School, Research, and Academic Careers
Friday, November 20, 12:00 – 1:30 PM PST
Pacific Ballroom - Salon 23 (North Tower, First Level)
Organizers: Jackson Colvett, Berry College, USA; Jessica M. Karanian, Fairfield University, USA; Nayantara Kurpad, St. Mary's College of Maryland, USA

Demystifying the Publication Process: Advice from the Editors
Saturday, November 21, 12:00 – 1:30 PM PST
Marriott Grand Ballroom 12 (North Tower, Lobby Level)
Organizer: Cindy Lustig, University of Michigan, USA

Transforming Classroom Learning with Generative AI: From Obstacle to Research Partner
Saturday, November 21, 12:00 – 1:30 PM PST
Rancho Santa Fe 2-3 (North Tower, Lobby Level)
Organizer: Catherine Caldwell-Harris, Boston University, USA

Analyzing Behavioral Data at the Cognitive Process Level with bmm in R
Saturday, November 21, 12:00 – 1:30 PM PST
Pacific Ballroom - Salon 23 (North Tower, First Level)
Organizer: Gidon Frischkorn, University of Zurich, Switzerland

Coffee Breaks

Coffee breaks will take place on Friday, Saturday and Sunday from 9:30–10:30 AM PST in the Marriott Grand Ballroom Foyer in the Exhibit area.

Special Sessions

GSPC Special Session: Keeping Your Options Open: Alternative Non-Academic Career Paths
Friday, November 20, 1:45 PM – 3:30 PM PST
Pacific Ballroom - Salon 23 (North Tower, First Level)
Organizer: PS Graduate Student and Postdoc Committee

The Current Landscape of Funding for the Psychological Sciences
Saturday, November 21 | 1:45 PM – 2:45 PM PST
Pacific Ballroom - Salon 23 (North Tower, First Level)
Organizer: Betty Tuller, National Science Foundation, USA

Jogonomics

Saturday, November 21, 6:00 AM PST
(Time subject to change based on weather)
Pacific Ballroom Lobby near the PS Registration Desk

Organizer: Marianne Lloyd, Seton Hall University, USA, and Andrew Butler, Washington University in St. Louis, USA

Join your fellow Psychonomes on a 5K or 5-mile run. You choose a distance and a pace that works best for you. Sign up for Jogonomics when you register for the meeting. A waiver is required and can be found **here**. Participants will meet in the Pacific Ballroom Lobby near the PS Registration Desk.

Awards and Business Meeting

Saturday, November 21, 5:10 - 6:30 PM PST
Marriott Grand Ballroom 5 & 8 (North Tower, Lobby Level)

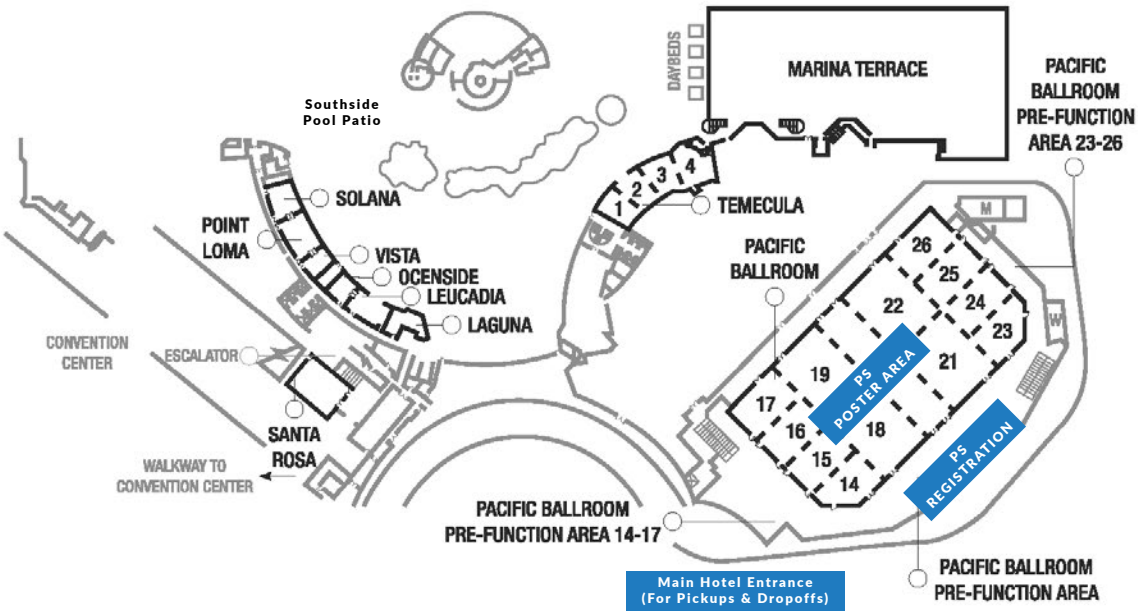
Join the Psychonomic Society's leadership as they honor the 2026 award recipients and provide updates on Society business.

Recipients of the following awards will be recognized:

- Clifford T. Morgan Distinguished Leadership Award
- Mid-Career Award
- Early Career Award
- Best Article Award
- Graduate Travel Award
- J. Frank Yates Student Travel Award
- Outgoing Editors-in-Chief Service Recognition Awards
- Governing Board Service Recognition Award
- Governing Board Chair Recognition Award

FLOOR PLANS

FIRST FLOOR
Ground Level



SECOND FLOOR
Lobby Level



SYMPOSIA

SYMPOSIUM I

Misinformation in the Wild: Characterizing and Correcting Misinformation in Real-World Contexts

Friday, November 20, 10:00 AM - 12:00 PM PST
Marriott Grand Ballroom 5 & 8 (North Tower, Lobby Level)
Organizer: *Alyssa Sinclair, Rice University, USA*

Misinformation poses an urgent societal challenge, accelerated by online media environments and generative AI. This symposium bridges the gap between controlled experiments and the real-world contexts that shape how people encounter, share, remember, and correct misinformation. We explore the cognitive mechanisms underlying belief in misinformation and effective correction with real-world stimuli and in naturalistic contexts. We present evidence of robust illusory truth effects outside the lab and over time, identify features of high-risk climate change misinformation on social media and leverage insights for correction, demonstrate that the timing of fact checks enhances correction under naturalistic conditions, and leverage large language models to debunk conspiracy beliefs via AI conversations.

Characterizing and Countering High-Risk Climate Change Misinformation on Social Media—*Alyssa Sinclair, Rice University, USA*
Understanding the Effects of Repetition on Belief in Real-World Settings—*Lisa Fazio, Vanderbilt University, USA*
Providing Fact-Checks After Exposure Make Them More Memorable—*Nadia Brashier, University of California, San Diego, USA*
Dispatches from Debunkbot: Using AI to Undermine Dubious and Conspiratorial Beliefs—*Gordon Pennycook, Cornell University, USA*

SYMPOSIUM II

Understanding Nature and Cognition: Methodological Approaches, New Discoveries, Emerging Perspectives on Human-Environment Interaction, and Future Research Directions

Friday, November 20, 1:30-3:30 PM PST
Marriott Grand Ballroom 5 & 8 (North Tower, Lobby Level)
Organizer: *Jason Watson, University of Colorado Denver, USA*

Many studies have shown that interacting with nature may have beneficial effects for one's mental health. More specifically, interacting with nature may have dual benefits, both reducing stress and improving attentional control, defined as the ability to actively maintain task goals and avoid sources of interference, thereby representing a critical cornerstone of higher-order cognition. In recognition of the rapidly expanding body of empirical research exploring how nature influences attention, emotion, and other core cognitive processes, we recently convened the inaugural, biennial, affiliate meeting of the Society for Nature and Cognition (SNAC) here at the Annual Meeting of the Psychonomic Society (see Society for Nature and Cognition 2025 | Nature and Health Alliance, for additional details). The theme of our first gathering, "New Pathways for Nature and Cognition," was designed to spotlight emerging perspectives, challenge prevailing paradigms, and inspire innovative directions in the interdisciplinary field of environment and cognition. This affiliate meeting was especially timely given the ongoing debate with respect to cognitive processes that are most likely to benefit from interacting with nature. One goal of the current symposium is to assemble expert speakers from SNAC to disseminate this "cutting-edge" work on human-environment interaction to the larger membership of the Psychonomic Society. A second goal is to potentially increase the number of our colleagues who are actively conducting empirical research on nature/cognition for the next affiliate meeting of SNAC in 2027 and beyond.

SYMPOSIUM II (*CONTINUED*)

Opening Remarks and Introduction on Understanding Nature and Cognition—Jason Watson, University of Colorado Denver, USA
Natural Settings Buffer Against Process Losses in Group Creativity—Ruth Ann Atchley, University of South Florida, USA
High-Frequency Heart Rate Variability Mediates Attentional Control Benefits following Exposure to Nature Images—Keith Hutchison, Montana State University, USA
Aging Naturally: Nature's effects on Executive Functioning and Stress Recovery in Older Adults—Sara LoTemplio, University of Utah, USA
Neural Mechanisms of Nature's Effects on Attention—Amy McDonnell, University of Utah, USA
The How and Who of Attention Restoration: Understanding Differences in Nature Benefits across Types of Measures and Populations—Alexandre Marois, Université Laval, Canada

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SYMPOSIUM III

Cognitive Aging in Diverse Populations (2026 Symposium on Cognition, Behavior, and Society)

Friday, November 20, 3:45 PM-5:45 PM PST
Marriott Grand Ballroom 5 & 8 (North Tower, Lobby Level)
Organizer: *Audrey Duarte, University of Texas, Austin, USA*

The population of Americans over the age of 65 is expected to increase by roughly 40% by 2050 and concomitantly, the population of people living with dementia is expected to double. Thus, there is a pressing need to understand cognitive aging, its associated mechanisms and modifiable risk and resilience factors to inform future interventions. Unfortunately, despite decades of research and well-known disparities in dementia prevalence in historically minoritized populations, very little is known about cognitive aging and decline in these individuals, due to their underrepresentation in research studies. This symposium will present some

SYMPOSIUM III *(CONTINUED)*

of the latest findings from cognitive aging research in underrepresented middle-aged and older adults using a variety of cognitive, behavioral, biological, neuroimaging, cross-sectional and longitudinal measures, and advanced statistical methods. This symposium brings together speakers from diverse research areas including neighborhood income segregation, language proficiency, bilingualism, depression and vascular burden, and inclusion of people with lived experience in research design. The panel will discuss how these findings are setting up the field to understand cognitive aging in a diverse, rapidly aging population and to develop culturally appropriate assessments and interventions.

Life-Course Income Segregation and Biomarkers of Cognitive Aging and Alzheimer's Disease in Diverse Older Adults—*Alexandra Clark, University of Texas, Austin, USA*
Vascular Depression as a Pathway to Cognitive Disparities in Aging—*Vonetta Dotson, Center for Brain/Mind Medicine Brigham and Women's Hospital, USA*
Navigating Complex Topics in ADRD Research: The Integration of Mixed Methods Approaches into Clinical Trial Design—*Crystal M. Glover, University of California, Irvine, USA*
Clinical and Biological Evidence for Bilingualism's Protective Effects in Alzheimer's Disease—*Stephanie Grasso, University of Texas, Austin, USA*
Language of Testing and Cognitive Outcomes Among Hispanic/Latino Adults—*Ariana Stickel, San Diego State University, USA*

SYMPOSIUM IV

Collective Future Thinking at Times of War and Conflict

Saturday, November 21, 10:00 AM-12:00 PM PST
Marriott Grand Ballroom 5 & 8 (North Tower, Lobby Level)
Organizer: *Qi Wang, Cornell University, USA*

The world today is filled with uncertainty escalated by wars and conflicts. Apart from violent military confrontations across different regions globally, conflicts stemming from social upheavals, economic disparities, and political polarization are also mounting in many societies. How people anticipate in this context what is to happen in their collective future, namely collective future thinking, can have critical implications for individuals and societies, shaping mental health, civic engagement, national and foreign policies, and peace intervention. This timely symposium seeks to understand anticipatory processes at times of global challenges. It gathers together leading researchers with diverse geographical, demographical, and intellectual perspectives to share their cutting-edge work on how people imagine the collective future in the face of war and conflict that is taking place in their own country, region, or on the global stage. Together, the six presentations reveal a variety of individual (e.g., cognitive bias, construal level), group (e.g., political affiliation, involvement in conflict, identity), and cultural-societal factors (e.g., historical events, narrative templates, national policies) that influence future anticipations and their consequences for attitudes and behaviors (e.g., violent protest, collective anxiety) toward conflict resolution and other societal/global issues. The symposium will contribute to our understanding of the anticipatory processes concerning the collective future in a world of uncertainty and crises.

SYMPOSIUM IV (CONTINUED)

How is the Russia-Ukraine War Going to End: Collective Forecasts in Americans, Australians, and Chinese—*Qi Wang, Cornell University, USA*
Temporal Discounting in the Value of Peaceful Protest: Endorsement of violent protest predicted by an interaction of the temporal distance and likelihood of desired outcome—*Jeremy Yamashiro, University of California, Santa Cruz, USA*
National narrative schemas about international relations as frames for collective memory and future thinking—*William Hirst, New School for Social Research, USA*
The Collective End of History Illusion—*Adam Putnam, Furman University, USA*
Presidential Elections: Polarization, Collective Mental Time Travel and Collective Anxiety—*Ayşecan Boduroglu, Koç University, Turkey*
Collective and Personal Future Thoughts and Identity in Ukraine during War—*Scott Cole, York St. John University, UK*

SYMPOSIUM V

What We Miss When We Study Cognition, Metacognition, and Motivation Separately

Saturday, November 21, 1:30-3:30 PM PST
Marriott Grand Ballroom 5 & 8 (North Tower, Lobby Level)
Organizer: *Paulo Carvalho, Carnegie Mellon University, USA*

Researchers studying human learning have largely treated individual processes in isolation—examining how people encode and retrieve information, how metacognitive monitoring guides study decisions, and how motivation shapes engagement. However, in the classroom and in everyday life, cognitive, metacognitive, and motivational processes do not influence learning in isolation. They are closely interrelated, and studying them separately may leave us with an incomplete (and possibly misleading) understanding of the mechanisms that shape student success. For example, although the cognitive effects of practice testing are widely studied, their motivational impacts are less understood. Similarly, while the role

SYMPOSIUM V *(CONTINUED)*

of metacognitive monitoring in self-regulation is a classic area of study, far less is known about how metacognitive processes relate to cognitive and motivational processes. And, although the effects of motivation on engagement and persistence have been well documented, their impact on cognitive and metacognitive processes remain underexplored. In this symposium, we bring together research from multiple processes of learning (cognitive, metacognitive, and motivational) and their impact on different outcomes of learning. Together, in a final discussion panel led by the organizer, we will consider what new insights emerge when we examine them not in isolation but as an interconnected system.

Dissociating Metacognitive Monitoring and Motivational Influences on Learners' Study Decisions—*Gillian Gold, Carnegie Mellon University, USA*

Using Utility Value and Choice to Promote Interest in Statistics—*Michael Asher, Carnegie Mellon University, USA*

Learning from Errors: Theory, Data and Application—*Janet Metcalfe, Columbia University, USA*

Destigmatizing Support: A Brief Intervention to Promote College Students' Use of Peer Education Services—*Cameron Hect, University of Rochester, USA*

AI as a Peer? Examining Learning, Engagement, and Strategy Use in Human-AI vs. Human-Human Instruction—*Michelle Rivers, Santa Clara University, USA*

AWARDS

2026 Clifford T. Morgan Distinguished Leadership Award Recipient

The Psychonomic Society is pleased to recognize the 2026 recipient of our Clifford T. Morgan Distinguished Leadership Award: **Stephan Lewandowsky**, Bristol, UK. **To learn more about Clifford T. Morgan, click here**.



Stephan Lewandowsky

University of Bristol, UK

Professor Stephan Lewandowsky is a cognitive scientist at the University of Bristol whose main interest is in the pressure points between the architecture of online information technologies and human cognition, and the consequences for democracy that arise from those pressure points.

He is the recipient of numerous awards and honours, including a Discovery Outstanding Researcher Award from the Australian Research Council, a Wolfson Research Merit Fellowship from the Royal Society, and a Humboldt Research Award from the Humboldt Foundation in Germany. He is a Fellow of the Academy of Social Science (UK) and a Fellow of the Association of Psychological Science. He was appointed a fellow of the Committee for Skeptical Inquiry for his commitment to science, rational inquiry and public education. He was elected to the Leopoldina (the German national academy of sciences) in 2022. He was elected a Fellow of the British Academy in 2026.

Professor Lewandowsky also holds an Honorary Professorship at the University of Potsdam in Germany. He was identified as a highly cited researcher in 2022, 2023, 2024, and 2025 by Clarivate, a distinction that is awarded to fewer than 0.1% of researchers worldwide.

He has published more than 300 scholarly articles, chapters, and books, with more than 150 peer-reviewed articles alone during the last 10 years. His research regularly appears in journals such as Nature Human Behaviour, Nature Communications, and Science. (See **www.lewan.uk** for a complete list of scientific publications.)

Professor Lewandowsky also frequently appears in print and broadcast media and has contributed around 100 opinion pieces to the global media. He has been working with policy makers at the European level for many years, and he was first author of an EU report on Technology and Democracy in 2020 that has helped shape EU digital legislation. He recently co-led another report for the EU, called Fractured Reality, that advocates for European digital autonomy.

The 2026 Clifford T. Morgan Distinguished Leadership Award Committee members are Jeanette Altarriba, (Chair) University at Albany, The State University of New York, USA; Audrey Duarte, University of Texas at Austin, USA; Wendy Francis, University of Texas at El Paso, USA; Zenzi M. Griffin, University of Texas at Austin, USA; Tina Sutton, Rochester Institute of Technology, USA; Michael Toglia, University of North Florida, USA; and Jeremy Wolfe, Harvard Medical School/Brigham & Women's Hospital, USA. The recipients will be recognized at the Awards and Business Meeting on Saturday, November 21, 5:10–6:30 PM PST. Read more about the award at psychonomic.org/page/leadershipaward.

2026 Mid-Career Award Recipients

The Psychonomic Society is pleased to recognize the recipients of the 2026 Mid-Career Award: **Donna Rose Addis**, Baycrest Academy for Research and Education, Canada; **Angela Gutchess**, Brandeis University, USA; **Michael Jones**, Indiana University, Bloomington, USA; and **Geoff Woodman**, Vanderbilt University, USA.



Donna Rose Addis

Baycrest Academy for Research and Education, Canada

Dr. Donna Rose Addis is a Senior Scientist at the Rotman Research Institute at Baycrest Academy for Research and Education, and a Professor of Psychology at the University of Toronto. She completed her PhD at the University of Toronto and a postdoctoral fellowship at Harvard University. Following 10 years as a Professor at the University of Auckland, she returned to Canada to take up a prestigious Canada 150 Research Chair. She combines neuroimaging, behavioural and neuropsychological methods to investigate how the human brain remembers past experiences, imagines future events and constructs a coherent sense of self, as well as how these abilities differ with age, mood disorders, and memory loss. Her work has yielded new theoretical and philosophical perspectives, including the reconceptualization of memory as future-oriented. With over 140 publications and more than 30,000 citations, she has received a number of prestigious international awards, and is the youngest-ever person to be elected as a fellow of the Royal Society of New Zealand.

More.



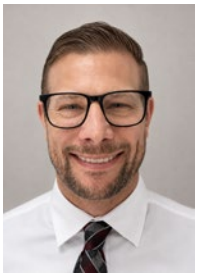
Angela Gutchess

Brandeis University, USA

Dr. Angela Gutchess is a Professor and Department Chair of Psychology at Brandeis University with appointments in Neuroscience and the Volen Center for Complex Systems. She received her Ph.D. in Psychology from the University of Michigan and her B.A./B.S. from Boston University. Her research investigates the influence of age and culture on memory and social cognition, using behavioral, neuroimaging (fMRI), electrophysiological (ERP), and patient (aMCI) methods. In addition to publishing over 120 empirical articles and many chapters, she has published three books on cognitive aging. Her research has been funded by the National Institute on Aging, the National Science Foundation, the Alzheimer's Association, the American Federation for Aging Research, and the Fulbright Program. Angela relished her time on the Psychonomic Society Governing Board (2019-2024; Chair in 2023). She also co-organizes (with Suparna Rajaram) the Culture & Cognition meeting, typically held as a pre-conference at Psychonomics. Currently she is on the Board of Directors for the Association of Psychological Science and the AAAS Steering Committee for Psychology (section J); prior roles include serving as an Associate Editor at Cognition, Memory & Cognition, Journal of Gerontology: Psychological Sciences, and Memory.

More.

2026 Mid-Career Award Recipients (Continued)



Michael Jones

Indiana University, Bloomington, USA

Michael N. Jones is the William and Katheryn Estes Endowed Chair, Professor of Psychological and Brain Sciences and Cognitive Science, and Chair of the Department of Psychological and Brain Sciences at Indiana University. He received his Ph.D. from Queen's University, where he trained with Doug Mewhort, and completed postdoctoral training at the Institute of Cognitive Science at the University of Colorado with Walter Kintsch, Mike Mozer, and Tom Landauer. Jones's research explores how computational theories can bridge cognitive psychology and artificial intelligence. His work has advanced theories of semantic memory, language, and memory search while demonstrating how computational models grounded in human cognition can inform machine learning and artificial intelligence. Conversely, his research has demonstrated how advances in artificial intelligence—including modern large language models—can provide new tools for understanding the mechanisms underlying human learning, memory, knowledge representation, and clinical disorders. Across his career, he has integrated formal computational theory, behavioral experimentation, and large-scale naturalistic data to develop unified accounts of human and machine intelligence.

More.



Geoff Woodman

Vanderbilt University, USA

Geoff's research uses a combination of behavioral, neuroscientific, and modeling approaches to understand how attention and memory control information processing. The majority of his early career examined how working memory and attention control each other and his later work focusing on how long-term memory shapes the selection of new inputs to the brain. Geoff has served on the Psychonomic Society editorial boards of Psychonomic Bulletin & Review and Attention, Perception, & Psychophysics, in addition to serving as Associate Editor at JEP:HPP for nine years. He has had the honor of training undergraduates, PhD students, and postdoctoral researchers who are now leaders in their fields of research, as well as collaborating with excellent neuroscientists and clinicians to push the laboratory's research in new impactful directions.

More.

The 2026 Mid-Career Award Committee members are Jeanette Altarriba, (Chair) University at Albany, The State University of New York, USA; Audrey Duarte, University of Texas at Austin, USA; Wendy Francis, University of Texas at El Paso, USA; Zenzi M. Griffin, University of Texas at Austin, USA; Tina Sutton, Rochester Institute of Technology, USA; Michael Toglia, University of North Florida, USA; and Jeremy Wolfe, Harvard Medical School/Brigham & Women's Hospital, USA. The recipients will be recognized at the Awards and Business Meeting on Saturday, November 21, 5:10–6:30 PM PST. Read more about the award at psychonomic.org/page/midcareeraward.

2026 Early Career Award Recipients

The Psychonomic Society is pleased to announce the recipients of the 2026 Early Career Award: **Paulo Carvalho**, Carnegie Mellon University, USA; **Steven C. Pan**, National University of Singapore, Singapore; **Maria M. Robinson**, University of Warwick, UK; and **Steven Weisberg**, University of Texas at Arlington, USA.



Paulo Carvalho

Carnegie Mellon University, USA

Paulo Carvalho is an Assistant Professor in the Human-Computer Interaction Institute at Carnegie Mellon University, where he directs the OAK Lab. He received a PhD in Psychology from Indiana University in 2016. Paulo's research examines how people learn through practice, focusing on the computational mechanisms through which feedback, prediction error, and metacognition shape learning and motivation. He applies this work to the design and evaluation of adaptive learning technologies deployed in authentic learning environments. Paulo has been a Fellow of the Psychonomic Society since 2020 and serves as an Associate Editor for Cognitive Research: Principles and Implications. His research has been funded by NSF, IES, as well as private foundations.
More.



Steven C. Pan

National University of Singapore, Singapore

Steven C. Pan is an Assistant Professor in the Department of Psychology at the National University of Singapore. He received a PhD in Experimental Psychology from the University of California, San Diego in 2018 and completed a Chancellor's Postdoctoral Fellowship at the University of California, Los Angeles in 2021. His research investigates human learning and memory processes and their optimization, focusing on the cognitive mechanisms underlying long-term retention and transfer of knowledge. This work integrates theoretical and applied perspectives from cognitive and educational psychology, emphasizing evidence-based learning techniques such as prequestioning, pretesting, retrieval practice, and interleaving. The ultimate goal of this work, which has received funding from the Ministry of Education, National Science Foundation, and American Psychological Association, is to translate basic cognitive science into empirically validated strategies for improving learning in real-world settings. Dr. Pan currently serves as an Associate Editor for Educational Psychology Review, was previously an Editorial Fellow at Psychological Bulletin, and is an editorial board member for Cognitive Research: Principles and Implications, Learning and Instruction, Memory & Cognition, Journal of Applied Research in Memory and Cognition, Journal of Educational Psychology, Journal of Experimental Psychology: Applied, and Psychological Bulletin. He was recognized as one of the top-producing early career scholars in educational psychology journals in 2022, named a Rising Star by the Association for Psychological Science in 2024, and received the Early Career Award from the Psychonomic Society in 2026. **More.**

2026 Early Career Award Recipients (Continued)



Maria M. Robinson

University of Warwick, UK

Maria Robinson is an Assistant Professor in the Behavioral Science group in the Department of Psychology at the University of Warwick. Before joining Warwick in 2024, she was an NRSA postdoctoral fellow in Professor Timothy Brady's lab at the University of California, San Diego, and received her PhD in Psychology from the University of Illinois Urbana-Champaign in 2019. Maria's research combines experimental work, formal modeling, and quantitative analysis to study visual cognition, memory, and metacognition. She is also interested in broader questions about best practices in measurement and theory development in psychology. Maria is a member of the Theory, Model, Measurement network (**https://tmmpsych.vercel.app/people**) and serves as an Associate Editor for the Journal of Experimental Psychology: Learning, Memory, and Cognition.
More.



Steven Weisberg

University of Texas at Arlington, USA

Steven M. Weisberg is an Assistant Professor of Psychology at the University of Texas at Arlington, where he directs the Spatial Cognition and Navigation Neuroscience Lab. He received a BA in Psychology from the College of William and Mary, a PhD in Psychology from Temple University, and completed an F32 post-doctoral fellowship at the University of Pennsylvania. Dr. Weisberg's work integrates behavioral experiments, virtual reality, neuroimaging, and computational approaches to understand why navigation abilities vary across individuals and across the lifespan. His research has advanced understanding of how people form cognitive maps, select among navigation strategies, and use external supports such as maps, GPS, and other technologies.
More.

The 2026 Early Career Award committee members are Jeanette Altarriba, (Chair), University at Albany, The State University of New York, USA; Gene Brewer, University of California, Riverside, USA; Audrey Duarte, University of Texas at Austin, USA; Zenzi M. Griffin, University of Texas at Austin, USA; Chi-Shing Tse, The Chinese University of Hong Kong, China; and Deana Vitrano Western New England University, USA. Recipients will be recognized at the Awards and Business Meeting on Saturday, November 21, 5:10–6:30 PM PST. Read more about the Early Career Award at psychonomic.org/page/early_career_award.

2026 Best Article Award Recipients

The Psychonomic Society is pleased to announce the recipients of the 2026 Best Article Awards.




Attention, Perception, & Psychophysics
Anchor objects guide spatial attention during visual search
Makayla Souza-Wiggins & Joy J. Geng
https://doi.org/10.3758/s13414-025-03198-0



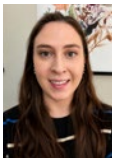
Behavior Research Methods
Errors-in-variables regression as a viable approach to mediation analysis with random error-tainted measurements: Estimation, effectiveness, and an easy-to-use implementation
Andrew F. Hayes, Paul D. Allison & Sean M. Alexander
https://doi.org/10.3758/s13428-025-02783-3



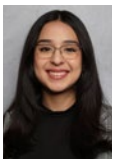
Cognitive, Affective, & Behavioral Neuroscience
People display consistent recency and primacy effects in behavior and neural activity across perceptual and value-based judgments
Minhee Yoo, Giwon Bahg, Brandon Turner & Ian Krajbich
https://doi.org/10.3758/s13415-025-01285-1




Cognitive Research: Principles & Implications
Human–AI collaboration: trade-offs between performance and preferences
Lukas W. Mayer, Sheer Karny, Jackie Ayoub, Miao Song, Danyang Tian, Ehsan Moradi-Pari & Mark Steyvers
https://doi.org/10.1186/s41235-026-00713-1



Learning & Behavior
Spatial representation of magnitude in rhesus macaques: Investigating SNARC effects in quantity and size dimensions
Brooke N. Jackson, Regina Paxton Gazes & Robert R. Hampton
https://doi.org/10.3758/s13420-025-00685-0



Memory & Cognition
The impact of cross-language co-activation of cognates on bilingual performance on the reading span task
Diana Uribe & Ana I. Schwartz
https://doi.org/10.3758/s13421-025-01687-z



Psychonomic Bulletin & Review
Instructed learning strategy use eliminates negative reactivity of immediate judgments of learning
Franziska Ingendahl & Monika Undorf
https://doi.org/10.3758/s13423-025-02844-w

The Psychonomic Society Best Article Award recognizes the best article published in each of the Psychonomic Society's journals during the last year. Selections are made by the editorial team of each journal. Award recipients (the lead author) receive a certificate and honorarium of $1,000 USD and will be recognized at the Awards and Business Meeting on Saturday, November 22, 5:10–6:30 PM PST. Visit www.psychonomic.org/page/BestArticleAward for more information and to view previous recipients.

2026 J. Frank Yates Student Travel Award Recipients

Supporting Diversity and Inclusion in Cognitive Psychology

The Diversity & Inclusion Committee selected 32 recipients of the J. Frank Yates Student Travel Award for the 2026 Annual Meeting:



Saraa Al-Saddik, *University of New South Wales, Australia*
Consistency of reward relationships shapes the flexibility of learned attentional biases



Mohsen Davoudkhani, *Kansas State University, USA*
Delay-Dependent Modulation of Alpha Power During Naturalistic Event Processing in Younger and Older Adults



Anushka Barthwal, *Vanderbilt University, USA*
Preventing the Effect of Repetition on Belief: The Role of Knowledge and Motivation



Ninoo De Silva, *Montana State University, USA*
Effects of Sleep Restriction on Social Contagion of Emotional Memory



Franklin Bray, *University of Connecticut, USA*
Now you smell it, now you don't: olfactory simulation can be prompted by context



Alex Detrich, *University of Utah, USA*
A Step in the Right Direction: Examining If Arousal Impacts Space-Time Perception



Emine Caglar, *University of California, Santa Cruz, USA*
From Past Construal to Future Imagination: The Role of Counterfactual Thinking and Control Beliefs



Dylan Ellis, *University of Texas at Arlington, USA*
Yawwnnn: The Role of Sleep Quality in Prospective Memory Offloading Decisions



Ricardo Castañeda Olayo, *Kansas State University, USA*
Oscillatory EEG dynamics associated with anticipatory attention to auditory and tactile stimuli



Sishi Fei, *University of Maryland, College Park, USA*
Coherence Building from Reading Comprehension to Written Production: Roles of Connective Input and Individual Differences in Second Language Learners



Meichai Chen, *University of Illinois Urbana-Champaign, USA*
Modeling the Interplay of Ingroup Favoritism and Societal Status in Children's Racial Playmate Preferences



Natalya Franklyn, *Stony Brook University, USA*
Older Adults Do Not Demonstrate A Saving-Enhanced Memory Effect Under Instructed Partial Offloading

2026 J. Frank Yates Student Travel Award Recipients (Continued)



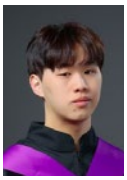
Bryan Franks, *Mississippi State University, USA*
Test Feedback Lowers Recognition Accuracy on 2AFC Tests



Daniil Grigorev, *University of Warwick, UK*
Characterizing the structure of domain-generality in metacognitive confidence



Roman Gutierrez, *University of Missouri - Columbia, USA*
Eliminating the Directional Asymmetry in Episodic Retrieval Performance Using Cued Recall



Sheng-Hsu Huang, *National Cheng Kung University, Taiwan*
Examining the Role of Individual Workload in Collaborative Decision-Making Efficiency Using Systems Factorial Technology



Taylor-Nicole Kissel, *University of Detroit Mercy, USA*
Robust Vertical Asymmetry in Pre-saccadic Fixation Duration Is Independent of Glare and Looming Conditions



Alonzo Lee-Abbey, *York University, Canada*
Examining the Interplay Between Trauma and Frequency of Discriminatory Experiences on Executive Function



Jay Von Monteza, *University of Denver, USA*
The Temporal Contexts of Cognitive Effort in Risky Decision-making: Disengagement versus Adaptation after Difficult Choices



Jexy An Nepangue, *University of California, Santa Cruz, USA*
The Effect of Learning Schedule on the Cost of Photo-Taking in Visual Category Learning



Christopher Nuño, *Washington University in St. Louis, USA*
The Cueing Order Problem: Why the Standard Design Masks Benefits of Congruency Pre-Cues



Joseph Obineche, *Montana State University, USA*
Attention Control: The Role of Memory Maintenance and Intelligent Disengagement on The Wandering Mind



Nur Ozata, *Colorado State University, USA*
Seeing the Feeling: Exploring the Link Between Mental Imagery and Emotion Recognition Through the Lens of Aphantasia



Reut Peled, *Tel Aviv University, Israel*
Neural evidence for information integration based on predictive processing in visual working memory



Omran Safi, *The University of British Columbia, Canada*
Segmented space, extended time: Spatial boundaries shape retrospective duration memory



Firat Caglar Saricicek, *University of California, Santa Cruz, USA*
Looking Back from the Future: Temporal Perspectives in Personal and Collective Future Thinking

2026 J. Frank Yates Student Travel Award Recipients (Continued)



Ali Shahidy, *Southern Illinois University Carbondale, USA*
Trust in AI as a Dynamic Process: A Large-Scale Computational Analysis of Implicit Trust Discourse Across Platforms



Kalil Warren, *University of South Carolina, USA*
Reliability of Repeated-Name Penalty: A self-paced reading task



Ceyda Tumen, *Koç University, Turkey*
Debiasing Exponential Growth Bias with Visual and Informational Supports



Zizhan (Barry) Yao, *University of California, Santa Cruz, USA*
Thinking across the Strait: A Study on Taiwanese Collective Temporal Thought



Yuchen Wang, *University at Buffalo, The State University of New York, USA*
The Effect of Personal Relevance on Picture Naming



Yue Zhang, *University of Missouri - Columbia, USA*
Rapidly Learned Suppression of Salient Distractors Based Upon Featural and Spatial Regularities

The 2026 Diversity & Inclusion Committee members include Zenzi M. Griffin (Chair), University of Texas at Austin, USA; Ashley Bangert, University of Texas at El Paso, USA; Gregory Cox, University at Albany, The State University of New York, USA; Priti Shah, University of Michigan, USA; Jill Shelton, University of Tennessee at Chattanooga, USA; and Jysotsna Vaid, Texas A&M University, USA. Recipients of the 2026 J. Frank Yates Student Travel Award receive an award of $1,000 USD, a certificate, ribbon, complimentary registration, and will be recognized at the Awards and Business Meeting on Saturday, November 21, 5:10–6:30 PM PST. Visit psychonomic.org/page/yatestravelaward for more information.

2026 Graduate Travel Award Recipients

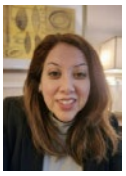
The Program Committee selected 38 recipients for the Graduate Travel Award for the 2026 Annual Meeting based on the quality of the abstracts submitted by student members of the Society.



Christopher Anagi, *University of Washington, USA*
Auditory Cognitive Training, Spatial Listening, and Attentional Cuing in Children



Alyssa Asmar, *University of Denver, USA*
Physiological Correlates of Motivated Emotion Regulation and its Effects on Downstream Memory



Evrim Baykal, *University of Denver, USA*
Adaptive recovery under reward: Motivational context shapes multimodal predictors of post-error adjustment



Emma Butner, *University of Utah, USA*
Walking in Space and Time: Locomotor recalibration influences both spatial and temporal judgments of walking



Visheeta Chandolia, *Texas A&M University, USA*
To Recall or to Create? How Ideas Emerge During Iterative Concept Combination



Katherine Churey, *University of Guelph, Canada*
Investigating the Role of Reminding in Recollection Rejection of Similar Episodes



Sarah Cline, *Southern Methodist University, USA*
Emotional Memory or Response Bias? A Signal Detection Theory Analysis



Aaron Cousins, *University of York, UK*
The Devil is in the Details: Specific Labels Improve Memory for Natural Scenes



Iuliia Fokina, *University of North Carolina at Chapel Hill, USA*
Interim Retrieval Tunes Late-Stage Processing to Support Later Recall



Sarah Forst, *University of Mannheim, Germany*
Different cue use, same mechanism? A single parameter explains compensatory and non-compensatory cue weighting



Thorfun Gehebe, *City University of New York, USA*
The role of visual working memory in bilingual children's classifier language processing



Kellen Hendrix, *University of Missouri - Columbia, USA*
What Transfers from an N-back Task to Long-Term Memory?



Anna Heng, *National University of Singapore, Singapore*
CLAP: a Battery of Measures to Estimate Language Proficiency in Native Chinese Speakers



Johanna M. Höhs, *University of Tübingen, Germany*
Unconscious Plagiarism: Generative Elaboration Changes Source Guessing

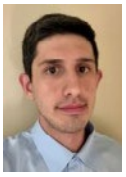
2026 Graduate Travel Award Recipients (Continued)



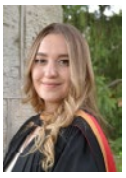
Sarah Horne, *Colorado State University, USA*
Street-View Déjà Vu: Reading AI-Generated Literary Narratives Describing Scenes Makes those Scenes Later Feel Familiar



Ming-Yang Huang, *National Cheng Kung University, Taiwan*
Model-based Neurophysiological Evidence for the Effect of Automation Reliability and Task Difficulty on Decision Efficiency



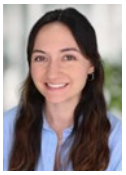
Samet Kaya, *University of North Carolina at Chapel Hill, USA*
Divided attention can enhance memory performance: A meta-analysis of the attentional boost effect



Anna Kazatchkova, *University of Guelph, Canada*
User Engagement Shapes the Memory Costs of AI-Assisted Learning



Isabella Klopukh, *University of Maryland, College Park, USA*
Effects of Artificial Intelligence Generated Study Tools on Learning and Metacomprehension



Kelly McEvoy, *The George Washington University, USA*
From Retinal Size to Semantics: Integration of Size Information into Object Representations



Mitchell Munns, *University of California, Santa Barbara, USA*
Individual Differences in Human Navigation Ability: Representations, Predictors, and Strategies



Xinran Niu, *University of Notre Dame, USA*
Updating Episodic Content and Emotional Tone of Stressful Memories with Imagery Rescripting



April Pilipenko, *University of California, Santa Cruz, USA*
Confidence Shapes Multisensory Integration



Bailey Rann, *Michigan State University, USA*
Investigating the relationship between working memory and rhythm perception



Alice Reinhartz, *Medical School Hamburg, Germany*
Time Limits in Everyday Problem-Solving Assessment: An Adult Lifespan Approach



Samantha Schwarz, *University of South Florida, USA*
Information from parafoveal preview is initially accessed independently of a reader's expectations



Tiffany Shao, *Claremont Graduate University, USA*
Trust the Source, Trust the Force? Cognitive Responses to Police Use of Force Narratives



Bailee Smith, *Louisiana State University, USA*
Influence of Short-Term Memory on Cue Use in Serial Recall

2026 Graduate Travel Award Recipients (Continued)



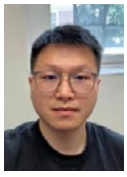
Maisha Tahsin Orthy, *University of Utah, USA*
The Role of Avatar Motion Direction and Ground Contact in Near-Space Distance Perception in Real and Immersive Virtual Environments



Zhenjie Xu, *KU Leuven, Belgium*
Mutual Inhibition between Perceptual- and Conceptual-Based Fear Generalization: Evidence from a Novel Pavlovian Paradigm



Joshua Tewes, *University of Cologne, Germany*
Prior Familiarity Enhances Illusory Truth



Weibin Yang, *University of Missouri - Columbia, USA*
The Effect of Divided Attention at Associative Memory Representational Retrieval



Taylor Tracy, *Iowa State University, USA*
Knowing It Like the Back of Your Hand: An Illusion of Attention



Ece Yuksel, *Virginia Tech, USA*
ERP Correlates of Context Variability during Encoding and Subsequent Memory Effects



Alexa Tringali, *University of Southern Mississippi, USA*
Get the Gist? Demonstrating the Confounded Nature of Gist and Association in the DRM Paradigm



Kaiqi (Cathy) Zhang, *Washington University in St. Louis, USA*
Learning what matters: Goal certainty shapes working memory prioritization



Xinran Wang, *Vanderbilt University, USA*
Different Strategies, Different Controls: How Value and Beliefs Shape Metacognitive Regulation



Yiwen Zhong, *Vanderbilt University, USA*
Framing the Correction: How Positive and Negative Debunking Messages Shape Belief Revision

The 2026 Program Committee is chaired by Kristi S. Multhaup, Davidson College in the USA. The committee members include Jeanette Altarriba, the University at Albany, The State University of New York, USA; Ayşecan Boduroğlu, Koç University, Turkey; Lisa Fazio, Vanderbilt University, USA; Heather Hill, St. Mary's University; and Christopher Madan, University of Nottingham, UK. Each award recipient will receive $750 USD, a certificate, a ribbon, and complimentary registration, and they will be formally recognized during the Awards and Business Meeting on Saturday, November 21, 5:10–6:30 PM PST. Visit psychonomic.org/page/graduatetravel for more information.

2026 Student Travel Award from Developing Nations Recipients

Supporting travel for graduate students from emerging or developing nations as defined by the United Nations.

The Diversity & Inclusion Committee selected 3 recipients of the Student Travel Award from Developing Nations for the 2026 Annual Meeting:



Tapas Rath, *Indian Institute of Technology Kanpur, India*
Deliberation Eliminates Decoys Rather Than Amplifying Attraction



Bugay Yildirim, *Koç University, Turkey*
Modeling the Dynamic Interplay of History Biases and Memory Failures in Color Working Memory



Özgür Saydır, *Koç University, Turkey*
Integrating Anecdotal and Statistical Evidence: The Effect of the Evidence Congruence and Cue Ambiguity on Decision-Making

The 2026 Diversity & Inclusion Committee members include Zenzi M. Griffin (Chair), University of Texas at Austin, USA; Ashley Bangert, University of Texas at El Paso, USA; Gregory Cox, University at Albany, The State University of New York, USA; Priti Shah, University of Michigan, USA; Jill Shelton, University of Tennessee at Chattanooga, USA; and Jysotsna Vaid, Texas A&M University, USA. Recipients of the 2026 Student Travel Award from Developing Nations Award receive an award of $2,000 USD, a certificate, ribbon, and complimentary registration and will be recognized at the Awards and Business Meeting on Saturday, November 21, 5:10–6:30 PM PST. Visit psychonomic.org/page/awards for more information.

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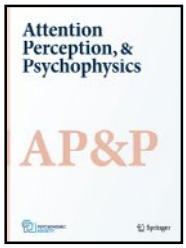
JOURNALS

The Psychonomic Society publishes eight highly respected, peer-reviewed journals covering all aspects of cognitive and experimental psychology. Submit your article in a Psychonomic Society journal to showcase your science and to ensure that your research delivers the maximum impact to the global scientific community. Members receive free online access to all seven Psychonomic Society journals.

Visit https://www.psychonomic.org/page/journals to learn more about each title.

Attention, Perception, & Psychophysics
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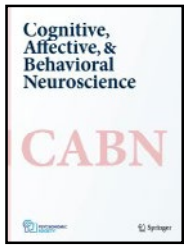
New Mexico State University, USA





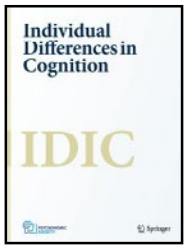

Behavior Research Methods
Erin Buchanan, Co-Editor
Harrisburg University, USA
Dora Matzke, Co-Editor
University of Amsterdam

Cognitive, Affective, & Behavioral Neuroscience
Diego A. Pizzagalli, Editor
Harvard Medical School, USA




Cognitive Research: Principles & Implications
Jonathan Tullis, Editor
University of Arizona, USA

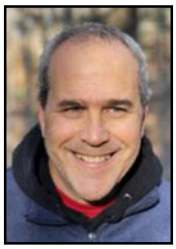





Individual Differences in Cognition
Andrew R.A. Conway, Co-Editor
New Mexico State University, USA
Michael J. Kane, Co-Editor
University of North Carolina at Greensboro, USA




Learning & Behavior
Lauren M. Guillette, Editor
University of Alberta, Canada




Memory & Cognition
Bennett L. Schwartz, Editor
Florida International University, USA




Psychonomic Bulletin & Review
Daniel Mirman, Editor
University of Edinburgh, UK

In 2026, the Psychonomic Society launched a new journal, "Individual Differences in Cognition" (IDIC). This journal, led by Co-Editors in Chief **Andrew R.A. Conway** and **Michael J. Cane**, focuses on empirical, measurement, and statistical-methods research on individual differences in all areas of cognition. IDIC is now soliciting manuscripts. Visit psychonomic.org/page/IDIC for more information.

IN MEMORIAM

Psychonomic Society Members • July 1, 2025–August 31, 2026



Steven M. Smith (1952-2026)

Steven Smith received his B.A. from the University of Michigan and his Ph.D. from the University of Wisconsin. He spent the majority of his career at Texas A & M but his hometown, St. Louis, was always special to him. Steve's contributions to cognitive psychology spanned memory, metacognition, and creative cognition. His early research on room- and context-dependent memory is well known, as is his work on false and recovered memories. He investigated incubation effects and how to overcome fixation in problem solving. He was intrigued by the Aha! phenomenology that accompanies insight as well as by feeling-of-knowing and tip-of-the-tongue states. He created the whimsical TOTimals to investigate such metacognitive feelings. His contributions were directed not only at illuminating foundational theoretical questions but also at enhancing human potential in real-world settings. He was a devoted father to his children (Noah, Dara) and the master of a variety of athletic endeavors. More information about Steven can be found **here**.

~Benton H. Pierce, Bennett L. Schwartz, & Janet Metcalfe



William S. Maki (1944-2026)

Bill Maki died on July 16, 2026. He received his bachelor's and master's degrees from North Dakota State University (NDSU), and his Ph.D. from University of California, Berkeley, in 1974. While graduate students, Bill and Terry Leuin published one of the first papers on animal cognition in Science. He met his wife, Ruth Hipple, at Berkeley, and they moved to NDSU as Assistant Professors. His early research focused on attention in animals. Later, Bill changed his focus to selective attention in humans. He moved as Professor to Texas Tech University in 1997. There, he and Ruth published early research on web-based learning. Bill was a Fellow in the American Association for the Advancement of Science, the American Psychological Association, and the Association for Psychological Science. Bill never missed a Psychonomics meeting: He loved to seek out the best restaurants in the convention city and enjoy them with friends. More information about Bill can be found **here**.

~Ruth H. Maki



Kevin N. Dunbar (1956-2026)

Kevin Dunbar received his B.A. and M.A. from University College Dublin and his PhD from the University of Toronto. After a postdoc at Carnegie Mellon University, he went on to hold professorial positions at McGill University, Dartmouth College, University of Toronto Scarborough, and finally University of Maryland, College Park. Among his numerous contributions, Kevin's research in high-level cognition deeply informed how we understand analogy, creativity, and causal reasoning, and even how we, as scientists, understand the scientific discovery process. His contributions were both theoretical, and methodological, as he often combined both classic experimental methods (In vitro) with naturalistic observation (In vivo). An always kind and generous mentor and colleague, Kevin's insight, passion for science, and infectious sense of humor will be greatly missed by his students and colleagues around the world. Kevin is survived by his wife, Laura-Ann Petitto, and their three daughters, Eva, Annafaye, and Maaraluisa. More information about Kevin can be found **here** and **here**.

~Jonathan A. Fugelsang and Colin M. MacLeod

IN MEMORIAM

Psychonomic Society Members • July 1, 2025–August 31, 2026



Philip M. Merikle (1940-2026)

Phil Merikle passed away in Waterloo, Ontario at the age of 86. After completing his undergraduate degree at Knox College in Galesburg, Illinois, Phil earned his PhD at the University of Virginia, supervised by William Battig. He joined the University of Waterloo in 1966, remaining there until he retired in 2003. He served as Department Chair twice (1982-1987 and 2000-2003) and was awarded the title of Distinguished Professor Emeritus in 2008. Phil is best known for his research into conscious and unconscious perception, masking, memory under anesthesia, and synesthesia. Among his administrative roles, he served as President of the Association for the Scientific Study of Consciousness (2000). Phil mentored and trained numerous graduate students who went on to have distinguished careers. After retirement, Phil enjoyed long distance cycling, travelling, and taking the time to engage with the random people that he met in his travels. More information about Phil can be found **here**.
~Elizabeth Merikle



Arthur S. Reber (1940-2025)

Arthur Reber's scientific research on unconscious learning was hugely influential, with his best-known work using an "artificial grammar" paradigm to examine how people acquire knowledge about the structure of a set of stimuli with little explicit awareness. His early work moved the field forward in important ways, eventually becoming widely adopted and generating tremendous interest in the cognitive unconscious. His later research ranged fearlessly over topics as diverse as implicit learning and tacit knowledge, the psychology of risk and gambling, the evolutionary origins of consciousness, and candidate biochemical mechanisms for the emergence of sentience. Among other honors, he was a Senior Fulbright Fellow at the University of Innsbruck, an NEH Postdoctoral Fellow at the Institute for Philosophy and Psychology of Mind, and a Fellow of the American Psychological Society and the American Association for the Advancement of Science. To date, his scientific work has garnered over 22,000 citations. More information about Arthur can be found **here** and **here**.
~Rhiannon Allen



Michael Kubovy (1940-2025)

Michael Kubovy was a leader in the rebirth of Gestalt Psychology in the late 20th century. Michael's breadth of interests, combined with his virtuosity in experimental design and quantitative analyses, brought him international renown and admiration. His generosity, goodwill, and mirth made him a beloved colleague and mentor. An Israeli American, Michael earned his M.S. and Ph.D. degrees under Daniel Kahneman and Amos Tversky (1972) from Hebrew University. His academic career included positions at the University of Illinois, Yale University, Rutgers University, and the University of Virginia, where he served as Professor of Psychology from 1987 until his retirement in 2016. Michael is survived by his wife, Judith Shatin, an internationally renowned composer and William R. Kenan Jr. Professor Emerita of Music at the University of Virginia, his son, Itamar Kubovy, and two grandchildren. More information about Michael can be found **here**.
~Dennis Proffitt

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Plan to spend time visiting with the companies and organizations exhibiting at the PS Annual Meeting. Exhibits will be located in the Grand Ballroom Pre-Function Foyer area on the Lobby Level of the Marriott Marquis San Diego Marina Hotel. Details and contact information for our advertisers, exhibitors, and sponsors can be found in the conference app.

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AFFILIATE EVENTS

Affiliate Meetings

Auditory Perception, Cognition and Action Meeting
Thursday, November 19
8:00 AM–5:30 PM PST
Pacific Ballroom 25 (North Tower, First Level)
apcsociety.org/index.html

Bilingualism Matters Across the World
Thursday, November 19
12:00 PM–2:00 PM PST
Leucadia (South Tower, First Level)
bilingualism-matters.org

Configural Processing Consortium
Wednesday, November 18
8:00 AM–5:30 PM PST
Leucadia (South Tower, First Level)
configural.org

International Association for Metacognition
Thursday, November 19
11:00 AM–4:30 PM PST
Pacific Ballroom 23 (North Tower, First Level)
iampsychology.org

Object Perception, Attention, and Memory Conference
Thursday, November 19
8:00 AM–6:00 PM PST
Pacific Ballroom 26 (North Tower, First Level)
opamconference.com

Society for Computation in Psychology
Thursday, November 19
8:00 AM–5:30 PM PST
Mission Hills & Carlsbad (South Tower, Third Floor)
computationinpsych.com/conference

Society for Judgment and Decision Making
Friday, November 20–Sunday, November 22
See SJDM Program for Times
Registration: San Diego Foyer (North Tower, Lobby Level)
sjdm.org

Society for Mathematical Psychology
Thursday, November 19
9:00 AM–5:00 PM PST
Presidio 1 & 2 (North Tower, Lobby Level)
mathpsych.org

Society for the Science of Motivation
Thursday, November 19
11:30 AM–5:00 PM PST
Pacific Ballroom 24 (North Tower, First Level)
scienceofmotivation.org

SPARK Society
Thursday, November 19
2:00 PM–4:00 PM PST
San Diego Ballroom C (North Tower, Lobby Level)
sparksociety.org

Symposium for Individual Differences in Cognition
Thursday, November 19
9:00 AM–4:00 PM PST
Temecula Ballroom (North Tower, First Level)
caliberlab.wixsite.com/sidic

Women in Cognitive Science+
Thursday, November 19
4:00 PM–6:30 PM PST
San Diego Ballroom B (North Tower, Lobby Level)
womenincogsci.org

AUDITORY PERCEPTION, COGNITION, AND ACTION MEETING 2026

Join us for the 25th Annual APCAM

Thursday, November 19, 2026

8:00 am to 5:30 pm PST

Marriott Marquis San Diego Marina

Keynote address by Dr. Assal Habibi, USC



APCAM brings together researchers from various theoretical perspectives and empirical traditions to share research on auditory perception, cognition, and action covering a wide range of basic and applied research fields.

Visit www.apcsociety.org for more information

Organizers:

Laura Getz (Chair), Emma Greenspon, Aiden Iveris, Devin McAuley, Maggie McCracken, Bob Slevc, and Kristin Van Engen

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AT THE 2026 67TH ANNUAL MEETING OF THE
PSYCHONOMIC SOCIETY

THURSDAY
NOVEMBER 19, 2026
NOON–2PM PDT

Marriott Marquis
San Diego Marina Hotel

Embracing variation in language and cognition to build bridges within our discipline

Join us as we hear from a panel of speakers in allied fields in psychology whose work foregrounds the role of experiential variation in cognition.

Talks will be followed by interactive roundtable discussions to spark new interdisciplinary connections

RSVP if you plan to attend! →

Bilingualism Matters Across the World is a venue to foster connections and build bridges across disciplines within cognitive psychology.

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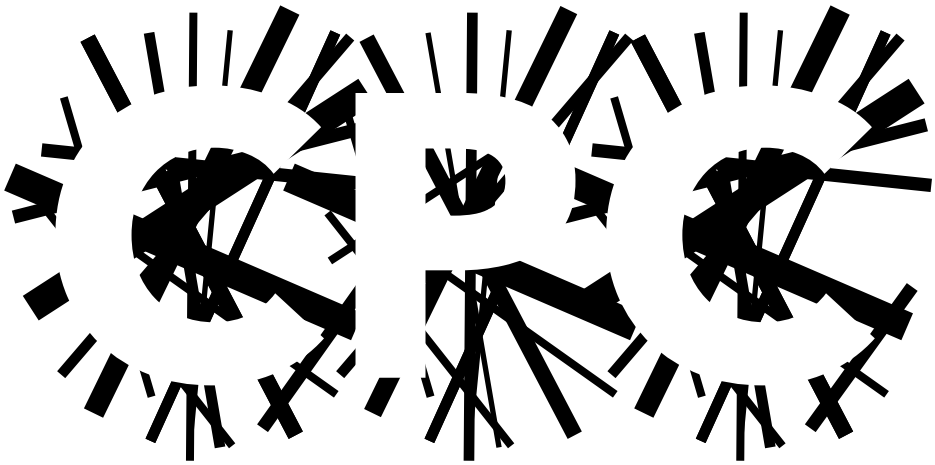
333 W Harbor Drive, San Diego, California, USA



2026 Configural Processing Consortium

www.configural.org

Wednesday, November 18, 2026

8:00 a.m. - 5:30 p.m.

The Configural Processing Consortium (CPC) is an annual workshop bringing together researchers in configural processing. We aim to tackle deep issues underpinning perceptual organization, cognition, and action, as well as the most cutting edge theoretical and experimental research on configural topics. Although vision typically dominates, our interests include all modalities.

Each year, we seek to both define the major problems underlying the field of configural processing and to develop more unified ways of approaching these problems.

Organizing Committee

Karen Schloss (President)
Nicholas Baker (Secretary/Treasurer)

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Gideon Caplovitz
Ami Eidels
Joseph Houpt
Phil Kellman
Ruth Kimchi
Mario Fific
Cathleen Moore
Mary Peterson
James Pomerantz
James Townsend
Timothy Vickery
Cheng-Ta Yang

Local Host

Timothy Brady, University of California, San Diego

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Contact: Nicholas Baker (nbaker1@luc.edu)

INTERNATIONAL ASSOCIATION FOR METACOGNITION

SPECIAL MEETING - META-METCALFE: A CONFERENCE WITH DR. JANET METCALFE

JOIN US IN SAN DIEGO FOR OUR 13TH MEETING

The International Association for Metacognition (IAM) is a society of cognitive scientists using varied methodologies to answer diverse research questions about how people think about their own thinking. We meet in conjunction with Psychonomics to share talks on our most recent theoretical and applied work on metacognition and self-regulation. All are welcome!

Dr. Janet Metcalfe has made countless theoretical and applied contributions throughout her career to the field of metacognition, delineating the critical role of metacognitive processes in learning, memory, problem-solving, and creativity. She has also been a strong promoter of others' research in metacognition, being a resource for students, post-docs, and colleagues.

THURSDAY, NOVEMBER 19, 2026

Check out our website for a complete program as the date approaches.

11:30 AM - 4:30 PM PST

Arrival and welcome from 11 am
Talks will begin at 11:30 am

COORDINATORS

Hannah Hausman
Monika Undorf

GUEST CO-COORDINATOR

Bennett Schwartz

Join us for a series of talks from some of Janet's current and former students, as well as other researchers whose work she has inspired!

+ KEYNOTE BY JANET METCALFE

QUESTIONS?

Email us at metacognitionassociation@gmail.com

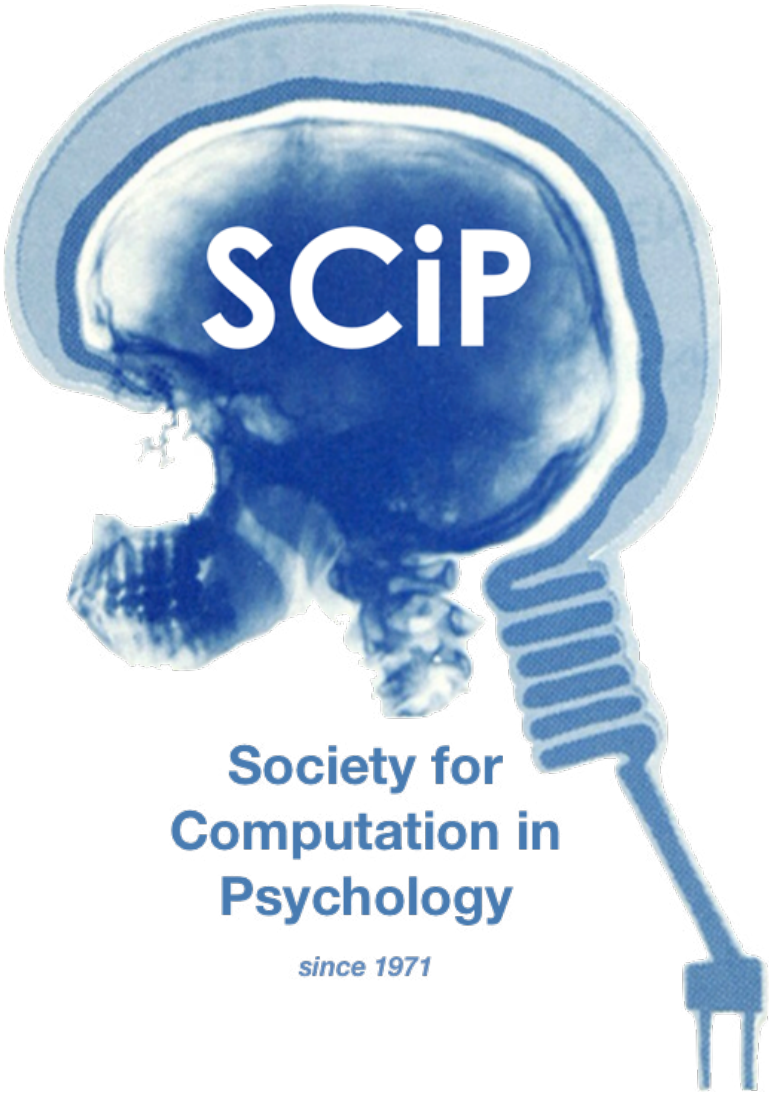


Join the conference organised for and by graduate and postdoctoral researchers where we highlight outstanding early career research on the topics of Object Perception, Attention, and Memory (OPAM)
Visit *www.opamconference.com* for more details



KEYNOTE ADDRESS:
Dr. Geoffrey F. Woodman
Vanderbilt University

Organized by:
Giovanna Del Sordo, Hong B Nguyen, Sisi Wang, Zexuan Niu, Mallory Terry, Irina Lavrova



The 56th Annual Meeting of the Society for Computation in Psychology

Scaling Up Cognition: Team Approaches to Cognitive Science

November 19th, 2026

https://computationinpsych.com/

Mathematical Psychology Satellite Meeting

Thursday, November 19, 2026
Marriott Marquis San Diego Marina Hotel
Chair: Gregory E. Cox

Changing Minds: The Dynamics of Cognition Across Timescales

Many advances in our understanding of cognition are owed to formal models of the dynamics of cognitive processes.

This symposium will highlight new developments in the study of how cognitive processes and representations change over time, ranging from the short timescales characteristic of attention and perception to the moderate timescales associated with memory and decision making to the long timescales over which learning and development take place.

Speakers will address both formal theories and innovations in measurement and data analysis which promise to continue expanding our understanding of cognition through the lens of dynamics.

09:00 - 12:00: Morning Session
13:00 - 14:00: Poster Presentations
14:30 - 17:00: Afternoon Session

The *Society for Mathematical Psychology* promotes the advancement and communication of research in mathematical psychology and related disciplines. Mathematical psychology is broadly defined to include work of a theoretical character that uses mathematical methods, formal logic, or computer simulation. The official journals of the society are *Journal of Mathematical Psychology* and *Computational Brain & Behavior*.

mathpsych.org
@mathpsych.org
info@mathpsych.org

SSM
Society for the Science of Motivation

SOCIETY FOR THE SCIENCE OF MOTIVATION
presents

MOTIVATED COGNITION



JOIN US FOR OUR FIRST-EVER MOTIVATED COGNITION MEETING!

A PSYCHONOMICS SATELLITE CONFERENCE

Visit **ssmmotivatedcognition.my.canva.site** for more details!

The Society for the Science of Motivation (SSM) is dedicated to advancing the interdisciplinary study of motivation. Our first-ever meeting will bring together researchers interested in motivation at Psychonomics for a day of talks and networking, broadly fostering the motivated cognition community across disciplines and career stages, from early trainees to established scientists.

Thursday, November 19, 2026
11:30-5 PM PST
Free registration online and onsite

Register & Submit your Abstract!
ssmmotivatedcognition.my.canva.site

Networking Happy Hour
Check out our website for a detailed program & updates!

Questions?
Email ssmmotivatedcog@gmail.com

SPEAKERS INCLUDE:

Kimberly Chiew, UDenver
Amitai Shenhav, UC Berkeley
Alan Castel, UCLA
Ian Ballard, UC Riverside
Julia Spaniol, TMU

Conference Organizers
Pelin Tanberg, University of Toronto
Michael Inzlicht, University of Toronto

SPARK
ANNUAL MEETING

19 November 2026 | **2-4 PM PST** | **Marriott Marquis San Diego Marina Hotel**

How are LLMs Influencing Our Scientific and Broader Communities? A Panel Discussion on the Collective Consequences of genAI

This year we have a panel of experts who have been examining the collective consequences of genAI use. Gordon Pennycook will be discussing his recent work on AI and conspiracy theory beliefs. Molly J Crockett will discuss her work AI and science.

https://www.sparksociety.org/

SIDIC
SYMPOSIUM FOR INDIVIDUAL DIFFERENCES IN COGNITION

2026 MEETING

Thursday, November 19
Marriott Marquis San Diego Marina
San Diego, California
9:00 am - 4:00 pm PST



KEYNOTE ADDRESS BY DR. YUKO MUNAKATA

SIDIC is dedicated to communicating research on individual differences in cognition, broadly construed, providing an outlet for the international community of cognitive psychologists to present and discuss their work on inter-individual variation in mental processes, phenomena, and abilities. The symposium will embrace a wide spectrum of topic areas, from perception and attention to language comprehension and reasoning, featuring contributions from younger investigators as well as established scientists.

SIDIC is supported by the Psychonomics Society

2026 ORGANIZERS

Gene Brewer | Andrew R. A. Conway | Emily Elliott

Kristóf Kovács | Dawn Michele Moore | John Protzko | Anna-Lena Schubert

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Visit us at: https://caliberlab.wixsite.com/sidic

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The 26th Annual Meeting of Women in Cognitive Science +

Thursday, November 19, 2026

4:00-5:30pm (PT)
Panel Discussion and Q&A

5:30-6:30 pm (PT)
Networking and Recharging

HIGH COGNITIVE LOAD: Mental Labor and Burnout in Academia

Academic burnout is experienced across all stages and types of academic careers. It is not an individual failing requiring personal resilience, but rather a systematic challenge that requires institutional solutions. From running an experiment, to running a lab, to running a department, the mental labor of academic careers is multifaceted and takes its toll in many ways. Panelists will address strategies for protecting mental bandwidth, improving well-being, and building sustainable workplaces where all can thrive.

Panelists

Angela Gutchess, Brandeis University
Brooke Macnamara, Purdue University
Natasha Tokowicz, University of Pittsburgh

WiCS+ Leadership Team

Kate Arrington, Chair, Lehigh University
Alesha Bond, Davidson College
Rachel Ostrand, Google
Sarah Shomstein, George Washington University
Joo-Hyun Song, Brown University

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CONDENSED SCHEDULE

Thursday, November 19

Poster Session I with Authors Present ..... 6:00–7:30 PM PST, Pacific Ballroom

Animal Research: Animal Learning & Cognition (I-001 – I-005)
Attention: Capture (I-006)
Attention: Automatic Processing (I-007 – I-012)
Attention: Consciousness (I-013 – I-018)
Attention: Scene Processing (I-019 – I-022)
Attention: Visual Search (I-023 – I-032)
Bilingualism: Memory (I-033 – I-039)
Cognition: Concepts and Categories (I-040 – I-049)
Cognition: Decision Making (I-050 – I-061)
Cognition: Emotion and Cognition (I-062 – I-072)
Cognition: Spatial Cognition (I-073 – I-086)
Language: Psycholinguistics (I-087 – I-099)
Language: Other (I-100)
Language: Reading (I-101 – I-109)
Language: Speech Perception (I-110 – I-116)
Learning and Memory: False Memory (I-117 – I-126)
Learning and Memory: Human Learning and Instruction (I-127 – I-139)
Learning and Memory: Reading (I-140 – I-141)
Learning and Memory: Recall (I-142 – I-151)
Learning and Memory: Test Effects (I-152 – I-157)
Metacognition (I-158 – I-168)
Spatial Memory (I-169 – I-174)

Opening Session/Keynote Address ..... 7:30–8:30 PM PST, Marriott Grand Ballroom 5 & 8

Imagine No Resources: Attention is Selection and Normalization for Choice..... Gordon D. Logan, *Vanderbilt University*, USA

Opening Reception..... 8:30–9:30 PM PST, Marriott Grand Ballroom Foyer & Terrace

Friday, November 20

Spoken Sessions, Data Blitzes, Symposia, and Workshops

Recognition I (1-6)..... 8:00-10:00 AM PST, Marriott Grand Ballroom 5 & 8
Attention: Individual Differences (6-13) ..... 8:00-10:00 AM PST, Marriott Grand Ballroom 2
Human Learning & Instruction I (14-20)..... 8:00-10:00 AM PST, Marriott Grand Ballroom 11
Statistics and Methodology I (21-26) ..... 8:00-10:00 AM PST, Marriott Grand Ballroom 4
Bilingualism I (27-32)..... 8:00-10:00 AM PST, Marriott Grand Ballroom 13
Performance (33-38) ..... 8:00-10:00 AM PST, Marriott Grand Ballroom 3

Symposium I: Misinformation in the Wild: Characterizing and Correcting Misinformation in Real-World Contexts ... 10:00 AM-12:00 PM PST, Marriott Grand Ballroom 5 & 8
Attention: Capture (39-44)..... 10:00 AM-12:00 PM PST, Marriott Grand Ballroom 2
Embodied and Developmental Cognition (45-50)..... 10:00 AM-12:00 PM PST, Marriott Grand Ballroom 11
Metacognition & Metamemory (51-57)..... 10:00 AM-12:00 PM PST, Marriott Grand Ballroom 4
Bilingualism II (58-63) ..... 10:00 AM-12:00 PM PST, Marriott Grand Ballroom 13
Sensation & Perception: Vision (64-69) ..... 10:00 AM-12:00 PM PST, Marriott Grand Ballroom 3

Lunchtime Workshop: AI in the Publication Lifecycle: Views from Publishers, Societies, and Editors ..... 12:00-1:30 PM PST, Marriott Grand Ballroom 12
Lunchtime Workshop: Members of Psychonomics Are Researchers. But We Are Classroom Professors Too ..... 12:00-1:30 PM PST, Rancho Santa Fe 2-3
Lunchtime Workshop: Supporting Undergraduates at Psychonomics (UP): A Faculty Panel on Graduate School, Research, and Academic Careers..... 12:00-1:30 PM PST, Pacific Ballroom - Salon 23

Friday, November 20 (Continued)

Poster Session II with Authors Present ..... 12:00–1:30 PM PST, Pacific Ballroom

Attention: Capture (II-001 – II-011)
Attention: Divided (II-012 – II-018)
Attention: Visual Search (II-019 – II-027)
Cognition: Cognitive Aging (II-028 – II-036)
Cognition: Decision Making (II-037 – II-045)
Cognition: Development (II-046 – II-051)
Cognition: Embodied Cognition (II-052 – II-057)
Cognition: Judgment (II-058 – II-069)
Cognition: Reasoning/ Problem Solving (II-070 – II-077)
Cognition: Technology and Cognition (II-078 – II-087)
Language: Psycholinguistics (II-088 – II-097)
Language: Reading (II-098 – II-110)
Learning and Memory: Visual Working Memory (II-111 – II-120)
Learning and Memory: Autobiographical Memory (II-121 – II-128)
Learning and Memory: Implicit Memory (II-129 – II-135)
Learning and Memory: Test Effects (II-136)
Learning and Memory: Other (II-137 – II-144)
Learning and Memory: Recognition (II-145 – II-156)
Learning and Memory: Working Memory (II-157 – II-167)
Sensation and Perception: Vision (II-168 – II-174)
Statistics and Methodology (II-175 – II-182)
Sensation and Perception: Vision (II-183 – II-192)
Learning and Memory: Visual Working Memory (II-193)

Spoken Sessions, Data Blitzes, Symposia, and Workshops

Symposium II: Understanding Nature and Cognition: Methodological Approaches, New Discoveries, Emerging Perspectives on Human-Environment Interaction, and Future Research Directions ..... 1:30-3:30 PM PST, Marriott Grand Ballroom 5 & 8
Attention: Visual Search (70-75) ..... 1:30-3:30 PM PST, Marriott Grand Ballroom 2
Cognitive Aging I (76-81) ..... 1:30-3:30 PM PST, Marriott Grand Ballroom 11
Learning & Memory I (82-87) ..... 1:30-3:30 PM PST, Marriott Grand Ballroom 4
Bilingualism III (88-93) ..... 1:30-3:30 PM PST, Marriott Grand Ballroom 13
Sensation & Perception (94-99) ..... 1:30-3:30 PM PST, Marriott Grand Ballroom 3

Special Session: GSPC Special Session: Keeping Your Options Open: Alternative Non-Academic Career Paths ..... 1:45-3:30 PM PST, Pacific Ballroom - Salon 23

Symposium III: Cognitive Aging in Diverse Populations (2026 Symposium on Cognition, Behavior, and Society) ..... 3:45-5:45 PM PST, Marriott Grand Ballroom 5 & 8
Attention: Cognitive Control I (100-106) ..... 3:45-5:45 PM PST, Marriott Grand Ballroom 2
Recognition I (107-112) ..... 3:45-5:45 PM PST, Marriott Grand Ballroom 11
Decision Making I (113-118) ..... 3:45-5:45 PM PST, Marriott Grand Ballroom 4
Psycholinguistics (119-125) ..... 3:45-6:05 PM PST, Marriott Grand Ballroom 13
Reading I (126-131) ..... 3:45-5:45 PM PST, Marriott Grand Ballroom 3

Friday, November 20 (Continued)

Poster Session III with Authors Present ..... 6:00–7:30 PM PST, Pacific Ballroom

Attention: Cognitive Control (III-001 – III-011)
Attention: Features and Objects (III-012 – III-014)
Attention: Individual Difference (III-015 – III-019)
Bilingualism: Cognitive Control (III-020 – III-024)
Bilingualism: Comprehension and Production (III-025 – III-029)
Cognition: Concepts and Categories (III-030 – III-039)
Cognition: Decision Making (III-040 – III-050)
Cognition: Emotion and Cognition (III-051 – III-060)
Cognition: Music Cognition (III-061 – III-067)
Cognition: Reasoning/ Problem Solving (III-068 – III-076)
Cognition: Technology and Cognition (III-077 – III-091)
Language: Psycholinguistics (III-092 – III-099)
Language: Semantics (III-100 – III-107)
Learning and Memory: Associative Learning (III-108 – III-122)
Learning and Memory: Autobiographical Memory (III-123 – III-130)
Learning and Memory: Other (III-131 – III-137)
Learning and Memory: Prospective Cognition (III-138 – III-148)
Learning and Memory: Recognition (III-149 – III-156)
Learning and Memory: Reward, Motivation, and Emotion (III-157 – III-163)
Metamemory (III-164 – III-171)
Sensation and Perception: Perception and Action (III-172 – III-182)
Cognition: Other (III-183)
Learning and Memory: Visual Working Memory (III-184)
Language: Discourse Processes (III-185)

Saturday, November 21

Spoken Sessions, Data Blitzes, Symposia, and Workshops

Learning & Memory II (132-137).....8:00-10:00 AM PST, Marriott Grand Ballroom 5 & 8
Attention (138-143) .....8:00-10:00 AM PST, Marriott Grand Ballroom 2
Cognition I (144-150) .....8:00-10:00 AM PST, Marriott Grand Ballroom 11
Judgment (151-156).....8:00-10:00 AM PST, Marriott Grand Ballroom 4
Learning & Memory III (157-163) .....8:00-10:00 AM PST, Marriott Grand Ballroom 13
Reward, Motivation & Emotion (164-169) .....8:00-10:00 AM PST, Marriott Grand Ballroom 3

Symposium IV: Collective Future Thinking at Times of War and Conflict .....10:00 AM-12:00 PM PST, Marriott Grand Ballroom 5 & 8
Human Learning and Instruction II (170-176).....10:00 AM-12:00 PM PST, Marriott Grand Ballroom 2
Cognition II (177-181).....10:00 AM-12:00 PM PST, Marriott Grand Ballroom 11
Bilingualism: Development & Individual Differences (182-187).....10:00 AM-12:00 PM PST, Marriott Grand Ballroom 4
Prospective Cognition (188-194).....10:00 AM-12:00 PM PST, Marriott Grand Ballroom 13
Metacognition & Metamemory II (195-201).....10:00 AM-12:00 PM PST, Marriott Grand Ballroom 3

Lunchtime Workshop: Analyzing Behavioral Data at the Cognitive Process Level with bmm in R..... 12:00-1:30 PM PST, Pacific Ballroom - Salon 23
Lunchtime Workshop: Demystifying the Publication Process: Advice from the Editors ..... 12:00-1:30 PM PST, Marriott Grand Ballroom 12
Lunchtime Workshop: Transforming Classroom Learning with Generative AI: From Obstacle to Research Partner..... 12:00-1:30 PM PST, Rancho Santa Fe 2-3

Saturday, November 21 (Continued)

Poster Session IV with Authors Present ..... 12:00–1:30 PM PST, Pacific Ballroom

Attention: Cognitive Control (IV-001 – IV-011)
Attention: Individual Difference (IV-012 – IV-019)
Bilingualism: Comprehension and Production (IV-020 – IV-027)
Cognition: Cognitive Aging (IV-028 – IV-038)
Cognition: Decision Making (IV-039 – IV-050)
Cognition: Emotion and Cognition (IV-051 – IV-061)
Cognition: Neural Mechanisms (IV-062 – IV-070)
Cognition: Reward, Motivation and Decision Making (IV-071 – IV-075)
Cultural/Social Influences on Cognition (IV-076 – IV-083)
Language: Discourse Processes (IV-084 – IV-093)
Language: Psycholinguistics (IV-094 – IV-101)
Language: Speech Perception (IV-102 – IV-109)
Learning and Memory: Cognitive Skill Acquisition (IV-110 – IV-122)
Learning and Memory: Human Learning and Instruction (IV-123 – IV-135)
Learning and Memory: Recall (IV-136 – IV-147)
Learning and Memory: Recognition (IV-148 – IV-156)
Performance: Cognitive Control (IV-157 – IV-167)
Performance: Motor Control (IV-168 – IV-169)
Performance: Other (IV-170)
Sensation and Perception: Audition (IV-171 – IV-176)
Sensation and Perception: Multisensory Integration (IV-177 – IV-182)
Learning and Memory: Recognition (IV-183)

Spoken Sessions, Data Blitzes, Symposia, and Workshops

Symposium V: What We Miss When We Study Cognition, Metacognition, and Motivation Separately ..... 1:30-3:30 PM PST, Marriott Grand Ballroom 5 & 8
Language I (202-208) ..... 1:30-3:30 PM PST, Marriott Grand Ballroom 2
Cognition III (209-214) ..... 1:30-3:30 PM PST, Marriott Grand Ballroom 11
Cognitive Aging II (215-221) ..... 1:30-3:30 PM PST, Marriott Grand Ballroom 4
Test Effects (222-228) ..... 1:30-3:30 PM PST, Marriott Grand Ballroom 13
Cultural Social Influences on Cognition (229-235) ..... 1:30-3:30 PM PST, Marriott Grand Ballroom 3

Special Session: The Current Landscape of Funding for the Psychological Sciences ..... 1:45-2:45 PM PST, Pacific Ballroom - Salon 23

Visual Working Memory (236-241) ..... 3:30-5:30 PM PST, Marriott Grand Ballroom 12
Language II (242-247) ..... 3:30-5:30 PM PST, Marriott Grand Ballroom 2
Recall (248-253) ..... 3:30-5:30 PM PST, Marriott Grand Ballroom 11
Reading II (254-259) ..... 3:30-5:30 PM PST, Marriott Grand Ballroom 4
Working Memory (260-265) ..... 3:30-5:30 PM PST, Marriott Grand Ballroom 13
Concepts and Categories (266-271) ..... 3:30-5:30 PM PST, Marriott Grand Ballroom 3

2026 Awards and Business Meeting ..... 5:10-6:30 PM PST, Marriott Grand Ballroom 5 & 8

Saturday, November 21 (Continued)

Poster Session V with Authors Present ..... 6:00–7:30 PM PST, Pacific Ballroom

Attention: Cognitive Control (V-001 – V-013)
Attention: Other (V-014 – V-022)
Bilingualism: Development and Individual Differences (V-023 – V-032)
Cognition: Decision Making (V-033 – V-043)
Cognition: Event Cognition (V-044 – V-050)
Cognition: Judgment (V-051 – V-056)
Cognition: Numerical Cognition (V-057 – V-060)
Cognition: Other (V-061 – V-072)
Language: Language Production/Writing (V-073 – V-077)
Language: Letter/Word Processing (V-078 – V-083)
Language: Reading (V-084)
Language: Other (V-085 – V-086)
Language: Speech Perception (V-087 – V-094)
Learning and Memory: Eyewitness Identification (V-095 – V-103)
Learning and Memory: False Memory (V-104 – V-114)
Learning and Memory: Human Learning and Instruction (V-115 – V-126)
Learning and Memory: Recall (V-127 – V-139)
Learning and Memory: Working Memory (V-140 – V-150)
Metacognition (V-151 – V-164)
Language: Language Production/Writing (V-165)
Language: Other (V-166)

Sunday, November 22

Spoken Sessions, Data Blitzes, and Symposia

Decision Making II (272-278) ..... 8:00-10:00 AM PST, Marriott Grand Ballroom 5 & 8
Speech Perception I (279-284) ..... 8:00-10:00 AM PST, Marriott Grand Ballroom 2
Recall II (285-290) ..... 8:00-10:00 AM PST, Marriott Grand Ballroom 11
Psycholinguistics II (291-297) ..... 8:00-10:00 AM PST, Marriott Grand Ballroom 4
Attention: Cognitive Control II (298-304) ..... 8:00-10:00 AM PST, Marriott Grand Ballroom 13
Discourse Processes (305-311) ..... 8:00-10:00 AM PST, Marriott Grand Ballroom 3

Decision Making III (312-317) ..... 10:00 AM-12:00 PM PST, Marriott Grand Ballroom 5 & 8
Speech Perception II (318-323) ..... 10:00 AM-12:00 PM PST, Marriott Grand Ballroom 2
Human Learning & Instruction III (324-329) ..... 10:00 AM-12:00 PM PST, Marriott Grand Ballroom 11
Language III (330-335) ..... 10:00 AM-12:00 PM PST, Marriott Grand Ballroom 4
Technology & Cognition (336-341) ..... 10:00 AM-12:00 PM PST, Marriott Grand Ballroom 13
Statistics & Methodology II (342-346) ..... 10:00 AM-12:00 PM PST, Marriott Grand Ballroom 3

Designation of Award Recipients

Throughout the abstract book, our distinguished award recipients are identified as follows:

- Clifford T. Morgan Distinguished Leadership Award recipient
- Mid-Career Award recipient
- Early Career Award recipient
- Best Article Award recipient
- J. Frank Yates Student Travel Award recipient
- Graduate Travel Award recipient
- Student Travel Award from Developing Nations recipient

Symposia, Spoken Abstracts, & Data Blitzes

Opening Session/ Keynote Address

Thursday, November 19, 2026, 7:30-8:30 PM PST

Imagine No Resources: Attention is Selection and Normalization for Choice. GORDON D. LOGAN, *Vanderbilt University* — For many years, research on attention has been dominated by theories based on the assumption that attention is limited in capacity. These include the limited-capacity channel theories of Welford and Broadbent and capacity or resource theories of Moray, Posner, and Kahneman. I will challenge those theories and their many descendants by asking why capacity is limited and what role capacity plays in the computations required to perform attention tasks. There are few satisfactory answers in limited-capacity and resource theories of attention. I will show that the effects of load on performance, which are commonly interpreted as evidence for limited capacity, can be produced by models that assume unlimited, limited, and fixed capacity. I argue that attention is better construed as selection of information that we need to achieve our goals. Following current research on computational models of attention in associative learning, categorization, perceptual learning, cognitive development, neuroscience, and artificial intelligence, I propose that attention is a process of choice, in which selection is implemented as multiplicative gain control and processing is constrained by normalization. This perspective focuses on interactions between representations and decision processes applied to them, explaining many attentional phenomena without assuming attention is a limited resource. Imagine no resources. It's easy if you try.

The Opening Reception will immediately follow the Keynote Address in the exhibit area.

Recognition I

Friday, November 20, 2026, 8:00-10:00 AM PST

Chaired by Edward Awh, *University of Chicago*

8:00-8:20 AM (1)

Neural decoding reveals a unifying explanation for stimulus-specific memorability. EDWARD AWH, *University of Chicago*, IGOR UTOCHKIN, *University of Chicago*, WOOHYEUK CHANG, *University of Chicago*, EDWARD VOGEL, *University of Chicago* — Stimulus-specific memorability, the tendency for people to remember and forget the same stimuli, can be defined in two ways: "Hit-ability" (H-ability) and "false alarm-ability" (FA-ability), the probabilities of correctly recognizing studied items or falsely recognizing unstudied items, respectively. Although past work finds these parameters uncorrelated, we present EEG evidence for a fundamental link between them. We demonstrate robust decoding of H-ability and FA-ability from stimulus-evoked EEG activity, with the same neural patterns emerging at both study and test, suggesting a stimulus-driven rather than decision-driven signal. Strikingly, when a model trained to discriminate H-ability was tested on stimuli sorted by FA-ability, items with high H-ability resembled items with low FA-ability, and vice versa. This reveals a common neural axis tracking both aspects of memorability. Finally, deep neural networks show that representational distinctiveness, an image's dissimilarity from others in feature space, predicts higher H-ability and lower FA-ability, with this effect strengthening in higher layers across networks varying in architecture and training objective, offering a unifying account of stimulus-specific memorability.

8:20-8:40 AM (2)

A single-item signal detection theory probes stimulus-specific memorability and its consistency. IGOR UTOCHKIN, *University of Chicago*, KEISUKE FUKUDA, *University of Toronto Mississauga* — The concept of memorability highlights the consistent effects that individual items have on memory strength across people. Do all items pro-

duce equally consistent memory strengths? We used receiver operating characteristic (ROC) analysis to recover memory-strength distributions for 600 object images tested as old and new items in a confidence-rating recognition task across 234 participants. This allowed us to estimate the average memory strength and its variability for each item (both as old and new) and locate item-specific distributions in a unitary signal-detection continuum. We found that the memory-strength distributions of new items underlying their "false-alarmability" differ considerably in both mean and variance, and that these two parameters are uncorrelated, highlighting variability as an independent baseline dimension of memorability. For old items, variance increased with average memory strength suggesting that a stronger memorability boost from encoding is accompanied by greater variation across people. Finally, taking unequal variance into account leads to adjustments in the representational distances between item distributions, with important implications for measuring memorability and identifying its determinants.

8:40-9:00 AM (3)

Deep Learning Models of Memory and Metacognition Exploit Their Training Set as Context to Make Seemingly Contextless, Intrinsic Predictions. DYLLAN SIMPSON, *University of California, San Diego*, JOSEPH SAITO, *University of California, San Diego*, TIMOTHY BRADY, *University of California, San Diego* — Some images are remembered better than others, and computer vision models like ResMem can predict an image's memorability from the image alone, encouraging the view that memorability is intrinsic to a stimulus. At the same time, people often have accurate beliefs about what images they will remember, which they can express as judgments of learning (JoLs). Here, we collect JoLs and show that a deep neural network we dub "MetaMem" can accurately predict JoLs from images and even generalizes successfully to an independent stimulus set and dataset. Does this mean memorability and JoLs rely on intrinsic features? Across three experiments we show this is not the case: these models are instead picking up on the distinctiveness of an item relative to the training set – which predicts its memory performance – and their generalization therefore depends on alignment between training and test sets. Flipping these distinctiveness statistics destroys their predictivity. Thus, we show that JoLs can be predicted by deep nets, but ultimately relational properties of a dataset are what is extracted by deep nets and used to predict memorability and JoLs, making this dataset specific and not evidence of any intrinsic nature of memorability.

9:00-9:20 AM (4)

Deconstructing Scene Schemas: Effects on Image Memorability, Complexity, and Typicality. KARLA K. EVANS, *University of York*, OSCAR SOLIS, *University of York* — Scene schemas are cognitive structures that capture a scene's overall composition, its elements and relationships among them, facilitating scene perception and memory. We examined how schema violations affect image memorability and perceptions of complexity and typicality. These attributes were measured on 242 observers for 128 scene images and image variants created by removing elements, inverting the image, substituting objects with semantically incongruent alternatives, or relocating objects to atypical but physically plausible positions. Schema-consistent images were judged most typical, yet were neither the most complex nor the most memorable. All schema violations reduced typicality and altered perceived complexity. Changes to scene elements and their relationships produced the largest increases in memorability, while removing elements reduced complexity and typicality but enhanced memorability. Typicality and complexity therefore reflect distinct rather than overlapping aspects of schema conformity. These dissociations suggest that schemas function as a predictive cognitive baseline, with the nature of the violation, not merely its presence, determining the extent to which memorability is enhanced.

9:20-9:40 AM (5)

A Signal Detection Analysis of Memory Screening. CHRIS M. FIACCONI, *University of Guelph*, MICHELLE A. DOLLOIS, *University of Guelph* — The vast majority of studies on human memory employ a forced-report method in which participants must respond to each query on a memory test. However, outside the lab, reporting of mnemonic information is typically under the control of the rememberer. At present, little is known about how effectively people screen their memories when afforded the opportunity to do so. Using a 2-AFC recognition memory paradigm, we compare memory accuracy under both forced-report and free-report conditions to examine a) if both forms of report can be explained within a common signal detection theory framework, or b) if free-report requires a separate metacognitive monitoring mechanism to explain performance. A novel receiver operating characteristic (ROC) analysis provided strong evidence that performance in both forced-report and free-report conditions can be understood as reflecting a common signal detection process. Theoretically, these findings question the utility of treating memory retention and memory monitoring as independent processes.

9:40-10:00 AM (6)

Never Use Common False-Alarm Rates: A Case Study of the List-Strength effect (Comparing Pure and Mixed Lists in Recognition Memory). YONATAN GOSHEN-GOTTSTEIN, *Tel-Aviv University*, RAZ DANINO, *Tel-Aviv University* — The list-strength effect (LSE)—the interaction between item strength and list composition (pure versus mixed)—has played a central role in understanding memory. In recognition memory, the null LSE motivated specialized models. Recently, positive, negative, as well as null LSEs were reported in recognition memory. Here, we argue that any conclusions about the LSE in recognition memory are undermined by a fundamental design flaw that persists irrespective of the chosen sensitivity measure (yes, including d_sub_a). Specifically, recognition sensitivity depends on joint variations in hit and false-alarm rates (FARs). Otherwise, differences between strength conditions may be mediated by sensitivity, bias, or both. Yet in traditional mixed-list designs, a common FAR is used across strength conditions. Using hypothetical allocations of FARs in an existing dataset, we show that plausible changes in FARs can reverse the apparent direction of the LSE or even eliminate it. Further undermining the LSE: pure and mixed conditions are evaluated using non-equivalent information in that only pure-list designs allow FARs to vary. Therefore, standard pure-mixed designs cannot adjudicate between theories of recognition memory.

Attention: Individual Differences

Friday, November 20, 2026, 8:00-10:00 AM PST

Chaired by Jeffrey Rouder, *University of California, Irvine*

8:00-8:20 AM (7)

Looking After Yourself: Alexithymia and Self-care. JASON S. CHAN, *University College Cork*, NATALIA HEFKALUK, *University College Cork* — Alexithymia, a trait which impacts an individual's ability to label, process and describe their emotions, has been linked to various unfavourable outcomes for health and well-being. Research has consistently shown that these individuals use less adaptive emotion regulation (ER) strategies than controls. However, the role of self-care practices is not well understood. This study assessed the relationship between alexithymia, self-care practices, well-being and distress, as well as the contribution of emotion regulation strategies to these relationships. 473 people completed an online survey measuring alexithymia, mindful self-care, ER strategies, well-being and distress. Hierarchical multiple regressions and two further SEMs analysed the relationship between these variables on well-being and distress. The results found a negative association of alexithymia with self-care, which was pronounced in the mindful awareness, self-compassion and purpose (SCP) and supportive structures facets of self-care. These interventions should also promote the practice of self-compassion, mindfulness and cognitive reappraisal.

8:20-8:30 AM (8)

(Data Blitz Presentation) Attention Control Training and Transfer. MADELYN J. HOFFMAN, *Purdue University*, HARUN YÖRUK, *Purdue University*, THOMAS S. REDICK, *Purdue University* — Attention control is a vital aspect of human cognition, yet little is known about the impact of behavioral interventions on individual differences in attention. Our study aimed to examine attention control training and transfer with the Antisaccade task and the Sustained Attention to Cue Task (SACT) with three experimental groups. We leveraged a novel manipulation of wait-time variability. Complete data were collected from 153 young adults. All participants completed a pre-test session, 10 training sessions in their respective groups, and a post-test session. We found a significant wait-time effect on the SACT and Antisaccade task performance in both training groups, with longer wait times producing lower accuracy. Further, there were significant pre- to post-test improvements for the measures of inhibition and multitasking. However, there were no significant interaction effects between training groups and sessions, indicating that manipulating wait-time variability did not produce transfer to unpracticed tasks.

8:30-8:40 AM (9)

(Data Blitz Presentation) Attention Control: The Role of Memory Maintenance and Intelligent Disengagement on The Wandering Mind. JOSEPH OBINECHE, *Montana State University*, KEITH A. HUTCHISON, *Montana State University* — Mind-wandering is often treated as a failure of attention, but different methods may capture different processes. This study examined whether probe-caught and self-caught mind-wandering show distinct relations with attention control, working memory capacity, and fluid intelligence, and objective measures of sustained attention performance. Participants completed attention, memory, and reasoning tasks, along with separate probe-caught and self-caught versions of the semantic sustained attention to response task. Attention control emerged as a significant unique predictor of probe-caught mind-wandering, such that better controlled attention was associated with fewer externally probed reports of off-task thought. Self-caught mind-wandering was not reliably predicted by the cognitive ability composites, although effects were directionally consistent with predictions for working memory capacity and fluid intelligence. Objective sustained attention performance metrics uniquely predicted both probe-caught and self-caught mind-wandering, but with distinct patterns. These findings suggest that probe-caught and self-caught mind-wandering may reflect distinct aspects of attentional lapse, monitoring, and meta-awareness.

8:40-9:00 AM (10)

Active Volition Reshapes the Expression of Trait Top-Down Control on Perceptual Agency. BRADLEY S. GIBSON, *University of Notre Dame*, REBECCA N. WARREN-NASSRI, *University of Notre Dame*, MARY A. PETERSON, *University of Arizona* — The present study used a bistable perception task to probe interactions between top-down internal attention (to representations of different orientations) and bottom-up external perception. Across four experiments (N = 320), participants viewed Necker cubes varying in bottom-up features while attempting to maintain orientations that were either freely chosen or assigned. Results showed that top-down control consistently predicted higher agency, whereas bottom-up features predicted lower agency at both inter-individual (trait) and intra-individual (state) levels. Crucially, stable inter-individual differences in top-down control amplified the positive impact of dynamic, intra-individual performance fluctuations on trial-by-trial agency ratings. However, exercising free choice modulated this effect. While trait-driven amplification dominated assigned-choice conditions, active behavioral investment (a higher proportion of free choices) dismantled this trait constraint, allowing individuals to embrace a more intrinsically oriented evaluation of agency. These findings demonstrate that active volition can fundamentally reshape the expression of trait top-down control on perceptual agency. ‘as intelligence and working memory. Researchers routinely estimate and interpret correlations as though they are real quantities. But

are they? We argue that latent correlations require a licensing condition — a property of the observed covariance structure that must hold before a latent correlation can be interpreted as a single, meaningful number. We formalize this condition as alignment: a covariance matrix is aligned with respect to two clusters if a certain ratio of cross- and within-cluster covariances is constant across index pairs. When alignment fails, no single number faithfully summarizes the between-cluster association, and the latent correlation is an artifact of modeling assumptions. We develop the geometry of alignment for the two-cluster case and show diagnostics for alignment. The implications are as follows: Before asking how large a latent correlation is, researchers must first ask whether one exists at all.

9:00-9:20 AM (11)

On the Interpretation of Latent Correlations: Alignment in Confirmatory Factor Models. JEFFREY ROUDER, *University of California, Irvine,* MAHBOD MEHRVARZ, *University of California, Irvine* — Latent variable modeling is the engine of individual difference research — it converts variation into concepts with theoretically-meaningful traction. Central is the latent correlation: the association between two latent constructs such as intelligence and working memory. Researchers routinely estimate and interpret correlations as though they are real quantities. But are they? We argue that latent correlations require a licensing condition — a property of the observed covariance structure that must hold before a latent correlation can be interpreted as a single, meaningful number. We formalize this condition as alignment: a covariance matrix is aligned with respect to two clusters if a certain ratio of cross- and within-cluster covariances is constant across index pairs. When alignment fails, no single number faithfully summarizes the between-cluster association, and the latent correlation is an artifact of modeling assumptions. We develop the geometry of alignment for the two-cluster case and show diagnostics for alignment. The implications are as follows: Before asking how large a latent correlation is, researchers must first ask whether one exists at all.

9:20-9:40 AM (12)

Individual Differences in Loneliness, Emotional Regulation, and Problematic Social Media Use Modulate Selective Attention to Emotional Faces: Preliminary Evidence from the Face-Word Interference Task. ADRIANA PATRIZIA GONZÁLEZ PIZZIO, *Universidad Francisco de Vitoria*, ELENA BERNABÉU BROTONS, *Universidad Francisco de Vitoria*, CARLOS MARCHENA GIRÁLDEZ, *Universidad Francisco de Vitoria*, ÁNGELA OSUNA BENAVIDES, *Universidad Francisco de Vitoria*, MYRIAM CARBONELL COLOMER, *Universidad Francisco de Vitoria*, VICTORIA PABLO RÍOS, *Universidad Francisco de Vitoria* — Loneliness, the subjective perception of relational dissatisfaction (Peplau & Perlman, 1982) , is linked to attentional hypervigilance toward social threats (Cacioppo & Hawkley, 2009). While recent evidence indicates loneliness does not affect joint attention (Pecchinenda et al., 2026), its role in selective attention remains unexplored. Problematic social media use, emotional dysregulation, and Fear of Missing Out (FoMO) constitute additional vulnerability factors shaping socioemotional processing (e.g., Luque-Reca et al., 2024). This study will examine whether loneliness, emotional regulation difficulties, problematic social media use, and FoMO modulate performance on the Face-Word Interference Task (Beall & Herbert, 2008), using fearful, happy, and neutral-scrambled distractor faces. We hypothesize greater interference from fearful than happy faces (Vuilleumier, 2002), and that loneliness will selectively modulate accuracy. We further hypothesize that emotional dysregulation, FoMO, and problematic social media use will contribute to FWI interference effects. These findings will advance understanding of how socioemotional vulnerabilities shape selective attention.

9:40-10:00 AM (13)

Unified or separate? Capacity limits in visual attention and working memory. SHUANGKE JIANG, *University of Zurich*, KLAUS OBERAUER, *University of Zurich* — Many researchers argue that visual attention and working memory (WM) are closely coupled, both limited to approximately 3-4

items, with similar neural signatures of load (e.g., the CDA). However, it remains unclear whether these limits reflect a single, shared cognitive resource or two distinct systems. We tested 386 adults on various attention tasks (monitoring, MOT, subitizing, visual search, RSVP) and WM tasks (continuous reproduction, change localization, relational integration, dual task), using colors, orientations, and shapes. Confirmatory factor analyses showed that a two-factor model, separating attention and WM, fit better than a one-factor model, indicating that the two constructs are distinguishable at the latent level. However, the latent correlation between them was very high, indicating substantial shared variance. Condition-level SEM further showed that this overlap was stronger for high-load than low-load attention. Overall, the findings suggest that attention and WM are highly overlapping but not identical systems, consistent with a shared capacity-limited focus of attention that becomes more engaged under high load.

Human Learning & Instruction I

Friday, November 20, 2026,
8:00-10:00 AM PST

Chaired by Jenni Redifer, *Western Kentucky University*

8:00-8:20 AM (14)

Does Interleaving Metacognitive Content Improve Learning Outcomes in Middle School Math? CRISTINA D. ZEPEDA, *Vanderbilt University*, SARAH SHAW, *Vanderbilt University*, KELLEY DURKIN, *Vanderbilt University* — Prior research has shown the benefits of interleaving versus massing content on learning outcomes (e.g., Rohrer et al., 2020). In a pre-registered study, we evaluated whether interleaving benefits extend to learning about metacognition. Sixth graders in a digital math platform were randomly assigned to an interleaved (n=294) or a massed (n=315) metacognitive condition. The interleaved condition received instruction and practice with three metacognitive skills together (planning, monitoring, and evaluating), whereas the massed condition received each skill one-at-a-time. The content was identical; only the ordering differed. Pre- and post-intervention, students completed self-reports measuring motivation and metacognitive skills; a math performance test; and behavioral engagement metrics (time on task, hint use, errors). No differences emerged between conditions, yet students in both conditions reported higher metacognitive skills and math performance at posttest, controlling for pretest. These findings suggest that interleaving versus massing may not confer additional benefits for metacognition learning, but what matters is receiving metacognitive support.

8:20-8:30 AM (15)

(Data Blitz Presentation) Effects of Artificial Intelligence Generated Study Tools on Learning and Metacomprehension. ISABELLA KLOPUKH, *University of Maryland, College Park*, MICHAEL R. DOUGHERTY, *University of Maryland, College Park*, MARISSA HARTWIG, *University of Maryland, College Park* — Recent advances in artificial intelligence technologies such as ChatGPT have provided new tools for students to implement when studying text materials. However, little empirical research has been conducted to evaluate whether use of such technologies is actually beneficial for learning and metacognitive outcomes. The present study connects the fields of artificial intelligence and metacognition to evaluate the effects of artificial intelligence-generated study materials on memory, comprehension, and metacognitive monitoring. Participants read a series of text passages about the natural and social sciences, made metacomprehension judgments, studied the text passages either by re-reading, reviewing a non-interactive ChatGPT-generated study guide, or reviewing an interactive ChatGPT-generated study guide with fill-in-the-blank components, and finally took a multiple-choice test assessing their memory and comprehension of the texts. Results suggest that artificial intelligence generated study materials do not improve test performance relative to re-reading, but do provide some benefits for metacomprehension accuracy and foster greater enjoyment and engagement among students.

8:30-8:40 AM (16)

(Data Blitz Presentation) The Effect of Learning Schedule on the Cost of Photo-Taking in Visual Category Learning. JEXY AN NEPANGUE, *University of California, Santa Cruz*, BENJAMIN STORM, *University of California, Santa Cruz* — Photo-taking is often used to preserve information, but it may impair learning by reducing attentional engagement during encoding. In an earlier experiment (Nepangue & Storm, 2025; Psychonomics), a photo-taking-impairment effect was observed in the context of category learning, with participants being less likely to identify novel paintings by artists they previously photographed than those they previously observed. Interestingly, this impairment was attenuated when the paintings were studied on an interleaved schedule compared to a blocked schedule. The current experiment seeks to replicate this finding while addressing several methodological limitations of the previous experiment. While data collection is ongoing, preliminary evidence suggests that the main effect of photo-taking is reliable, but that the interaction with learning schedule may not be. We will discuss the theoretical implications of these findings, exploring the boundary conditions of the photo-taking-impairment effect in category learning and its possible relationship to attentional allocation.

8:40-9:00 AM (17)

Psychological Misconceptions and Decisions about Learning and Memory: A Thematic Analysis. JENNI L. REDIFER, *Western Kentucky University*, ERIN JANT, *Western Kentucky University*, JENNIFER MCGEE, *Emory University*, ERIN I. SMITH, *California Baptist University*, ANNETTE TAYLOR, *University of San Diego*, PATRICIA KOWALSKI, *University of San Diego*, LESLIE CAMERON, *Carthage College*, MAYA M. KHANNA, *Creighton University*, BRIANNA GONZALEZ, *Farmingdale State College*, MELISSA LEHMAN, *Lynn University*, DEBORA HEROLD, *Indiana University Indianapolis*, DOUGLAS BERNSTEIN, *University of South Florida* — Research on links between psychological misconceptions about learning and memory and behavior is limited (Miller et al., 2020; Yan et al., 2014). We examined whether students who believe these misconceptions cite them as evidence to support less effective academic behaviors. Participants (n = 914) indicated their confidence in 14 true and false statements about learning and memory (Bernstein et al., 2023). For each false statement participants were confident in, they answered open-ended questions about how the belief influences how they take notes, study, or make other education-related choices. Thematic analysis of responses revealed eight analytic constructs, including implicit and explicit misconception as evidence. Belief prevalence varied across misconception domains. Explicit belief expressions (e.g., "I'm right-brained, so visual learning works best for me") occurred in a small number of responses (10.4%), yet misconceptions were frequently invoked as reasoning in participants' evaluations of academic behaviors (40.9%). Direct and explicit belief–behavior coupling was even less frequent (1.0%), suggesting that misconceptions influence behavior via implicit reasoning processes as opposed to explicit causal explanations.

9:00-9:20 AM (18)

Massed Learning in the Evening, Post-Midnight, and Pre-Sunrise: A Cross-Over, Sleep Laboratory Experimental Investigation. MICHAEL SCULLIN, *Baylor University*, MICHAEL MORALES, *Baylor University*, CLARA BURNS, *Baylor University*, ZHIYI CHEN, *Baylor University*, CORINNE FITZSIMMONS, *Baylor University*, REBECCA ABRAHAM, *Baylor University* — Despite recommendations to space studying across days, most students still "cram" for tests, often at the expense of sleep. We enrolled 41 healthy young adults in a 4-week protocol that included four polysomnography-measured sleep and learning sessions. At baseline, participants took a pre-test (0% to 34% accuracy). In subsequent weeks, participants completed three 3.5-hour massed learning sessions on Introduction to Human Physiology materials and Lithuanian-English vocabulary words, with condition order counterbalanced: evening studying until 11:00pm (followed by 8.5 hours time in bed), post-midnight studying until 3:10am (followed by 4.0 hours time in bed), and pre-sunrise studying until 7:35am (preceded by 4.0

hours time in bed). Testing occurred at 8:00am and 24 hours later. The evening condition showed significantly better learning efficiency and retention than the post-midnight and pre-sunrise conditions (which did not differ). Chronotype did not moderate the results. These findings oppose common student behaviors and traditional thinking about forgetting curves: a full night of sleep between learning and testing led to better outcomes than late night studying or waking early to cram learning until test time.

9:20-9:40 AM (19)

Metacognitive and Motivational Factors Related to Medical Students' Time to Demonstrate Readiness for the USMLE Step 1 Licensing Exam. MICHAEL J. SERRA, *Texas Tech University Health Sciences Center*, EEVIN JENNINGS, *Texas Tech University Health Sciences Center*, LISA B. LIMERI, *Texas Tech University*, NOLAN SEDILLO, *Texas Tech University*, STEPHANIE STROEVER, *Texas Tech University Health Sciences Center*, AHMAD JEZZINI, *Texas Tech University Health Sciences Center*, JILL WHITE, *Texas Tech University Health Sciences Center* — Medical students must engage in efficient self-regulated learning, especially when preparing for licensing exams. Nevertheless, some avoid effective but effortful strategies such as retrieval practice and self-testing. Research in undergraduate populations suggests that motivational and metacognitive beliefs (including fear of failure, error avoidance, fixed mindset beliefs, and academic self-handicapping) can reduce willingness to engage in such desirable difficulties during learning. Less is known about how these factors operate in medical students preparing for high-stakes licensing examinations. We surveyed 92 second-year students preparing for USMLE Step 1 using measures of mindset, reactions to errors, fear of failure, and academic self-handicapping. Students who progressed more slowly toward Step 1 readiness demonstrated lower growth mindset beliefs, greater academic self-handicapping, greater academic shame, and some weaker self-regulated learning skills. Findings suggest that motivational and metacognitive beliefs about learning may influence medical students' willingness to engage in effective study behaviors, even during high-stakes exam preparation.

9:40-10:00 AM (20)

Uncertainty Without Structure Does Not Improve Learning. AYANNA K. THOMAS, *Tufts University*, LAN ANH DO, *Tufts University* — As information becomes increasingly accessible through technology and AI, an important question is whether productive struggle and uncertainty enhance learning. Across two experiments, we examined how uncertainty and peer collaboration affect problem solving in well-defined mathematical problems. Participants completed Problem 1 either individually or in groups and then completed Problem 2 individually. Experiment 1 manipulated uncertainty through instructional timing, with instruction provided either before or after Problem 1. Experiment 2 manipulated uncertainty through instructional availability, with instruction either provided before Problem 1 or omitted entirely. Providing instruction beforehand consistently improved problem-solving efficiency across experiments. Withholding instruction increased confusion without improving later performance, even when working in groups. Collaboration amplified the benefits of prior instruction on Problem 1 performance and was associated with higher heart rate variability, indicating reduced cognitive load during group work. Together, these findings suggest that productive struggle may benefit learning only when learners have sufficient structure to navigate uncertainty effectively.

Statistics and Methodology I

Friday, November 20, 2026, 8:00-10:00 AM PST

Chaired by Joshua L. Fiechter, *Wright State University*

8:00-8:20 AM (21)

Enhancing Estimates of Latent Preferences from Pairwise Comparisons with a Novel Multilevel Parameterization of the Bradley-Terry-Luce Model. JOSHUA L. FIECHTER, *Wright State University*, ROBERT UHL, *Carnegie Mellon University* — The Bradley-Terry-Luce (BTL) model is often leveraged for estimating latent preferences from pairwise comparisons in psychological research. Several additional features to the standard BTL model have been proposed since the original model was developed, including the incorporation of continuous outcomes, ties, and multilevel structure. Critically, this latter development has applied to factors other than the entities under evaluation (e.g., research participants) and not those entities directly. Here, we evaluate a novel iteration of a Bayesian multilevel BTL model that treats the entities under evaluation as a single set of grouping variables, rather than distinct fixed effects. This novel parameterization relies on multiple-membership terms, which are frequently leveraged in research contexts that entail cross-classification, or membership across multiple data columns. We demonstrate via a series of simulations that multiple-membership terms in the context of BTL modeling enhance both estimation time and estimate accuracy. Furthermore, the advantages of this novel BTL parameterization are enhanced as entities under evaluation are increasingly homogenous.

8:20-8:30 AM (22)

(Data Blitz Presentation) Usability of a Statistical Web App: AI Link and Empirical Study of Stats Picker. ANNIKA T. OVERLANDER, *University of Konstanz*, ULF-DIETRICH REIPS, *University of Konstanz* — Although AI can provide statistical advice, users still need to formulate useful prompts, evaluate responses critically, and choose appropriate statistical analyses. This project empirically evaluates Stats Picker (iscience-kn.shinyapps.io/Stats-Picker/, SP), a web-based tool designed to guide users through the selection of statistical procedures. In Study 1, N = 148 students were assigned to one of four conditions while completing statistical literacy tasks: no help, AI chatbot, SP, or both. Statistical literacy scores did not differ significantly between these conditions. In Study 2, we conducted an expert (N = 14 advanced students and a professor) task-based usability study to evaluate SP using task performance, a standardized user-experience questionnaire, and qualitative feedback. Overall, Stats Picker was rated as clearly structured and very helpful by all but one participant with a mean UEQ (Hinderks et al., 2019, doi: 10.1016/j.csi.2019.01.007) score of 78%. The results reveal a moderate association between usability and task performance in this sample. Together, the findings highlight relevant aspects of evaluating methodological web apps such as meeting intended goals (increase statistical literacy) and usability.

8:30-8:40 AM (23)

(Data Blitz Presentation) Weighing the conscious and unconscious determinants of voluntary action in a model motor behavior. ZENGBO XIE, *Vanderbilt University*, HUIJUN WANG, *Shenzhen University*, FENG SHU, *Shenzhen University*, YUHUI HUANG, *Shenzhen University*, QIUHAI YUE, *Shenzhen University*, RENÉ MAROIS, *Vanderbilt University* — The relative contributions of conscious and unconscious processes to voluntary action remain unresolved. We leveraged blinking — a behavior produced either unconsciously (spontaneous blinks) or consciously (voluntary blinks) — to estimate the extent to which volitional control may be shaped by unconscious dynamics by comparing the temporal structure of voluntary blinking event-trains to two reference frames during separate 10-min sessions: unconsciously-driven spontaneous blinking and deliberate volitional control in another modality (keypresses). The three event-trains showed distinct inter-event interval distributions: spontaneous blinking followed a temporally regular gamma-shaped distribution with a refractory-delayed short-interval peak, whereas voluntary keypresses

showed a heavy-tailed monotonic-decay ("burst-and-pause") distribution. Voluntary blinks formed a broad unimodal distribution combining features of the two other distributions. However, across rate-based, higher-order temporal-pattern metrics and mixture modeling analyses, voluntary blink trains preserved much of the timing structure of spontaneous blinks, suggesting that deliberate volition only modulates an underlying unconscious temporal architecture of action.

8:40-9:00 AM (24)

Combining speed and accuracy: A dimensionless efficiency measure. DAVID A. ROSENBAUM, *University of California, Riverside* — Speed and accuracy are two of the most important kinds of data in our field, but our field has found it hard to interrelate these measures even though they have been understood to reflect efficiency. We have developed a dimensionless efficiency measure that combines speed and accuracy. The measure can significantly benefit our field by affording a uniform way of reporting and analyzing combined speed and accuracy results in addition to the traditional (more fractured) way of dealing with these two data types. The new measure is mathematically simple and may permit new insights into issues of longstanding concern, such as how efficiency changes with practice. Because the measure is dimensionless (no units of measure), it enables comparisons across tasks that use different units of measure. The measure may also provide a basis for incentivizing performance and for setting prices and wages for goods and services.

9:00-9:20 AM (25)

Mouse-Cursor Trajectories as Behavioral Signatures of Salience Network Organization. TAKASHI YAMAUCHI, *Texas A&M University*, OMAR VIERA RESTO, *Texas A&M University*, JESSICA BERNARD, *Texas A&M University*, DAVID BRIAN ROMPILLA, JR., *Texas A&M University* — Mouse-cursor tracking has emerged as a promising process-tracing method in decision-making research, yielding rich spatio-temporal measures — such as sample entropy, maximum deviation, acceleration, and velocity. Despite its promise, the psychological implications of these measures remain poorly understood. To address this, we administered three conflict-driven cognitive tasks (ANT, Antisaccade, and Stroop) and collected resting-state fMRI to examine the extent to which functional connectivity across four brain networks — the Default Mode, Salience, Fronto-Parietal, and Sensorimotor networks — correlated with mouse-motion features derived from individual trials. Traditional measures such as response time showed no reliable association with any network property ($|r| < .14$, $p_{fdr} > .05$). In contrast, mouse-motion features — including initiation time, maximum absolute deviation ($|r| = .30$, $p_{fdr} < .005$), and maximum acceleration time ($|r| = .27$, $p_{fdr} < .005$) — were significantly correlated with closeness and betweenness centrality within the Salience network. These results suggest that dynamic mouse-cursor trajectories capture individual differences in neural network organization that traditional response-time measures cannot.

9:20-9:40 AM (26)

Self-Report Items Can Detect LLM-Generated Respondents in Online Research. CAMERON S. KAY, *New Mexico State University*, MADALINA VLASCEANU, *Stanford University* — Synthetic respondents pose a threat to the integrity of online research, yet available detection techniques remain opaque, proprietary, or ill-suited to the problem. In the present preregistered project, we evaluated ECLAIR, a novel framework for developing AI-detection items. We generated sets of synthetic respondents using six LLMs (NTotal = 1,800) and compared them to census-matched samples of human participants from five online data-collection platforms (NTotal = 1,518). We found that the synthetic and human respondents provided fundamentally different responses to tasks and scales assessing common cognitive constructs (e.g., cognitive reflection; anchoring), such that a researcher who relied solely on the former would misestimate experimental effects and systematically underestimate differences among individuals. However, we also found that a set of 22 items designed using the ECLAIR framework could successfully discriminate between the two types of respondents, correctly classifying

98.78% of synthetic respondents and 95.78% of human respondents. Although this project demonstrates that synthetic respondents pose a serious threat to online research, it also shows that novel tools can help mitigate that threat.

Bilingualism I

Friday, November 20, 2026, 8:00-10:00 AM PST

Chaired by Ana I. Schwartz, *University of Texas at El Paso*

8:00-8:20 AM (27)

The Impact of Language Proficiency on Bilingual Discourse Updating. ANA I. SCHWARTZ, *University of Texas at El Paso* — Successful discourse comprehension requires readers to update their mental representations when new information contradicts previously established facts. Because bilingual readers rarely develop equivalent reading proficiency across their two languages, they offer a unique window into how relative encoding strength affects discourse updating. Spanish-English heritage speaking bilinguals read expository and narrative passage pairs in which a fact established in the first passage was revised in the second. The language of each passage and of true-false comprehension statements was independently manipulated. Reading times and comprehension accuracy were measured. For expository passages, accuracy was consistently lower when the updating passage was in Spanish, the non-academic language, suggesting that academic language proficiency limits the efficiency of discourse updating. Strikingly however, this cost was completely eliminated when comprehension statements were in English, suggesting that the locus of the problem resides not in encoding alone but primarily in retrieval processes. Implications for a three-stage model of bilingual discourse updating are discussed.

8:20-8:40 AM (28)

Top-down language control during silent and aloud reading of mixed-language paragraphs with eye-tracking. JESSIE QUINN, *University of California, San Diego*, VICTOR S. FERREIRA, *University of California, San Diego*, TAMAR GOLLAN, *University of California, San Diego* — Bilingual speakers apply top-down control to regulate competition from the nontarget language, but most models of reading comprehension posit that language selection occurs via bottom-up activation only. Ninety-six English-dominant Spanish-English bilinguals read single- and mixed-language paragraphs while their eyes were tracked as they read aloud vs. silently. Paragraphs were written in English-only, Spanish-only, mostly-English, or mostly-Spanish, and mixed-language paragraphs had 10 language-switch words. In reading aloud, mixing costs were larger for dominant-language targets only in later occurring measures (regressions and total reading time). In silent reading, the dominant language exhibited larger costs than the nondominant language across all eye measures (including gaze and skips). Processing of dominant-language words slowed in mixed-language paragraphs to the extent that language dominance reversed for later measures in both silent and aloud reading. These results suggest more widespread influence of dominant-language inhibition than previously thought to occur (especially for silent reading), and even affecting processing in earlier measures that are assumed to reflect lexical access.

8:40-9:00 AM (29)

When cognates help and hinder bilingual language control in different modalities. CHUCHU LI, *University of California, San Diego* — The present study examined cognate effects in intra-sentential language switching to compare bilingual language control in comprehension versus production. Chinese–English bilinguals read mixed-language paragraphs silently or aloud while eye movements were recorded. During silent reading, cognates facilitated switch-word processing, eliciting shorter gaze durations and go-past times, especially in the non-dominant language, without affecting regressions. During

reading aloud, cognates still facilitated lexical access of switch words in the nondominant language but elicited more cross-language intrusion errors in both languages, indicating greater switch difficulty. The increased difficulty is associated with higher regression rates, and speech-to-regression latency analyses showed that these regressions were tightly synchronized with speech onset, indicating increased internal monitoring. These findings suggest that shared phonology facilitates lexical access across modalities but creates competition when precise word form selection is required. This increased conflict elicits more monitoring in production but not in comprehension, revealing distinct mechanisms in bilingual language control across modalities.

9:00-9:20 AM (30)

Trilingual language interference in reading aloud. CLARA D. MARTIN, *Basque Center on Cognition, Brain and Language*, HUIYI HU, *Basque Center on Cognition, Brain and Language*, ANNE NEVEU, *Kean University*, TAMAR H. GOLLAN, *University of California, San Diego* — When reading paragraphs containing single-word code-switches, bilinguals produce more intrusion errors (i.e., failures to switch to the other language) in the L1 while reading in the L2 than vice versa, indicating weaker interference from the stronger language on the weaker language than the reverse. Using a similar design, we investigated interference in trilinguals. Participants read 18 paragraphs in English, French, or Spanish containing code-switches into one of the other two languages. For each reading language, we measured the relative level of interference from the two unattended languages through the number of failures to switch. We predicted graded interference: L1< L2< L3. Preliminary results (N = 40/60) confirmed graded interference in trilinguals: Participants produced more failures to switch into more proficient languages when reading in less proficient ones, and more failures to switch to the more dominant unattended language. One exception appeared in L3 reading: switching to L1 elicited fewer errors than switching to L2. This finding -to be confirmed with the full dataset- may suggest that despite graded interference, L2 and L3 interfere more strongly with one another than either does with L1.

9:20-9:40 AM (31)

Experience-driven adaptation in Spanish-English code-switching processing. HANNAH G. TREADWAY, *University of Florida*, JORGE R. VALDES KROFF, *University of Florida* — Bilinguals differ in their proclivity and exposure to code-switching (CS). This study capitalizes on such variability to investigate the breadth and depth of experience-based models of sentence processing focusing on disambiguating the effects of community (non-)attestation and (un)grammaticality. Across three eye-tracking-while-reading experiments, second-language Spanish speakers (ambient exposure to CS; Experiments 1–2) and heritage Spanish-English bilinguals (active engagement with CS; Experiment 3) in the southeastern U.S. processed switched sentences in which regional attestation (as determined by prior sociolinguistic work; Experiments 1 & 3) and grammaticality (Experiment 2) of switches were manipulated. Results revealed distinct effects of grammaticality and community attestation on reading times, with unattested switches producing more persistent late-stage costs. Moreover, active participation in CS predicted earlier sensitivity to unattested switches. Findings suggest that experience-based models of (bilingual) sentence processing must account not only for structural regularities, but also for exposure to community-specific patterns of language use.

9:40-10:00 AM (32)

Failed replication of Thierry & Wu (2007): No evidence of unconscious translation in bilingual language processing. LIV J. HOVERSTEN, *University of California, Santa Cruz*, TREVOR BROTHERS, *North Carolina Agricultural and Technical State University*, DANIEL PFAFF, *University of California, Santa Cruz*, HOSSEIN KARIMI, *California State University, Fullerton* — Some of the most prominent evidence supporting the nonselective access hypothesis was provided by Thierry & Wu (2007). The N400 was attenuated when Chi-

nese-English bilinguals read English word pairs that contained a character repetition when translated into Chinese, suggesting that bilinguals unconsciously translate words into their first language (L1) while processing their second language (L2). However, studies have shown inconsistencies in the magnitude and direction of implicit translation effects, and the effect has not been replicated by an independent group of researchers. We therefore conducted a pre-registered, high-powered replication of this finding using the same stimuli and procedure. Linear mixed-effects analyses demonstrated implicit Chinese form repetition effects in English monolinguals ($N = 60$; $M = .75$ μV, $p < .05$) but not in Chinese-English bilinguals ($N = 76$; $M = .24$ μV, $p = .34$). In a separate task, both groups judged the unrelated English word pairs as significantly more semantically related when their form overlapped in Chinese ($p < .01$). These findings fail to replicate the results of the original study, casting doubt on the claim that bilinguals automatically access L1 translations when processing an L2.

Performance

Friday, November 20, 2026, 8:00-10:00 AM PST

Chaired by Katherine S. Moore, *Arcadia University*

8:00-8:20 AM (33)

The role of working memory for dual-task order coordination and coordination adjustment. TILO STROBACH, *MSH Medical School Hamburg*, NILS ASSINK, *MSH Medical School Hamburg* — Performing two tasks simultaneously requires the coordination of their processing, especially in dual-task contexts with varying task orders. When task-order changes across trials, coordination demands result in performance impairments on trials with order switches relative to trials with order repetitions (i.e., order-switch costs). Previous research has further shown that task-order coordination adjusts to prior experience with task-order switches versus task-order repetitions. However, evidence for the assumed involvement of working memory resources in such sequential adjustment remains inconclusive. The present study investigates how working-memory (WM) resources contribute to task-order coordination and adjustment by (1) combining dual tasks with varying task orders and manipulating load through an additional WM task, and (2) comparing performance in young and older adults, where the latter versus the former group has reduced WM resources. The results demonstrate that different levels of WM resources have an impact on task-order coordination, but not on the adjustment of this coordination.

8:20-8:40 AM (34)

I hate this music, but I'll keep going: The effects of preferred and disliked music on an isometric wall-sit exercise. XAVIER KLESS, *Arcadia University*, KATHERINE S. MOORE, *Arcadia University* — Music positively influences physical performance through a variety of factors, including boosting motivation, regulating arousal, distracting from pain, improving mood, and more. Participants perform better listening to preferred music than neutral music, which is typically attributed to a combination of motivation and mood enhancement. However, it is unknown whether demotivating or depressing music can be detrimental to physical performance. To examine this, we investigated thirty-six participants' performance on an isometric wall-sit exercise under different auditory conditions: preferred music, disliked music, and no music. We measured duration of wall-sit; change in heart rate and motivation; emotions elicited; and perceived exertion. Participants completed longer wall-sits when listening to preferred music than no music or disliked music. While participants reported decreased motivation in the disliked condition compared to no music, their wall-sit performance was nonetheless equivalent. These findings show that participant introspection does not always align with performance, and that any negative impacts that demotivating music may have on performance are outweighed by other benefits of music (e.g., distraction from pain.)

9:00-9:20 AM (36)

Changes in pupil size track attentional effort in a variety of tasks. MIRANDA SCOLARI, *Texas Tech University*, JESSICA ALQUIST, *Texas Tech University*, SHINYOUNG JUNG, *Texas Tech University*, ANTO JUDE MOHAN, *Texas Tech University*, JOE OPDENAKER, *Texas Tech University*, TYLER OWEN, *Texas Tech University* — Selective attention is deployed to serve an observer's goals, which, in appropriately designed tasks, should be coupled with transient changes in pupil size. Across three studies, we assessed this expected relationship while participants encountered a range of effortful task demands. Participants either attended to high- or low-contrast gratings (Experiment 1); attended gratings while making orientation judgments with high- or low-reward structures (Experiment 2); or maintained one or two continuous counts of serially presented squares (Experiment 3). Whether selective attention was deployed externally based on visual features or reward expectations, or internally to frequently updated memories, effortful conditions were consistently associated with larger phasic pupillary responses than their less effortful counterparts. Furthermore, participants' peak pupillary response significantly predicted their self-reported effort scores (Experiment 3). In sum, we find phasic pupillary responses track attentional effort broadly, regardless of task. These findings are consistent with a proposed descriptive model that explains the relationship between cognitive-based changes in pupil size and effortful selective attention.

9:20-9:40 AM (37)

Improving Control Over Memory Intrusions and Affect Using Non-Invasive Brain Stimulation. KEVIN VAN SCHIE, *Tilburg University*, ESMEE VAN DER LEM, *Tilburg University*, MIRTHE BROERS, *Tilburg University*, CAMILLA NORD, *University of Cambridge* — Suppressing unwanted emotional memories is important for mental health. Because memories can trigger strong emotions, the ability to control when such memories are retrieved may support affect regulation. However, not all individuals are able to engage in effective thought suppression. Therefore, we tested whether non-invasive brain stimulation, High-Definition Transcranial Direct Current Stimulation (HD-tDCS) targeting the right dorsolateral prefrontal cortex (DLPFC), facilitates control over unwanted memories and whether this affects affective responses. In a randomized, double-blind, sham-controlled design, participants (planned N = 114) complete the Think/No-Think (TNT) paradigm, which models situations in which a cue automatically triggers retrieval of an associated memory that must be suppressed. We hypothesize that HD-tDCS (2mA, 35 minutes) during suppression will reduce memory intrusions and diminish the negative affect associated with suppressed memories compared to sham stimulation. Ninety percent of data have been collected, with data collection expected to be completed in June 2026. Data analyses will be conducted during the summer in line with a preregistered analysis plan on the Open Science Framework (OSF).

9:40-10:00 AM (38)

A Multi-lab study of subjective experiences during an individualized mental effort task. DARIAS HOLGADO, *UniDistance Suisse*, DANIEL SANABRIA, *University of Granada*, CORINNA MARTARELLI, *UniDistance Suisse*, CHRIS ENGLERT, *Goethe-University Frankfurt*, ANTONIO LUQUE-CASADO, *University Rey Juan Carlos*, WANJA WOLFF, *University of Hamburg*, MAIK BIELEKE, *University of Konstanz*, LIYE ZOUE, *Shenzhen University* — Human experience may appear stable across individuals, yet it is always formed by subjectivity, especially during cognitive tasks. Emotional state, prior experiences, expectations, and internalization mean that the same event can be experienced differently across people, and even by the same person at different moments. In research, participants are asked to rate subjective experiences on scales designed around researchers' target constructs. However, little may be known about what participants experience during task performance, because they are often treated mainly as data sources rather than contributors to the research process. Consequently, the richness and variability of subjective experience may be reduced to predefined

categories that reflect researchers' assumptions more than participants' lived realities. This multi-lab study examines subjective experience in its own right by identifying and characterizing the experiences participants report after an individualized mental effort task. Preliminary pilot results suggest a broad and heterogeneous set of experiential states. Rather than clustering around one dominant construct, participants reported cognitive, affective, motivational, bodily, and temporal experiences.

SYMPOSIUM I: Misinformation in the Wild: Characterizing and Correcting Misinformation in Real-World Contexts

Friday, November 20, 2026, 10:00 AM-12:00 PM PST

Chaired by Alyssa Sinclair, *Rice University*

10:00-10:20 AM (SYM-001)

Characterizing and Countering High-Risk Climate Change Misinformation on Social Media. ALYSSA SINCLAIR, *Rice University*, YUCAN XU, *University of Hong Kong*, MICHAEL MANN, *University of Pennsylvania*, EMILY FALK, *University of Pennsylvania*, QIUYAN LIAO, *University of Hong Kong* — Misinformation about climate change threatens to decrease belief and discourage crucial action. The volume of social media content poses a challenge for moderating misinformation, making it critical to prioritize high-risk claims. Across multiple cross-cultural studies, we investigated the prevalence and impact of climate misinformation. In Study 1, we analyzed >300k posts on X/Twitter (U.S.) and Weibo (China), identifying four high-prevalence, high-engagement misinformation types: hoax/conspiracy claims (Hoax), false claims about causes (Causes), false claims about solutions (Solutions), and attacks on climate science (Science). In Study 2 (N=610), we found that true and false climate messages that were more self-relevant (e.g., referencing personal impact) and concrete (e.g., including numbers or specifics) were rated more persuasive, truthful, and shareable. In Study 3 (N=3600), we found that all misinformation types reduced belief in climate change, but Hoax and Science claims were particularly dangerous, producing broad spillover effects on beliefs and behavioral intentions. An ongoing study integrates these insights to test enhanced fact checks that leverage self-relevance and concreteness to counter Hoax and Science claims.

10:20-10:40 AM (SYM-002)

Understanding the Effects of Repetition on Belief in Real-World Settings. LISA FAZIO, *Vanderbilt University* — Repetition increases belief in true and false statements. This illusory truth effect occurs with many types of statements (e.g., trivia facts, news headlines, advertisements), and even when false statements contradict participants' prior knowledge. Here we demonstrate that the effects of repetition are widespread and occur in naturalistic settings. In Study 1, 435 US participants received text messages containing true and false trivia statements across two weeks. Then, participants rated the truth of new statements and statements seen 2, 4, 8 or 16 times. Repetition increased truth ratings in a logarithmic pattern with initial repetitions having a larger influence on belief. Study 2 (N = 607) used the same text message paradigm with more naturalistic stimuli - corporate wrongdoings similar to claims that go viral on social media. We again found a logarithmic relation between repetition and belief. Finally, in Study 3 (N = 182) we examined the effects of repetition on Instagram. Participants agreed to follow a lab Instagram account that repeatedly posted trivia facts for 2 weeks. Repeated statements were given higher truth ratings than novel statements. Overall, it is clear that repetition affects belief in real-world situations.

10:40-11:00 AM (SYM-003)

Providing Fact-Checks After Exposure Make Them More Memorable. NADIA BRASHIER, *University of California, San Diego*, GORDON PENNYCOOK, *Cornell University*, ADAM J. BERINSKY, *Massachusetts Institute of Technology*, DAVID RAND, *Cornell University* — Amid public scrutiny, social media companies hired, and then fired, professional fact-checkers who flag misinfor-

mation. A key challenge is that people often rely on falsehoods even after corrections. Previously, we reduced this *continued influence effect* by providing fact-checks immediately *after* headlines, rather than before or during exposure. In a follow-up study (N = 1215), we replicated this finding under more naturalistic conditions. And most recently, we confirmed that presenting fact-checks at the right time boosts memory for these contextual details. Participants (N = 1200) read true and false headlines taken from social media and indicated their willingness to share them. 'True' and 'false' tags appeared before, during, or after headlines. One week later, participants completed a source memory test for whether news had been labeled 'true' or 'false.' People remembered 'true' tags best when they had initially appeared *after* headlines. Source memory for 'false' tags was higher overall and unaffected by timing. These results illustrate how memory shapes belief, with implications for both theories of cognitive revision and interventions on social media.

11:00-11:20 AM (SYM-004)

Dispatches from Debunkbot: Using AI to Undermine Dubious and Conspiratorial Beliefs. GORDON PENNYCOOK, *Cornell University*, THOMAS COSTELLO, *Carnegie Mellon University*, DAVID RAND, *Cornell University* — Prior work leveraged advances in Large Language Models to provide very strong personalized counterarguments to conspiracy theorists and found a surprising amount of belief updating. In these experiments, conspiracy believers write about a theory that they believe in (using their own words) and then have a dialogue with an AI that has been instructed to debunk the conspiracy (i.e., "Debunkbot"). One study, for example, found that a quarter of conspiracy believers no longer believed the conspiracy after roughly 8 minutes of conversation with our Debunkbot. Prior to publishing this work, we created Debunkbot.com - a website that allows anyone to have a conversation with Debunkbot. In this talk, I will report the findings from over 20,000 conversations with Debunkbot. The results indicate a remarkable similarity to AI debunking efforts from lab studies (using online survey panels): Pre v post change in belief confidence decreases by roughly 10-15% for a wide range of conspiracy beliefs.

Attention: Capture

Friday, November 20, 2026, 10:00 AM-12:00 PM PST

Chaired by Brian A. Anderson, *Texas A&M University*

10:00-10:20 AM (39)

Attentional Capture by Physically Salient Stimuli as a Function of (In)experience. BRIAN A. ANDERSON, *Texas A&M University* — Under certain conditions, physically salient stimuli robustly capture attention. Attentional capture by such stimuli has almost exclusively been examined under conditions in which observers have minimal experience with the stimuli and task. In the real world, salient stimuli are often repeatedly encountered in familiar contexts. The present study examines how attentional capture by physically salient stimuli evolves with increasing familiarity. Participants completed 25 testing sessions of the additional singleton task spread over six weeks. In Experiment 1, the distractor (color singleton) and target (unique shape) color were held constant within a session, while in Experiment 2 they unpredictably swapped across trials. Every participant exhibited a pronounced decline in capture across sessions, with some sessions producing evidence in favor of complete ignoring of the distractor. Changing target and distractor colors across sessions suggested that for some participants, this learned ignoring was feature-specific, while for others, it generalized to the new colors. The results show that, with sufficient experience, observers can largely ignore salient distractors even under conditions maximally conducive to attentional capture.

10:20-10:40 AM (40)

Attentional Capture as a Learning Signal to Promote Future Suppression. NICHOLAS GASPELIN, *University of Missouri*, YUE ZHANG, *University of Missouri* — Salient objects, such as brightly colored objects, seem to have an inherent ability to

attract visual attention. However, salient distractors must also be ignored in favor of relevant information to accomplish everyday goal-directed behavior. Much research has suggested that capture can be prevented via suppression and that this suppression is learned. In the present study, we provide evidence for the Signal Suppression 2.0 account, which proposes that initial capture may serve as a learning signal to promote future suppression of distracting stimuli. Across multiple eye-tracking experiments, we show evidence that the ability to ignore salient distractors can be rapidly learned and this learning is improved when a salient distractor exerts an initial capture effect. These findings suggest that learned attentional control may reflect rapid adjustments to recent distraction, with stronger initial capture associated with increased future suppression. More broadly, our findings indicate that learned attentional control is highly flexible can rapidly adapt to new task demands.

10:40-11:00 AM (41)

Motivation Reduces Attentional Capture but only Partially Ameliorates Feature Interference. TZU-YAO CHIU, *Ohio State University*, FENGYUAN LIU, *Ohio State University*, ANDREW B. LEBER, *Ohio State University*, JULIE D. GOLOMB, *Ohio State University* — Our daily life is rife with salient but irrelevant stimuli, and prior work has shown that attentional capture introduces systematic feature interference. We investigated the effect of motivation on distractor-induced feature interference. In a continuous feature report task, subjects were briefly presented with an array of colored squares and asked to report the color and location of a target square marked by a thick white border. On some trials, a salient task-irrelevant cue was presented just before the array, at the upcoming target location (valid) or a non-target location (invalid). Critically, we manipulated motivation by varying the amount of monetary reward for correct target reports. As expected, invalid cues impaired performance and induced feature interference errors. Notably, with higher reward, the probability of reporting the correct target color and location was increased, and we observed a reduction in feature-repulsion errors, yet interestingly observed an increase in feature-swap errors (reporting the distractor color at the target location). These results indicate distinct motivation effects on distractor-induced feature interference errors, giving novel insight into processes underlying attentional capture.

11:00-11:20 AM (42)

Moving Beyond Instantaneous Salience in the Study of Visual Attention Capture. JOHN MCDONALD, *Simon Fraser University*, REBECCA CARSON, *Simon Fraser University*, DANIEL TAY, *Simon Fraser University* — In the debate over visual attention capture, salience has been defined solely in terms of stimulus contrast within a display (instantaneous salience). In the real world, however, objects may also be salient because they differ from previous items (sequential salience). We developed an oddball search paradigm to examine how these two forms of salience contribute to attentional selection. Frequent standard arrays of six vertical blue bars were intermixed with infrequent arrays containing one, three, or five deviant bars with nonstandard colour (target) or orientation (nontarget). In Experiment 1, deviant arrays contained three nonstandard bars on one side and three standard bars on the other. Nontarget deviant bars elicited an event-related potential (ERP) component associated with attentional selection—the N2pc—even though they had no instantaneous salience or task relevance. In Experiments 2 and 3, instantaneously salient nontarget singletons elicited no N2pc. Together, these results reveal a double dissociation: Sequential salience captures attention reflexively, whereas instantaneous salience does not.

11:20-11:40 AM (43)

Learned Attentional Control: When Salience Guides Visual Search, Can You Learn to Ignore Distracting Salience? SEVDA MONTAKHABY, *McMaster University*, BRUCE MILLIKEN, *McMaster University* — Attentional capture by salient distractors can be reduced through prior experience, known as learned suppression. However, evidence for this effect is limited largely to contexts in which salience is irrelevant to target selection. Whether

learned suppression can occur when salience itself is required for target selection remains unclear. Here, observers searched for a shape-singleton target either in the presence or absence of a salient color-singleton distractor. Attentional capture was reflected in slower responses for color-singleton present trials than for color-singleton absent trials. During training, one group experienced color-singleton present trials only, while another group experienced color-singleton absent trials only. During a subsequent test phase, both trial types were intermixed. Attentional capture at test was smaller for the group with training experience with color-singleton present trials. These findings show that when visual search is guided by salience on a relevant stimulus dimension (e.g., shape), learning can reduce capture by salience on an irrelevant dimension (e.g., color). This finding constitutes an extension of learned suppression effects to saliency-guided search contexts.

11:40 AM-12:00 PM (44)

Monsters Inc: Sudden direct gaze cuing effects are dependent on the location of the eyes in the face and body of the observed being. TIMOTHY N. WELSH, *University of Toronto*, AMIN SHAHRAZAD, *University of British Columbia*, VELIKA KRISTIANTO, *University of British Columbia*, APRIL KARLINSKY, *California State University, San Bernardino*, ROBRECHT VAN DER WEL, *Rutgers University*, ALAN KINGSTONE, *University of British Columbia* — Previous research on gaze direction has revealed that faces with eyes that suddenly look towards an observer are prioritized relative to faces that constantly look towards or abruptly shift away from the observer. This sudden direct gaze effect is thought to be a combination of the capture driven by both the motion of the eyes and the direction of the gaze towards the observer. The present study was designed to determine if the sudden gaze effect is dependent on the presence of the eyes alone or the configural processing of the eyes within a face. Participants were presented with the upper bodies and heads of 4 non-human beings arranged in a cross, with 2 beings having eyes directed toward the participant and 2 beings having eyes directed away from the participant. When the target was presented, 2 sets of eyes suddenly changed direction and 2 sets of eyes remained static. The eyes of the beings were presented on the face, hands, or chest to determine if the direct gaze effect emerges when the eyes are on the face, aligned with the face, or are anywhere on the being. Overall, the sudden direct gaze effect was most consistent when the eyes were on the face, and least consistent when the eyes were located on the hands or chest.

Embodied and Developmental Cognition

Friday, November 20, 2026, 10:00 AM-12:00 PM PST

Chaired by Alison R. Preston, *University of Texas at Austin*

10:00-10:20 AM (45)

Memory Reactivation Shapes Hippocampal Representation and Inference Differently during Development. NICOLE VARGA, *University of Texas at Austin*, LINSEY COHEN, *University of California, Berkeley*, ALISON R. PRESTON, *University of Texas at Austin* — Learning requires more than remembering individual experiences; it requires linking related events to build new knowledge. Children are less likely than adults to make such learning-based inferences, potentially because reactivation of prior memories during learning does not yet reliably promote integration among related experiences. Here, we tested this hypothesis by quantifying how reactivation shapes hippocampal representation at different ages. Participants aged 7–23 years (N=50) completed an associative inference task during fMRI. They learned AB pairs, then overlapping BC pairs, and were tested on novel AC inferences. Using representational similarity analyses, we found that participants across age reactivated prior memories, but reactivation shaped hippocampal representations of related memories (A,C) differently. Stronger reactivation predicted differentiation of related A and C items in children and a trend toward integration in adults, with integration predicting superior inference. These findings indicate that hippocampal maturation supports knowledge formation by transforming how related experiences are represented.

10:20-10:40 AM (46)

Architecture as a Social Signal: Protective Elements Guide Children's and Adults' Systematic Social Inferences about Unfamiliar Social Groups. RODNEY TOMPKINS, *University of California, San Diego*, AMY NGUYEN, *Princeton University*, ADENA SCHACHNER, *University of California, San Diego* — Protective architectural elements are ubiquitous in human societies. Such features may generate unintended social inferences by outsiders about the people who reside there—if architectural scenes can serve as input to social reasoning. Across four studies, adults (n = 520) and 8–9-year-old children (n = 120) viewed two novel towns differing only in the presence of protective architecture (walls, fences). Both groups systematically inferred residents' mental states, traits, and societal structures from these cues alone: Unprotected town residents were judged as happier and nicer, whereas protected town residents were judged as reclusive, rule-bound, and governed under a concentrated power structure (BFs > 1,000). Children vs. adults diverged on feelings of safety: Children reported residents of the protected society as feeling safe, whereas adults attributed feeling safe to the unprotected society. Adults' judgments were also associated with their political orientation (liberal vs. conservative). By middle childhood, physical scenes and social cognition appear to be deeply integrated, allowing for a novel form of reasoning about social collectives from traces of the built environment.

10:40-11:00 AM (47)

Embodiment of metaphors with visual semantics in short and long contexts: An ERP study. VICKY TZU-YIN LAI, *University of Arizona*, CAGATAY CORA, *University of Arizona*, SOREN STOVER, *College of Wooster*, GRIT HERZMANN, *College of Wooster* — Embodied cognition proposes that language is grounded in sensorimotor experiences. This was supported by modality-specific effects for literal and metaphoric language with action, tactile, auditory content. We examined metaphors with visual semantics (e.g., "He saw what she meant"). We hypothesized that visual semantics in literal and metaphoric sentences recruit visual cortex differently depending on context. 31 undergraduates participated in the EEG experiment, where they listened to 252 metaphorical (MET), literal-abstract (LA), and literal-concrete (LC) sentences with short and long contexts and made literality judgements. Conditions were matched for syntax, length, word frequency, visuality, and familiarity. Results. Context mattered. In short context, graded N400-like negativities in the pattern of LC, MET, LA were elicited, prominent over the occipital electrode directly above the visual cortex. This aligns with past LC > MET > LA finding of modality-specific cortex recruitment. In long context, MET and LA elicited larger late positivities (LP) than LC, centrally and parietally distributed, reflecting semantic reanalysis. Conclusion. These findings demonstrated differential literal and metaphoric embodiment in context.

11:00-11:20 AM (48)

Here or There: Multiple motor contributions to memory for object locations. SUESAN MACRAE, *University of Western Ontario*, KEN MCRAE, *University of Western Ontario*, STEFAN KOHLER, *University of Western Ontario* — According to the motor information reactivation hypothesis, some of the benefits of active learning are due to motor activation during recall. In addition, the semantics literature suggests that relevant motor information is reactivated during sensorimotor conceptual simulations of manipulable objects, and that differences in the kinds of activated information have behavioural consequences. Although these theories make similar predictions about the role of motor information in memory, there has been limited work considering both sources in the same paradigm. Across three behavioural studies, we demonstrate that object-location association memory is boosted by both motor activation during a learning phase, and motor contributions of semantic simulations. We also find consistently that the variables do not interact, in line with the two-action-streams account of action processing. Finally, Study 2 finds no additional benefit of choice (agency) when learning object-location associations,

and Study 3 shows these memory benefits persist in a recognition memory task that does not include action at the time of retrieval.

11:20-11:40 AM (49)

Theory of Mind and Body: Interoceptive Accuracy Predicts Accurate Intuitions of Another's Internal State. ASA YOUNG, *University of California, Santa Barbara*, ZENON A. DEMKO, *University of California, Santa Barbara*, HANA M. IBARRA, *University of California, Santa Barbara*, MAX GRANHOLM, *University of California, Santa Barbara*, JONATHAN W. SCHOOLER, *University of California, Santa Barbara* — Empathy is often conceptualized as an inferential process in which perceivers estimate another's internal state by integrating observable cues with referential models. Because psychophysiological states are accompanied by changes in both behavior and physiology, interoceptive accuracy has been proposed to inform inferences about others, but evidence for this link has been inconsistent. We tested whether interoceptive accuracy predicts alteroceptive accuracy: the ability to infer another person's bodily state. In Experiment 1, participants completed the Heartbeat Counting task and a structurally homologous alteroceptive task in which they estimated a co-participant's heartbeats by observation alone. Alteroceptive performance exceeded empirical chance, and interoceptive accuracy predicted alteroceptive accuracy. Experiment 2 showed that this association persisted after accounting for interval timing, heart-rate beliefs, and heart-rate similarity. Exploratory analyses suggested that alteroceptive accuracy uniquely predicted alexithymia, decision making under uncertainty, and emotion recognition beyond interoceptive accuracy. A theory of body may provide a tractable substrate upon which a theory of mind is constructed.

11:40 AM-12:00 PM (50)

The effect of embodied learning on learning performance and experience: A Co-created citizen science study. GETHIN HUGHES, *University of Essex*, BERT REYNVOET, *KU Leuven*, EVA VAN DEN BUSSCHE, *KU Leuven* — Learning constitutes a key mechanism through which experience drives development across the lifespan. In embodied learning, the role of the body is essential and embodied tools such as gestures are assumed to enhance learning. Although widely applied in education, strong empirical support for embodied learning in adults remains limited. Using a co-created citizen science approach, we conducted focus groups with educators to collaboratively formulate the central research question: Does embodied learning affect learning performance and experience? This question was addressed in a laboratory study in healthy young adults. We compared an embodied learner group, which executed gestures during learning, and a non-embodied learner group. The groups showed comparable learning acquisition and retention, although the embodied group responded more slowly during acquisition. Importantly, embodied learners reported lower effort. These findings suggest that while embodied learning may not automatically enhance adult learning performance, it can positively shape subjective learning experience. The co-creation process highlights the value of citizen involvement for generating relevant research questions and informs future translational work.

Metacognition & Metamemory

Friday, November 20, 2026,
10:00 AM-12:00 PM PST

Chaired by Rakefet Ackerman, *Technion - Israel Institute of Technology*

10:00-10:20 AM (51)

Medical Diagnosis as a Reasoning and Meta-Reasoning Challenge. RAKEFET ACKERMAN, *Technion - Israel Institute of Technology*, EYAL BERCOVICH, *University of Haifa* — Metacognition—the capacity to monitor and regulate one's cognitive processes—is central to theories of self

regulated performance, yet its operation in high stakes professional contexts remains understudied. We conducted two studies examining how core metacognitive mechanisms generalize to medical diagnostic reasoning. Medical professionals (N = 150) evaluated X ray images of bone lesions or lungs and provided diagnoses, confidence judgments, and recommended next steps (seeing experts). The results extend metacognitive theory in three ways. First, we identify a robust asymmetry between Yes and No diagnoses, revealing systematic differences in monitoring and control that parallel but also diverge from patterns observed in laboratory tasks. Second, expertise effects were mediated by superior metacognitive monitoring and more effective regulation of effort, demonstrating how metacognitive efficiency develops with domain experience. Third, domain specific case features were shown to trigger miscalibrated confidence and inefficient time allocation. These findings clarify how metacognitive processes operate in real world, high stakes settings and suggest mechanisms through which miscalibrated confidence contributes to diagnostic error.

10:20-10:30 AM (52)

(Data Blitz Presentation) Different Strategies, Different Controls: How Value and Beliefs Shape Metacognitive Regulation. XINRAN WANG, *Vanderbilt University*, CRISTINA D. ZEPEDA, *Vanderbilt University* — Prior research suggests that learners strategically regulate their learning strategy choices based on task value and monitoring experiences (e.g., Wang et al., under review). The current study examined whether learners regulate interleaving versus blocking similarly. Using a within-subject design, 58 undergraduates solved four types of probability problems that were either assigned a high value (5 points) or a low value (1 point). After each problem within high- and low-value trials, learners chose whether to see the same problem type (blocking) or switch problem types (interleaving). Results showed that unlike value-sensitive strategy regulation observed with worked examples and problem solving, interleaving decisions were not significantly shaped by task value alone. Instead, learners were less likely to interleave following errors, and individual differences in beliefs about interleaving's effectiveness and effort predicted switching behavior during high-value trials. These findings suggest that different learning strategies recruit distinct forms of metacognitive monitoring and control.

10:30-10:40 AM (53)

(Data Blitz Presentation) Characterizing the structure of domain-generality in metacognitive confidence. DANIIL GRIGOREV, *University of Warwick*, MARIA ROBINSON, *University of Warwick* — Our mental states are accompanied by a subjective sense of certainty. These confidence judgements play a crucial role in goal-driven behaviour. Establishing a unified theory of metacognition requires understanding the computational principles that underpin confidence, not just within but across contexts. Investigating the influence of context often leads to a dichotomy between domain generality and domain specificity. Instead, it might be described as a relationship between metacognitive algorithmic computations and task-related representations. The present study examines the problem across a perceptual numerosity task and a visual working memory task. In a blocked design, participants provided confidence either before or after individual trials, allowing us to distinguish prospective confidence, which indexes prior beliefs about likely performance, from retrospective confidence, which can incorporate trial-specific processing experience. The average confidence levels across tasks and measures were significantly correlated, but not metacognitive sensitivity. In this context, we discuss the application of a Bayesian modelling framework that partitions the role of priors and experience in metacognition across task demands.

10:40-11:00 AM (54)

When Do Accuracy Prompts Reduce Misinformation Sharing? The Role of Analytic Thinking, Political Partisanship, and Overconfidence in Intervention Efficacy and Metacognitive Enhancement. ERIKA K. FULTON, *Idaho State University*, ALICYN AGER, *Idaho State University* — Given that those with less analytic cognitive

styles, more conservative political partisans, and those higher in generalized overconfidence may be especially vulnerable to misinformation, it is critical to evaluate the efficacy of interventions across these individual differences. We randomly assigned 710 Prolific participants to receive no intervention, to rate the accuracy of non-political headlines, or to rate the accuracy of non-political headlines and make confidence judgments. They also completed a political sharing intentions task, CRT, generalized overconfidence task, and reported their political partisanship. Neither accuracy prompt intervention improved sharing discernment, but decreased sharing intentions for both true and false headlines. This effect was not moderated by analytic cognitive style, political partisanship, or generalized overconfidence. A more Republican partisanship was associated with worse sharing discernment and higher false headlines sharing intentions, and those higher in generalized overconfidence shared more headlines, regardless of veracity. The findings advance our understanding of misinformation sharing and have implications for the development of targeted misinformation interventions.

11:00-11:20 AM (55)

Metacognition and Offloading. JANET METCALFE, *Columbia University*, MATTI VUORRE, *Tilburg University*, DILLON H. MURPHY, *University of California, Riverside*, TEAL EICH, *University of Southern California* — This study sought to delineate the relation between metacognition and offloading. The first experiment showed that people tended to stick with their answers to general knowledge questions when they were highly confident that they were correct, and offload to the computer when they believed that they might be wrong. Offloading optimality was positively related to individual differences in metacognitive resolution (relative accuracy/sensitivity). Follow-up experiments varied the value of offloaded items, and also manipulated metacognitive resolution within-participant. In the poor metacognition condition--in which the items tended to produce consensually wrong high-confidence responses--people's offloading optimality was poor. In the condition in which metacognition was excellent --people's confidence reliably predicted accuracy--offloading optimality was also good. Even so, these experiments showed that people did not sufficiently take into account variations in the value of offloaded items. They often declined to offload even when doing so would have increased their scores and they knew it. We will speculate about why this seemingly irrational behavior happened and about its implications for education and for AI usage.

11:20-11:40 AM (56)

Effects of AI Support on the Accuracy of Students' Self-Evaluations of Writing. MONIKA UNDORF, *Technical University of Darmstadt*, FRANZISKA INGENDAHL, *Technical University of Darmstadt*, STEFAN ROGGE, *Technical University of Darmstadt*, MARCO WEISS, *Technical University of Darmstadt*, FRANK PISCH, *Technical University of Darmstadt*, EKATERINA JUSSUPOW, *Technical University of Darmstadt* — Students increasingly use generative AI to comprehend texts and to produce written content in university courses. We present two experiments (N = 83 and N = 109) examining the accuracy of students' confidence judgments regarding the quality of self-produced text summaries when working alone versus when supported by either an AI (Experiments 1 and 2) or a fellow human (Experiment 2). Results showed that both AI and human support increased confidence and accuracy. Crucially, students' ability to discriminate between their own higher- and lower-quality summaries decreased when they were supported by an AI but increased when they were supported by a fellow human. In contrast, the correspondence between mean confidence and mean accuracy was unaffected by AI support in Experiment 1 and improved with both AI support and human support in Experiment 2. These findings suggest that AI support impairs students' ability to distinguish between better and worse summaries but has no reliable effects on—and may even enhance—the correspondence between confidence judgments and the actual quality of their writing.

11:40 AM-12:00 PM (57)

Metacognitive Monitoring of Hierarchically Organized Domains: Specificity Benefits Resolution but Impairs Calibration. SCOTT H. FRAUNDORF, *University of Pittsburgh* — Many knowledge domains can be hierarchically organized. At what taxonomic level should a learner optimally self-assess learning of such domains? College students read expository texts on three different topics (astronomy, dinosaurs, acupuncture), each divided into three subtopics, then took a multiple-choice test. Learners provided 0-100% confidence ratings at each of four levels: individual questions, subtopics, topics, and experiment-wide. Across one exploratory and three pre-registered experiments (total N = 1947), we find that a narrower grain size increases the accuracy of metacognitive resolution in discriminating one's strengths versus weaknesses (gamma correlation), but also increases overconfidence about overall level of performance. This pattern held both when grain size varied within participants (Experiments 1 & 2) and between participants (Experiments 3 & 4). Finer-grained judgments do not always benefit metacognitive monitoring; in particular, more specific prompts may bring more information to mind and create the illusion of knowing. In practical terms, the optimal self-assessment method may depend on one's goal: assessing overall performance (calibration) or strengths and weaknesses (resolution).

Bilingualism II

Friday, November 20, 2026, 10:00 AM-12:00 PM PST

Chaired by Wendy S. Francis, *University of Texas at El Paso*

10:00-10:20 AM (58)

Bilingual language control over structural representations. ANAHY BARRAGAN-DIAZ, *University of Texas at El Paso*, KYLE WOLFF, *University of Texas at El Paso*, IVA IVANOVA, *University of Texas at El Paso* — Bilinguals inhibit the non-target language to avoid wrong-language intrusions (Green, 1998). But do they inhibit structural representations? We tested this question with the English double object structure, because its surface form is not shared with Spanish. A Spanish-English bilingual experimental group described repeated and new transfer pictures in English (Phase 1), then in Spanish (Phase 2), and again in English (Phase 3), while a control group followed the same procedure entirely in English. Lexically-based versus abstract structure inhibition was further tested by, in each phase, repeating half of the verbs from the previous phase. Preliminary findings showed benefits of verb repetition on RTs for the post-verbal noun phrase (not including the verb) for the control group, which were absent for the experimental group – an identical repetition benefits pattern to that for nouns themselves in a control picture-naming language switching task. We interpret this pattern as evidence that inhibitory control may operate locally over lexically-bound structural representations.

10:20-10:40 AM (59)

The effect of translation equivalents on tip of the tongue experiences in bimodal bilinguals. JENNIE PYERS, *Wellesley College*, KAREN EMMOREY, *San Diego State University* — For bilinguals fluent in two spoken languages, unimodal bilinguals, translation equivalent (TE) knowledge improves lexical retrieval. Bimodal bilinguals (unlike unimodal bilinguals) produce codeblends during lexical retrieval, but whether TE production helps lexical retrieval is unknown. Two studies examined the effects

of ASL TE knowledge and production on English lexical retrieval in hearing bimodal bilinguals. In Exp. 1 (N=33), TE knowledge did not predict correct retrieval (OR=0.93, p>.05), and TE production did not predict Tip-of-the-tongue (TOT) resolution after controlling for retrieval time (OR=0.93, p>.05). In Exp. 2, 31 bimodal bilinguals named pictures while prevented from signing and while allowed to sign. TE knowledge significantly increased correct English retrieval (OR=1.41, p=.014). Counterintuitively, bimodal bilinguals retrieved more English words (OR=1.32, p=.022) and had fewer TOTs (OR=0.70, p=.005) when unable to sign. Thus, TE knowledge and not production enhances lexical retrieval for bimodal bilinguals. The improved English retrieval in the sign inhibition condition likely arose from increased relative activation of English while ASL articulators were unavailable.

10:40-11:00 AM (60)

A Cross-Linguistic Investigation of the Influence of Pitch Gestures on L2 Mandarin Lexical Tone Acquisition. LAURA M. MORETT, *University of Missouri*, DERRICK NGUYEN, *University of Missouri*, AYLIN KÜNTAY, *Koç University*, TILBE GÖKSUN, *Koç University* — This work investigates the influence of cross-linguistic differences in vertical vs. horizontal conceptual metaphors of pitch on the effectiveness of pitch gestures for learning L2 (second language) lexical tone. L2 Mandarin words were learned by L1 (first language) English and Turkish speakers by observing vertical pitch gestures, horizontal pitch gestures, or self-adaptors. Lexical tones of L2 Mandarin words were categorized before learning, immediately after learning and following a 24-hour delay, and words were associated with their meanings immediately after learning and following a 24-hour delay. Preliminary data from L1 English speakers suggests that observing both vertical and horizontal pitch gestures enhances L2 Mandarin lexical tone categorization and word meaning association. Ongoing data collection from L1 Turkish speakers will test whether horizontal pitch gestures yield similar benefits, consistent with language-universal spatial mappings of pitch. The results provide insight into how cross-linguistic differences in conceptual metaphors of pitch can be leveraged to promote effective use of pitch gestures to learn L2 lexical tones by atonal L1 speakers.

11:00-11:20 AM (61)

Context-Dependent Language Experience Shapes Word Recognition Memory in Heritage Spanish Speakers. HEATHER BORTFELD, *University of California, Merced*, MICHELLE FRANCO, *University of California, Merced*, NANCY E. RODAS DE LEÓN, *University of California, Merced*, KRISTINA C. BACKER, *University of California, Merced* — Recognition memory depends on encoding–retrieval context, yet little is known about how bilingual language experience shapes memory across modalities. Heritage Spanish speakers completed an Old/New word recognition task in four matched language-by-modality conditions (English/Spanish × spoken/written). Mixed-effects analyses showed stronger recognition for old Spanish than English words, suggesting that reduced lexical competition in the less-engaged language supports more distinctive encoding. Response times revealed modality-specific effects: English words were recognized faster in the written than spoken modality, whereas new Spanish spoken words were recognized faster than written Spanish words. Participants also responded faster to new written English than written Spanish words. These findings demonstrate that context-dependent lexical processing shapes recognition memory and suggest that bilingual word-processing models should incorporate links between lexical competition during encoding and subsequent memory performance across modalities.

11:20-11:40 AM (62)

Word Frequency and Language Proficiency Effects across Serial Positions in Free and Serial Recall. WENDY S. FRANCIS, *University of Texas at El Paso*, ASHLEY N. ANYADIKE, *University of Texas at El Paso*, NAHOMI S. FRAIRE, *University of Texas at El Paso*, ALENA J. MIRELES, *University of Texas at El Paso*, NAILEA A. DELFIN GARCIA, *University of Texas at El Paso* — Our previous research showed that the slower rehearsal

rates associated with lower word frequency and lower language proficiency constrain rehearsal patterns, with important consequences for free recall: less accurate recall for words from early serial positions, more often initiating recall with items from later serial positions, and reducing order correspondence between the presentation and recall output sequences (Francis et al., 2020). We hypothesized that these effects would extend to serial recall and compared the effects directly across free and serial recall tasks. Spanish-English bilingual participants (N = 128) learned 16 lists of 16 high- or low-frequency words in both languages and completed free or serial recall tests for each list. The effects of word frequency and language proficiency on recall accuracy were examined as a function of serial position for each task. The effects of word frequency, language proficiency, and recall instruction were also examined for the serial position of the first item recalled (PFR), the degree to which the order of recall output corresponded to the presentation sequence, and the degree to which recall output transitioned between consecutively presented items.

11:40 AM-12:00 PM (63)

Speaking to Be Understood: Acoustic Accommodation Depends on English Proficiency in Simulated Clinical Encounters. KATHRIN ROTHERMICH, *East Carolina University*, DAI'SHA DOWSON, *East Carolina University*, ROSE P. BAKER-IYORE, *East Carolina University*, LUIS RAMIREZ HERNANDEZ, *East Carolina University*, MAKYAH MCNEILL, *East Carolina University*, ELISHA EANES, *East Carolina University*, SUSAN C. BOBB, *Gordon College*, MATTHEW WALENSKI, *East Carolina University*, MORITZ DANNHAUER, *East Carolina University* — Speakers often adjust their speech in response to a listener's perceived comprehension abilities using communication accommodation. While previous work describes pitch modulation and vowel hyperarticulation in accommodation, it isn't clear how these adjustments emerge in realistic conversational settings. This is crucial for clinical encounters, where language barriers between patients and providers are associated with poorer health outcomes. The current study examined whether clinical students alter their speech for patients who have limited proficiency (LEP) more than for those who speak fluent English. Physician Assistant students (n = 36) completed intake interviews with two virtual patients who spoke either fluent English or limited English. Using automated acoustic analyses, we measured pitch variability and vowel space area as indicators of prosodic and articulatory clarity. Female students modulated their pitch ($p = .002$, $d = 0.82$) and hyperarticulated more ($p = .014$, $d = 0.69$) for LEP patients than male students did. These findings suggest that speech accommodation in clinical settings is shaped by speaker characteristics, offering insight into the cognitive and social mechanisms that drive communication accommodation.

Sensation & Perception: Vision

Friday, November 20, 2026,
10:00 AM-12:00 PM PST

Chaired by Karen B. Schloss, *University of Wisconsin – Madison*

10:00-10:20 AM (64)

The Ebbinghaus Illusion in Grey Parrots. IRENE M. PEPPERBERG, *Boston University* — The goal of the visual system is to process information and represent the external world as accurately as possible, whether a subject is human or nonhuman. Thus, the study of optical illusions, which trick the brain into perceiving situations that are false in various ways, has been a fertile area of research. Studies on the response of avian species to optical illusion are of particular interest: Most parrots are small prey-animals with the capacity for flight and thus likely have an even greater need for visual accuracy. Given that the avian visual system differs from that of humans, nonhuman primates, and mammals in many ways, studies on avian responses to optical illusions would provide important insights into varied processing strategies. We studied the Ebbinghaus illusion, where two identical circles are, respectively surrounded by rings of distractor circles that are either much larger or much smaller than the central circle. For humans, the circle surrounded by smaller distractors appears larger. Four Grey parrots were asked to physically

reach towards and choose between stimuli, unlike the way in which humans are visually tested. Birds were expected to choose the "larger" stimulus to maximize reward; all chose randomly.

10:20-10:40 AM (65)

Separable Mechanisms of Perceptual Grouping Revealed by Individual Differences. TIMOTHY J. VICKERY, *University of Delaware* — Gestalt grouping principles are treated as distinct influences on organization but with unitary downstream consequences. We asked whether these consequences are singular or distinct across cues, using an individual differences approach to reaction time distributions across seven grouping cues. In a repetition discrimination task, grouping was manipulated by common region, connectedness, color similarity, induced grouping by color, common fate, proximity, and temporal synchrony, while subjects searched for a repeated shape pair. Consistent with prior work, subjects were slower to locate a repetition crossing a grouping boundary. Reaction times were modeled as Ex-Gaussian distributions in a Bayesian hierarchical framework, estimating each cue's effect on the Gaussian and exponential components. Correlation and factor analyses of the cue-specific effects revealed two separable clusters: a spatial/static cluster (common region, connectedness) and a dynamic/featural cluster (common fate, similarity, synchrony). This indicates that grouping is not governed by a single domain-general mechanism but reflects at least two distinct processes, showing the value of individual differences and RT modeling for fractionating mid-level vision.

10:40-11:00 AM (66)

Simulating Yin's 1969 Inverted Face Effect with a Fixation-based Kernel Density Model. GARRISON W. COTTRELL, *University of California, San Diego*, NIKITA J. KACHAPPILLY, *University of California, San Diego*, ALEX TAHAN, *University of California, San Diego*, HSIN-YUAN LEE, *University of California, San Diego*, KIRA FLEISCHER, *University of California, San Diego* — The Inverted Face Effect has been the subject of a great deal of research and controversy in vision science. The nature of the effect, whether it involves holistic processing or not, where in the visual system it resides in the cortex, and whether it is a result of expertise and can apply to other phenomena, has been debated for decades. However, no mechanistic explanation for the effect has been put forward. Here we show that a model that includes multiple fixations on the face driven by a simple salience operator, a foveated retina, and the log-polar mapping from the visual field to V1 can explain this effect. With a simple fixation-based kernel-density memory model, we simulate Yin's 1969 recognition experiment and show good agreement with his data.

11:00-11:20 AM (67)

The other-race effect in facial age estimation. TZVI GANEL, *Ben-Gurion University of the Negev*, YARDEN MAZUZ, *Ben-Gurion University of the Negev*, YUKI YAMADA, *Kyushu University*, NAOTO YOSHIMURA, *Ritsumeikan University*, MELVYN A. GOODALE, *University of Western Ontario* — Perceived facial age is a major aspect in human social interaction, yet the mechanisms underlying age perception — and the role of perceptual expertise — remain poorly understood. Progress has been limited by theoretical and methodological constraints that prevented the effective separation of error from bias in previous studies. Building on our recently proposed framework, we disentangled perceptual resolution from directional bias to investigate the Other-Race Effect (ORE) in facial age estimation. Japanese and UK participants rated Asian and Caucasian faces across a wide age range. A robust ORE emerged in perceptual resolution, with greater precision for own race faces across the lifespan. Interestingly, the age-dependent profile of this effect differed between Japanese and UK participants. For directional bias, Caucasian faces were consistently overestimated relative to Asian faces regardless of perceiver race, and a small but significant ORE was nonetheless detected. Together, these findings reveal that the ORE in facial age estimation comprises two dissociable components and reflects a joint contribution of perceiver expertise and stimulus properties.

11:20-11:40 AM (68)

What is the relationship between visual crowding and perceptual organization? CATHLEEN M. MOORE, *University of Iowa*, YELDA SEMIZER, *New Jersey Institute of Technology* — Visual crowding refers to impaired stimulus recognition caused by nearby stimuli. It is essentially non-existent in central vision but increases with eccentricity. Numerous "uncrowding" effects have been reported in which crowding is reduced when a target stimulus can be perceptually grouped away from surrounding stimuli. There are two possible explanations of uncrowding effects. One is that crowding reflects relatively late interference between stimuli when they are perceptually grouped, an object-level explanation. The other is that visual crowding reflects relatively early interference due to filter-properties of early vision when perceptual organization processes fail, an image-level explanation. We present evidence that perceptual organization processes fail for stimuli sampled exclusively from peripheral locations where visual crowding effects tend to occur. Moreover, we present evidence that visual crowding is not alleviated by the object history of a stimulus. We conclude that visual crowding reflects image-level interference that occurs when perceptual organization processes fail, rather than interference among target stimuli that have been involuntarily grouped with surrounding stimuli.

11:40 AM-12:00 PM (69)

Additivity of color affective connotation for information visualization. KAREN B. SCHLOSS, *University of Wisconsin - Madison*, HALLE C. BRAUN, *University of Wisconsin - Madison*, KUSHIN MUKHERJEE, *Stanford University*, ANNA L. CHINNI, *University of Wisconsin - Madison*, SETH R. GORELIK, *Woodwell Climate Research Center* — The affective connotation of visual features in information visualizations influences how people make judgments in visual communication. Thus, it is important to understand the affective connotation of visual features in visualizations. Previous work in the domain of color modeled how mean values along color dimensions (e.g., lightness, chroma, yellowness-blueness) predicted affective connotation for roughly monochromatic (single-hue) visualizations. However, this approach poses problems for polychromatic (multi-hue) visualizations, for which mean hue is a poor representation of the individual colors. We addressed this problem with a new modeling approach that successfully predicted affective connotations of whole visualizations (i.e., environmental maps and bar charts) by aggregating the emotion associations of the constituent colors (additivity hypothesis). Moreover, these predictions improved when accounting for the size of colored regions, as determined by the underlying datasets (data-dependence hypothesis). Our results provide insight into how perceptual elements combine to determine affective connotation of whole configurations, and can translate to inform visualization design to support visual communication.

SYMPOSIUM II: Understanding Nature and Cognition: Methodological Approaches, New Discoveries, Emerging Perspectives on Human-Environment Interaction, and Future Research Directions

Friday, November 20, 2026, 1:30-3:30 PM PST

Chaired by Jason M. Watson, *University of Colorado Denver*

1:30-1:50 PM (SYM-005)

Opening Remarks and Introduction on Understanding Nature and Cognition. JASON M. WATSON, *University of Colorado Denver* — Many studies have shown that interacting with nature may have beneficial effects for one's mental health. More specifically, interacting with nature may have dual benefits, both reducing stress and improving attentional control, defined as the ability to actively maintain task goals and avoid sources of interference, thereby representing a critical cornerstone of higher-order cognition. This presentation will pro-

vide an overview of this symposium and a connection to a recent, inaugural, affiliate meeting of the Society for Nature and Cognition (SNAC) held here at the Annual Meeting of the Psychonomic Society in 2025. This affiliate meeting was especially timely given the ongoing scientific debate with respect to cognitive processes that are most likely to benefit from interacting with nature. Indeed, a rapidly expanding body of empirical research is exploring how nature influences attention, emotion, and other core cognitive phenomena like creativity. The goal of the current symposium is to assemble expert speakers from SNAC to disseminate this "cutting-edge" work on human-environment interaction and mental processes to the larger membership of the Society (ideally generating momentum for the topic at future Psychonomic meetings).

1:50-2:10 PM (SYM-006)

Natural Settings Buffer Against Process Losses in Group Creativity. RUTHANN ATCHLEY, *University of South Florida*, MICHAEL HOPKINS, *University of South Florida*, PAUL ATCHLEY, *University of South Florida* — Collaboration often suffers from process losses such as production blocking and evaluation apprehension, suppressing idea quantity and diversity as groups work creatively. We assessed whether the cognitive benefits of natural environments extend to collaborative idea generation. Undergraduates (N = 272) were randomly assigned to work individually or in triads in an outdoor botanical garden or an indoor student center. After a 30-minute environmental exposure, participants completed the two creativity measures; group members also rated cohesion. Groups show higher creativity than individuals and outdoor exposure significantly improved AUT performance. While we did not see a difference in RAT performance comparing context conditions, group cohesion influences the nature effects on convergent creativity in groups. For RAT, cohesion negatively predicted scores indoors suggesting that group related process losses disrupted convergent creativity. In contrast, there was the opposite effect for outdoor groups. Group cohesion had a marginal positive relationship with RAT performance. This suggests that natural environments buffer the negative association between cohesion and convergent thinking, whereas built settings may exacerbate it.

2:10-2:30 PM (SYM-007)

High-Frequency Heart Rate Variability Mediates Attentional Control Benefits following Exposure to Nature Images. KEITH A. HUTCHISON, *Montana State University*, MARIA M. HICKEY, *Montana State University*, BROOKE CHARBONNEAU, *St. Jude Children's Research Hospital*, JAVIER GONZÁLEZ-ESPINAR, *University of Almería*, JUAN JOSE ORTELLS, *University of Almería*, BRANDON G. SCOTT, *Montana State University* — Interactions with natural stimuli have a beneficial and restorative effect on a broad range of cognitive domains, promoting stress reduction and aiding mental recovery. However, the mechanisms by which these processes occur are not fully understood. Attention Restoration Theory (ART) predicts that an individual's directed attention is restored in nature whereas Stress Reduction Theory (SRT) predicts that nature soothes the physiological system, allowing for improved cognition. Within the framework of Jenkin's (1979) tetrahedral model, the current study focuses on attentional and physiological outcomes following nature exposure and how they relate to ART and SRT predictions. Specifically, participants had their heart rate variability (HRV) monitored while viewing images of nature or urban settings and then completed the antisaccade task. Results supported an indirect effect of nature viewing on attentional control, such that high frequency HRV fully mediating the relationship between the type of images viewed and later accuracy on the antisaccade task, providing support for SRT over ART.

2:30-2:50 PM (SYM-008)

Aging Naturally: Nature's effects on Executive Functioning and Stress Recovery in Older Adults. SARA LOTEMPLIO, *University of Vermont*, SHARDE JOHNSON, *Brandeis University* — Greater executive functioning (EF) protects against cognitive decline and higher heart rate variability (HRV) can facilitate recovery from stress—a key risk factor for accelerated cognitive aging. Therefore, EF and

HRV play a key role in healthy aging. Previous research suggests that nature exposure can improve EF, HRV, and affect, but older adults are underrepresented in this work. In the current talk, we present two pilot studies aimed to examine the effect of nature on older adult's EF and HRV. In Study 1, we examine how contact with real-world nature (RWN) and virtual reality nature (VRN) affect healthy younger and older adults' EF, HRV, perceived stress, and affect. Participants (N = 62) were randomized into an RWN, VRN, or an indoor control condition, and outcomes were assessed before and after 20-minute exposure to environmental manipulation. Across both age groups, sitting indoors exacerbated perceived stress and total mood disturbance compared to RWN and VRN. There was also a marginally significant increase in forward digit span scores for VRN only in older adults. To expand on these findings, we conducted a second, higher powered (N = 80) study with older adults only (Study 2). Results from the studies will be presented.

2:50-3:10 PM (SYM-009)

Neural Mechanisms of Nature's Effects on Attention. AMY MCDONNELL, *Colorado State University*, RHIANNON COWAN, *University of Utah*, ELLIOT SMITH, *University of Utah*, JEANINE K. STEFANUCCI, *University of Utah*, DAVID STRAYER, *University of Utah* — Immersion in nature is believed to enhance attention, yet the neural mechanisms underlying these benefits remain unclear. This talk presents two studies examining how nature influences attention-related brain activity. In the first, 92 healthy adults were randomized to a 40-minute walk in nature or an urban environment. Before and after, we assessed performance on the Attention Network Task (ANT) and attention-related neural activity using scalp EEG. Results showed that attentional benefits were specific to executive control processes, reflected in modulation of the error-related negativity and frontal theta oscillations. In a follow-up study, 10 bedridden neurosurgical patients experienced virtual reality simulations of nature or urban environments. Before and after immersion, we measured ANT performance and attention-related brain activity using intracranial EEG. This provided recordings from subcortical structures and individual neurons, enabling direct characterization of neuronal firing dynamics not observable with scalp EEG. Preliminary findings localize nature-related effects to the anterior cingulate cortex. Together, these studies provide converging evidence on cortical and subcortical neural responses to nature.

3:10-3:30 PM (SYM-010)

The How and Who of Attention Restoration: Understanding Differences in Nature Benefits across Types of Measures and Populations. ALEXANDRE MAROIS, *Université Laval*, JEANNE NICOLE, *Université Laval*, LAURENT BERTHOD, *Université Laval*, JONAY RAMON ALAMAN, *Université Laval* — Nature exposure has long been shown to yield cognitive and mental health benefits. The main theoretical perspective, the Attention Restoration Theory (ART), posits that nature provides opportunities for directed attention to rest and recover given the involuntary—and effortless—attention capture elicited by its fascinating properties. This standpoint remains central in environmental psychology. However, recent empirical evidence has proposed alternative explanations regarding the role of directed attention. Many of these conclusions stem from cutting-edge research employing innovative and non-traditional experimental designs and measures. This presentation reports on two empirical studies examining the moderating role of outcomes and populations in attention restoration. A first experiment shows that objective and subjective measures of attention restoration may follow different pattern. We also present preliminary findings from a second study assessing patterns of attentional engagement and deployment across participants with varying levels of recreational specialization. Overall, this presentation underscores the importance of integrating emerging perspectives and novel paradigms to better understand nature's benefits.

Attention: Visual Search

Friday, November 20, 2026, 1:30-3:30 PM PST

Chaired by Nancy Carlisle, *Lehigh University*

1:30-1:50 PM (70)

Predictive Attention Shifts from Goal-Specific Spatial Statistical Learning. NANCY CARLISLE, *Lehigh University*, RORY FERGUSON, *Lehigh University* — Prior results from our lab have shown that participants can quickly learn associations between a specific visual search target and a high-probability location where that target will appear and use this information to speed visual search responses (Zhang and Carlisle, 2023). This suggests that our explicit goals unlock implicitly learned spatial priority maps related to our target that guide attention during search. We hypothesized that if participants incorporated spatial information into their search templates, we would find preparatory overt attentional shifts toward the high-probability target location, even before the search array appeared. To examine this hypothesis, we focused on eye movements that occurred after the cue presentation and before the search onset. We found that preparatory eye movements to the high-probability spatial location (80% likelihood) occurred 2.5 times more frequently than to locations that were never the location of that target. Given that we have prior knowledge of likely target locations based on our experience with real-world objects, these results suggest that preparatory shifts in spatial attention may frequently aid our visual search performance in daily life.

1:50-2:10 PM (71)

I'm lonely. Can't think at all?: Examining visual search performance in excess of loneliness. OLIVIA K. JENKINS, *George Washington University*, MARGARET WEISBLUM, *George Washington University*, FALLON R. GOODMAN, *George Washington University*, STEPHEN R. MITROFF, *George Washington University* — Cognitive tasks, such as visual search, play a critical role in real-world operations (e.g., aviation security, radiology), making it important to examine what factors impact performance and how. Prior work has linked cognitive decrements in visual search with loneliness (i.e., lower-than-desired levels of social relations). However, the relationship between loneliness and search has mostly been observed via social scenarios or stimuli, leaving it unclear if loneliness has a broader cognitive-perceptual impact. The current study used data from a larger project wherein participants complete simple behavioral tasks and >50 surveys (including a loneliness scale). Preregistered analyses focused on loneliness levels and search in a simple "Ts and Ls" task. The results (N=1026) revealed no clear impact of loneliness on accuracy or response time. Exploratory analyses were conducted to examine additional measures (e.g., sensitivity) and data processing steps (e.g., extreme group contrasts). These, too, yielded no significant outcomes. The study suggests that loneliness does not have a strong impact on general visual search abilities while also, more generally, highlighting the power of large individual differences projects.

2:10-2:30 PM (72)

Noise and Target Prevalence Effects in a Visual Search Task Related to Sonar Detection. DARRYL W. SCHNEIDER, *Purdue University*, PATRICK E. PANNIER, *Old Dominion University* — In the typical visual search task of determining whether a target is present or absent amid noise, the target can be perceived directly when it is present. The authors investigated visual search in a novel task (a simplified visual analog to sonobuoy-based sonar detection of submarines) where that was not the case. A key feature of the task was that the presence or absence of the target (a hidden submarine) had to be inferred from contextual cues (sensor signals) in the stimulus display. Two experiments were conducted to investigate whether task performance was affected by noise and target prevalence in ways consistent with past visual search findings. Experiment 1 showed that higher noise resulted in more false alarms, lower discriminability, and a criterion shift from conservative to liberal. Experiment 2 showed that lower target prevalence resulted in more misses and a conservative criterion shift. The results fit with theoretical views of visual search, especially accounts based on signal detection theory.

2:30-2:50 PM (73)

Frog Search: Tracking Template Usage Over Time. JEREMY M. WOLFE, *Harvard Medical School; Brigham and Women's Hospital*, CAILEY E. TENNYSON, *Brigham and Women's Hospital*, MUKESH B. MAKWANA, *Brown University* — Suppose you wake up and want to find a shiny green frog. Presumably, there are no frogs in your bedroom, so you don't want to use a template to guide your attention to green, frog-featured items until you are in the right place (a pond for instance). You must execute a series of other searches (clothes, breakfast, path to the pond) before you should activate the template to guide to possible frogs. It is unclear how guiding templates change dynamically, based on current goals. Here, we report on a novel behavioral method to monitor the activation and deactivation of these templates. In our task, observers (Os) search for a single green frog and then for blue berries in a series of search displays containing many distractors. To stay "alive", Os must also forage for "food": Ts among Ls. Ts and Ls are in colored boxes, though box color is irrelevant. Os' foraging behavior is biased by their search goals. When Os search for frogs (green), they are biased toward Ts in green boxes. Once the frog is found, this bias rapidly fades in favor of Ts in blue boxes (like the berries). Tracking the bias over time allows us to see the dynamics of template usage as strategies evolve in extended search tasks.

2:50-3:10 PM (74)

Long-Term Memory Guides Search Toward Unseen Targets. ARTYOM ZINCHENKO, *Ludwig Maximilian University of Munich*, ANANYA MANDAL, *Ludwig Maximilian University of Munich*, ZHUANGHUA SHI, *Ludwig Maximilian University of Munich*, THOMAS GEYER, *Ludwig Maximilian University of Munich* — Long-term memory can guide attention toward relevant locations, but can it support search for targets that have not yet entered the observer's field of view? We asked whether a visible context can guide search toward a target outside the current field of view. Participants searched for a T target among L distractors in immersive virtual reality while head movements were continuously tracked. Critically, only the initially visible portion of the display repeated across trials; distractors surrounding outside-field targets were regenerated on every presentation. Search was faster when the repeated visible context predicted a fixed target location than when the same context predicted only a broader target region or when only the target location repeated. For targets initially outside the field of view, this advantage was expressed primarily in faster global orienting toward the target region and more stable final response-oriented head alignment. Repeating visible context without a fixed context-target mapping did not produce comparable facilitation. These findings suggest that long-term memory may bridge the visibility gap, linking visible context to unseen targets and guiding search beyond the current field of view.

3:10-3:30 PM (75)

Lost in the Background: Visual Complexity in Video Conferencing. YELDA SEMIZER, *New Jersey Institute of Technology*, GALA KRSMANOVIC, *New Jersey Institute of Technology* — As video conferencing has become a common mode of communication, users increasingly rely on various backgrounds to manage their virtual appearance. These backgrounds can vary in visual complexity, ranging from simple, uniform designs to richly detailed scenes, yet little is known about how different forms of complexity affect user experience during virtual communication. This study investigates how background complexity impacts performance on a simple search task in a video conferencing context and whether these effects generalize across different forms of complexity. Across two experiments, we manipulated background complexity in different ways to examine its effect on search performance in a video conferencing context. Experiment 1 manipulated complexity through different background types, whereas Experiment 2 manipulated complexity through variations in color and texture. Results showed that simpler, less visually complex backgrounds facilitated more efficient search than more complex backgrounds, regardless of whether complexity was due to scene content, color, or texture.

Cognitive Aging I

Friday, November 20, 2026, 1:30-3:30 PM PST

Chaired by David A. Gallo, *University of Chicago*

1:30-1:50 PM (76)

When Bad News Matters More: Metacognitive Belief Updating in Younger & Older Adults. TESNIM ARAR, *University of Chicago*, DAVID A. GALLO, *University of Chicago* — Metacognitive beliefs, or our knowledge about our own cognition, predict outcomes ranging from financial decision-making to political radicalism, yet little is known about metacognitive belief updating. A key finding in the belief-updating literature is that people preferentially revise beliefs in response to desirable and positive information ("good news"). Do metacognitive beliefs follow this same pattern? Using a feedback paradigm, we examined metacognitive belief updating in younger (n = 67) and older adults (n = 74) across two metacognitive levels: local (task-specific beliefs) and global (broader self-appraisals). At the local level, we found both age groups exhibited comparable post-task metacognitive accuracy. However, contrary to our predictions at the global level, both younger and older adults showed intact global belief updating, and this was driven primarily by negative feedback—opposite the classic good-news effect. This asymmetry emerged selectively at the global level and replicated in an independent older adult sample (N = 104). Together, these findings suggest that global metacognitive beliefs follow a distinct updating logic, one that diverges from patterns seen in the broader belief-updating literature.

1:50-2:10 PM (77)

Nonlinear Effects of Social Strain on Executive Function and Episodic Memory. JAMES QIAN, *Brandeis University*, ESRA ASCIGIL, *Brandeis University*, MARGIE LACHMAN, *Brandeis University*, ANGELA GUTCHESS, *Brandeis University* — Although social support is an important protective factor for cognitive aging, there is less understanding about the role of social strain in close relationships. Given mixed findings about the stressful aspect of relationships, we examined linear and quadratic effects of social strain in relation to episodic memory (EM) and executive functioning (EF). Using two waves of data from the Midlife in the United States study (N=4649, Mage=53.6, SD=12.2), we tested multilevel models of within and between-person linear and quadratic effects. EF was highest when strain was near the sample mean (between-person quadratic effect) or one's average level (within-person quadratic effect), and lower at the extremes (ps<.001). EM showed a similar within-person quadratic pattern (p=.016). Those who had higher strain than others had smaller declines in EF over time compared to those who were at the sample mean (p=.002); however, this may be because they started at lower levels of EF. Our findings suggest a non-linear association between social strain and cognition, which may help to clarify previous inconsistent findings. Results suggest that experiencing some strain in close relationships may provide challenges that help to maintain EM and EF.

2:10-2:30 PM (78)

The Role of Social Engagement and Satisfaction in Emotion Recognition: A Cross-Sectional Analysis Across the Adult Lifespan. ASHLEY B. WILLIAMS, *Villanova University*, CODY S. TRIPLETT, *Villanova University*, ELIZABETH J. PANTESCO, *Villanova University*, ANNA B. DRUMMEY, *Villanova University*, SOPHIA SAAVEDRA, *Villanova University*, IRENE P. KAN, *Villanova University* — Prior work has shown that older adults with large, well-maintained, and satisfying social relationships tend to have better preservation of cognition and overall well-being. In this study, we asked whether components of social relationships may moderate the

association between age and social cognition. Specifically, we investigated whether social engagement and satisfaction may influence the commonly observed negative association between age and emotion recognition accuracy. We investigated these effects cross-sectionally in two large samples of community dwelling adults. In Study 1, we found that social engagement buffered age-related decline in emotion recognition, with more engaged older adults showing higher accuracy (Cam-CAN dataset, n=647, M age = 54.7 years, range = 18-88). In contrast, Study 2 showed that higher social satisfaction was linked to steeper age-related decline in emotion recognition (All of Us dataset, n = 29,254, M age = 59.3 years, range = 18-102). Taken together, these patterns suggest that previously established associations between sociality and social cognition are likely nuanced and complex.

2:30-2:50 PM (79)

Age effects in inhibitory control are driven by global slowing rather than control deficits. JACOB SELLERS, *University of Michigan*, HAN ZHANG, *University of Michigan*, JOHN JONIDES, *University of Michigan*, TARAZ LEE, *University of Michigan* — A long-standing debate in the study of cognitive aging centers around the issue of whether aging results in a selective deficit in inhibitory control beyond general slowing of cognitive processing. Previous studies have obtained mixed findings, in part because the typical free response-time paradigm lacks the specificity required to disentangle component processes underlying inhibitory control. Here, we apply a forced-response paradigm and computational model to test if aging results in overall speed differences or a selective deficit in inhibitory control. Across two experiments, over 200 older adults and younger adults completed a "forced-response" arrow flanker task. We find strong evidence that older adults demonstrate a global slowing of processing, without any selective deficit in inhibitory control in this task. Furthermore, we demonstrate that global slowing is sufficient to explain the mixed findings in previous free RT studies. Overall, these results argue against a selective inhibitory control deficit in older adults.

2:50-3:10 PM (80)

Curiosity and Motivated Cognition: Effects of Age, Culture, and Relevance. SHADINI DEMATAGODA, *Toronto Metropolitan University*, JULIA SPANIOL, *Toronto Metropolitan University* — Recent research suggests that epistemic curiosity – the desire for knowledge – is sensitive to information utility (i.e., relevance). However, studies to date have not examined how individual-difference variables such as culture and age influence perceptions of relevance and epistemic curiosity. The current study sought to fill this gap, with focus on self-construal (independent vs. interdependent) as a trait that has shown reliable East-West culture differences in past research. Younger and older adults (N=128) of Eastern and Western descent completed a fact-reveal task for eight topics. For each topic, participants viewed an initial fact, rated their curiosity, and then had the opportunity to reveal additional facts related to the same topic. Multilevel modeling revealed a three-way interaction of age, interdependent self-construal, and relevance (personal, relational, or collective) on curiosity. For older adults, higher interdependent self-construal was associated with greater curiosity for information that had relational relevance. However, this effect did not translate to greater information seeking. Ongoing work examines whether effects of age and cultural traits extend to memory for newly learned information.

3:10-3:30 PM (81)

Shall I Keep my Video On? The Memory Impacts of Video Presence During a Simulated Virtual Socialization. LIXIA YANG, *Toronto Metropolitan University*, SOPHIE BHASKARA, *Toronto Metropolitan University*, SARAH LF SWEIGMAN, *Toronto Metropolitan University*, JULIE DICKER, *Toronto Metropolitan University*, ANGELA XIANGV, *Toronto Metropolitan University* — Three studies assessed the impacts of video presence on memory during a simulated virtual socialization in younger and older adults. At encoding, participants watched a pre-recorded video in which speakers introduced themselves (name and occupation) one by one, half with video on and half with video off. At

retrieval, they completed a name-occupation associative memory and a source memory test, with source designation being manipulated as video-related (i.e., video-on vs. off, Study 1), perceptual (white vs. black font, Study 2), or social (good vs. evil speaker characteristics coded by coloured frames, Study 3). In Study 1, video enhanced associative memory in both age groups and enhanced source memory for video presence only in older adults. In Study 2, video enhanced associative memory but not perceptual source memory in both age groups. In Study 3, video enhanced both associative and social source memory in both age groups.

Learning & Memory I

Friday, November 20, 2026, 1:30-3:30 PM PST

Chaired by John Protzko, *Southern Connecticut State University*

1:30-1:50 PM (82)

Timing matters: Support for retrieval- over consolidation-based explanations of memory interference. JAMES W. ANTONY, *California Polytechnic State University*, MIRIANA S. VITULLO, *California Polytechnic State University*, KELLY A. BENNION, *California Polytechnic State University* — In many retroactive interference paradigms, a list of initial paired words (A-B) is followed by a list in which new targets are assigned to the same cue (A-C) before A-B pairs are tested. However, the primary mechanism underlying retroactive interference remains unclear. Some evidence suggests that A-B memory is best when A-C learning occurs at some intermediate time point (i.e., not too close to either learning or testing), because learning A-C immediately after A-B could impair consolidation while learning A-C right before testing could impair retrieval. Across four experiments, we systematically examined the timing of A-C learning while controlling for the time between A-B learning and testing. We found interference only when A-C learning occurred just before testing, suggesting retrieval-related impairments cause interference. We are currently using a computational model using a gradually drifting temporal context (Antony et al., 2024, Psychological Review) to simulate these findings. These results have profound implications for classic memory theories and favor retrieval- over consolidation-based explanations for interference.

1:50-2:10 PM (83)

Mind wandering is not an obstacle, but a functional component of human learning. DEZSO NEMETH, *INSERM; Gran Canaria Cognitive Research Center*, TEODÓRA VÉKONY, *Gran Canaria Cognitive Research Center*, PÉTER SIMOR, *Université Libre de Bruxelles* — Mind wandering, the drift of attention from the current task toward spontaneous thoughts, is typically viewed as detrimental to cognitive performance. However, emerging evidence suggests that MW may also support implicit statistical learning. Here, we propose that mind wandering functions as a gatekeeper between goal-directed controlled processing and automatic learning. Drawing on neurocompetition and offline information-processing frameworks, we argue that mind wandering transiently reallocates frontoparietal executive resources, reducing top-down control and allowing implicit statistical learning mechanisms to operate with fewer constraints. In a task that concurrently measuring response inhibition, statistical learning, and self-reported task focus, mind wandering was associated with impaired inhibitory control but enhanced learning of probabilistic sequences. Critically, the learning benefit during mind wandering depended on the efficacy of response inhibition, revealing a functional trade-off between executive control and implicit learning. These findings suggest that MW is not merely a cognitive failure, but an adaptive state that may facilitate the unsupervised extraction of environmental regularities.

2:10-2:30 PM (84)

Intentional Forgetting Degrades What Time Cannot: Evidence from Associative Memory. CURTIS ROGERS, *University of Illinois Urbana-Champaign*, LILI SAHAKYAN, *University of Illinois Urbana-Champaign* — A central question in memory research is what changes when memories are forgotten -- do memories become inaccessible or

do their underlying representations lose precision? Distinguishing between these possibilities is critical as they imply different theoretical mechanisms. Prior work suggests that different forms of forgetting may affect these components differently. Studies of unintentional forgetting across delays report declines in memory accessibility while precision remains stable (Berens et al., 2020; Brady et al., 2013), whereas manipulations encouraging deliberate forgetting appear to degrade both accessibility and precision at immediate testing (Fawcett et al., 2016). Across several experiments, we tested how unintentional and deliberate forgetting influence associative memory across delay. Participants encoded item–location associations and later reported remembered locations using a continuous response measure. We fit forgetting functions to estimate decay rate and used the Zhang & Luck (2008) mixture modeling approach to dissociate effects on memory accessibility and representational precision. The findings clarify how different types of forgetting alter the availability versus fidelity of memory representations.

2:30-2:50 PM (85)

On the Origins and Nature of Historically-related Autobiographical Memories. NORMAN R. BROWN, *University of Alberta*, ÖYKÜ EKINCI, *Baycrest Academy for Research and Education* — Memories that blend historical content with personal experiences are referred to as historically-related autobiographical memories (h-rams). Such memories can last a lifetime, are transmitted across generations, and play a role in political perspectives and group identities. Despite their importance, h-rams have yet to be studied in a systematic manner. The present study is the first to address this gap. Specifically, across 4 waves, we collected 8 h-rams from university students who identified as Ukrainian Canadians (UKR; n=65), Muslim Canadians (MUS; n=91) or just plain old Canadians (CAN; n=102). Participants also indicated level of engagement (5-point scale) with Ukraine and Gaza wars. As predicted, MUS participants indicated higher engagement with the Gaza war than did UKR or CAN participants (4.2 vs. 2.5 vs. 2.4) and recalled a higher percentage of Gaza-related memories (20% vs. 9% vs. 10%). Similarly, UKR participants indicated higher engagement with the Ukraine war than MUS or CAN participants (3.5 vs. 2.6 vs. 2.3) and recalled more Ukraine-war-related memories (25% vs. 8% vs. 10%). Content analysis identified 3 distinct h-ram types: reception memories, conflict-motivated-action memories, and conflict-as-content memories.

2:50-3:10 PM (86)

How Often Are Autobiographical Memories Objectively Accurate? JOHN PROTZKO, *Southern Connecticut State University* — The world is built around our memories. Surveys, medical histories, disease spread, crime statistics, labor statistics, risky behavior, all rely on autobiographical memory. Yet, a look at the cognitive psychology literature on memory might give one the impression that autobiographical memories are completely inaccurate. In this network meta-analysis, we investigate all literatures for estimates of the objective accuracy of autobiographical memory. Using strict cutoffs for autobiographical memories with objective measurements of events independently validated, we see discrete networks of literatures. Over more than 100,000 participants, autobiographical memories are objectively accurate around 2/3 of the time. There is considerable variation by clusters of literatures, with different levels in epidemiology from health statistics from psychology from marketing. A framework for discovering whether these are the types of questions asked by different fields versus delay times versus other considerations are discussed. Overall, best estimates across fields suggest around 1/3 of our autobiographical memories are wrong in some way.

3:10-3:30 PM (87)

Mental time travel is not unique to episodic memories. KARL K. SZPUNAR, *Toronto Metropolitan University*, ÖYKÜ EKINCI, *Baycrest Academy for Research and Education*, SABRINA VALENZANO, *Rotman Research Institute, Baycrest Academy for Research and Education*, MILA MAC NEIL, *University of Toronto*, DONNA ROSE ADDIS, *Rotman Research Institute, Baycrest Academy for Research and Education* — The capacity to mentally re-expe-

rience the past is considered the key distinguishing feature of episodic memory. We present data from a pre-registered study of musically-evoked autobiographical memory demonstrating that the subjective experience of mentally reliving the past accompanies not just memories for specific events, but also memories for more general autobiographical memory representations. Groups of 35-, 45-, and 55-year-old participants were asked to report memories that came to mind in response to musical cues that had been popular during their time in high-school, university, and early adulthood. Participants also rated the level of specificity and sense of mental time travel associated with each memory. Cumulative link mixed model analyses revealed that participants endorsed the presence of mental time travel for specific, general, and lifetime period memories. Implications of our findings for theorizing about episodic memory will be discussed.

Bilingualism III

Friday, November 20, 2026,
1:30-3:30 PM PST

Chaired by Adrian Garcia-Sierra, *University of Connecticut*

1:30-1:50 PM (88)

From Cross-Language Phonemic Competition to Unfamiliar Language Adaptation. ADRIAN GARCIA-SIERRA, *University of Connecticut*, EILIS WELSH, *Southampton Fresh Air Home*, SARAH DAVEY, *William James College* — We examined sLORETA activation during mismatch negativity responses to the /ga/-/ka/ contrast in Spanish-English bilinguals and English monolinguals. This contrast was expected to be perceived as between-category in English but within-category/allophonic in Spanish, creating cross-language phonemic competition for bilinguals but not monolinguals. Previous work showed that bilinguals (N=28), but not monolinguals (N=30), recruited frontal regions during the English relative to the Spanish context, specifically BA10 and BA11, consistent with involvement of the executive-control network (ECN). Here, we examined whether an unfamiliar Chinese language context would produce a different ECN-related activation pattern. Relative to English and Spanish, Chinese activated more brain regions in both groups. In bilinguals (N=30), Chinese activated BA7, BA6, BA3, BA2, and BA40. In monolinguals (N=30), Chinese primarily activated BA7 and BA6. This pattern suggests that bilingual experience may support adaptation to unfamiliar language input through broader engagement of ECN-related regions.

1:50-2:10 PM (89)

Linguistic distance is multidimensional: The effects on lexical learning and attention. JOHN GRUNDY, *Experience-Related Neuroplasticity Institute*, FEBRIANA GRUNDY, *Experience-Related Neuroplasticity Institute* — Language distance has been proposed as an important factor in language learning, yet it remains unclear whether different dimensions of linguistic similarity influence acquisition in similar ways. L1 English speakers learned Dutch and Indonesian lexical items and completed recognition and recall tasks. Language distance was examined using continuous measures of similarity between English and target-language items. Dutch lexical items were learned more successfully than Indonesian lexical items in both recognition and recall. Linguistic distance also predicted learning outcomes, although the pattern differed across recognition and recall measures. Greater distance was generally associated with lower accuracy and slower responding, suggesting that different dimensions of linguistic similarity contribute differently to acquisition. These findings indicate that language distance is not a unitary construct and highlight the importance of examining multiple sources of linguistic similarity when investigating lexical learning. No reliable transfer effects were observed on a subsequent flanker task.

2:10-2:30 PM (90)

Interactional Contexts Shape the Training of Bilingual Cognitive Control. DAN QUOC NGUYEN, *University of California, Irvine*, CATHERINE MAXIMOUS, *University of California, San Diego*, TAYLOR POCHRON, *University of California, Irvine*, MICHELLE HUE-NAM CHAN, *University of California, Irvine*, PEDRO MARIOT, *Federal*

University of Rio Grande do Sul, INGRID FINGER, *Federal University of Rio Grande do Sul*, JUDITH F. KROLL, *University of California, Irvine* — Bilinguals switch or mix languages to varying degrees depending on their interactional context. Environmental demands to switch languages may train regulatory mechanisms required for bilingual speech production. Training may result from codeswitching experience or from short-term L2 immersion. Can we induce training effects on cognitive control by imposing switching demands within a single experimental session? We compared three groups of bilinguals: Spanish-English heritage speakers in California (n = 49), Mandarin-English international students immersed in English in California (n = 61), and Portuguese-English bilinguals in Brazil (n = 43). We use two tasks: a domain-general measure of language control (AX-CPT) and a language mixing task (picture naming). Participants were randomly assigned to complete the AX-CPT or the picture naming task first. Training effects were found for all bilinguals who performed picture naming first, with the degree of training depending on the group. Notably, the heritage speakers who regularly code switch, showed the smallest effects of training. This suggests that the regulatory systems that bilinguals engage to enable spoken production are highly adaptive to the demands of the environment.

2:30-2:50 PM (91)

No n-2 repetition cost in language-cued picture naming: implications for the role of global language inhibition. SRIMOYEE CHATERJIE, *University of Exeter*, STEPHEN MONSELL, *University of Exeter*, AURELIU LAVRIC, *University of Exeter* — The 'n-2 language repetition cost' (better performance on the final trial n of the cued-naming trial sequence C-B-A relative to A-B-A) has been viewed as evidence for 'global' inhibition applied on trial n-1 to the language used on trial n-2 persisting to trial n. But most previous studies confounded n-2 language repetition with n-2 cue repetition, used number naming (which may bypass semantic access), and excluded n-1 language repetitions. We used a design that avoided n-1 and n-2 cue repetitions in a trilingual pictured-object naming paradigm. In Experiment 1, Cantonese-Mandarin-English trilinguals showed no n-2 repetition cost, either overall or in any of the three languages, in a session that included immediate n-1 language repetition trials, nor any in a session without such language repetitions. In the former session the usual robust n-1 language switch cost was indicative of the control overhead of a language switch. In Experiment 2, a sample of German-English-French trilinguals tested in a single session without n-1 language repetitions also showed no n-2 repetition cost. We conclude that if inhibition plays a role in language selection, it is not 'global' (but item-specific) and/or not 'reactive' (but sustained).

2:50-3:10 PM (92)

When is a "Theory-Driven" Reanalysis Actually Theory Testing? KENNETH R. PAAP, *San Francisco State University*, MAJOUBI R. JOHN, *San Francisco State University* — Recent reanalyses of bilingualism and executive functioning (EF) datasets increasingly emphasize multidimensional bilingual experience, latent-variable modeling, and "theory-driven" approaches. Using Navarro et al.'s (2026) reanalysis of our Psychological Review dataset as a case study, I argue that many current bilingualism frameworks are better characterized as discovery-oriented research programs than as sharply constrained theory-testing accounts. Drawing on Oberauer and Lewandowsky's distinction between discovery science and theory testing, I examine whether frameworks such as the Adaptive Control Hypothesis (ACH) and the Unified Bilingual Experience Trajectory model (UBET) generate sufficiently falsifiable predictions regarding domain-general attentional control (AC). I discuss construct-validity issues surrounding entropy, interpretation of weak latent-variable associations, and the implications of theoretically inconsistent effects. More broadly, I argue that increasing multidimensional flexibility may reduce falsifiability by allowing contradictory outcomes to be accommodated post hoc.

3:10-3:30 PM (93)

Harnessing diversity in multilingual experience and neurocognitive outcomes: The ASTRID database. VINCENT DELUCA, *UiT The Arctic University of Norway*, KATHERINE SENDEK, *UiT The Arctic University of Norway*, ANDERS GABRIELSEN, *UiT The Arctic University of Norway*, FEDERICO GALLO, *UiT The Arctic University of Norway*, JIA'EN YEE, *Lancaster University*, ALESSANDRA AVVERSARI, *Lancaster University*, SERGIO PEREIRA SOARES, *Max Planck Institute for Psycholinguistics*, AINA CASAPONSA, *Lancaster University*, JASON ROTHMAN, *Lancaster University* — A growing body of literature shows that various multilingual experiences correlate to neurocognitive adaptations. Resting-state electroencephalography (rs-EEG) is a useful addition to this research domain, given the information it provides about neurocognitive architecture, including the capacity for deployment of resources for cognitive demands. Rs-EEG patterns have also been shown to be affected by multilingual experiences. Challenges exist to further advancing understanding of these relationships, including having sufficient: 1) variability in different language experiences and 2) (statistical) power to model individual differences. We present a novel open database to address these challenges. The A Shared Tool for Resting-state EEG and Individual differences in Diverse multilinguals (ASTRID) database contains over 700 subjects, all of whom have a rs-EEG recording and detailed multilingual language demographic information. Subsets of the cohort also have cognitive tasks (some with EEG) and other demographic measures. The cohort represents a range of multilingual experiences from several sociolinguistic contexts. Crucially, others can contribute to the database, such that the data quantity and diversity within it can increase.

Sensation & Perception

Friday, November 20, 2026, 1:30-3:30 PM PST

Chaired by Daniel Casasanto, *Cornell University*

1:30-1:50 PM (94)

Frequency Specialization in Perception: The Action Asymmetry Hypothesis. DANIEL CASASANTO, *Cornell University*, OWEN MORGAN, *Cornell University* — According to decades of research, the left and right cerebral hemispheres are specialized for different frequencies, in vision and audition, but the cause of this specialization has remained unknown. Here we tested whether hemispheric asymmetries in visual perception can be explained by asymmetries in people's tendency to perform high- and low-frequency actions with their dominant and nondominant hands, respectively (the Action Asymmetry Hypothesis). In large, preregistered studies, participants judged high- and low-frequency images presented in the left and right visual hemifields. The typical hemispheric asymmetry for high versus low visual frequencies, which we found in right handers, was significantly reduced in left handers. Critically, hemispheric asymmetries for high-spatial-frequency stimuli were completely reversed between strong right and left handers. A control experiment testing dichotic listening suggested that this reversal cannot be explained by differences in language laterality. These results provide initial support for the Action Asymmetry Hypothesis: Frequency asymmetries in perception may arise from frequency asymmetries in hand action.

1:50-2:10 PM (95)

Interference With Left-Right Directional Judgments Under Identity Versus Reversed Mapping Rules: New Patterns and a New Theoretical Approach. ROBERT S. MCCANN, *University of Waterloo*, DEREK BESNER, *University of Waterloo*, COLIN M. MACLEOD, *University of Waterloo* — Judgments of left-right direction were examined in visual-manual S-R ensembles that jointly manipulated congruency between target and distractor objects and S-R mapping rule. In Experiment 1, partici-

pants made lateralized manual responses to left-or right-gazing eyes accompanied by an irrelevant left- or right-pointing arrow. Participants either pressed the left key to left-gazing eyes and the right key to right-gazing eyes or they pressed the right key to left-gazing eyes and the left key to right-gazing eyes. RTs were slower when eye-gaze direction and arrow direction were incongruent than when they were congruent and slower under reverse mapping rules than under identity mapping rules. The two effects were statistically additive. In Experiment 2, the eyes were replaced by the words "LEFT" and "RIGHT." Under identity mapping rules RTs were again slower when word and arrow directions were incongruent than when congruent. Under reverse mapping rules, RTs were slower than under identity mapping rules, but RTs were faster when word direction and arrow direction were incongruent than when congruent. We account for these results with customized versions of HiTEC, a dual-route PDP model.

2:10-2:30 PM (96)

Older adults are (almost) as good as younger adults at figuring out the number of objects inside a container using active touch. ILJA FRISSEN, *McGill University*, MOUNIA ZIAT, *Bentley University*, CATHERINE L. REED, *Claremont McKenna College* — Experience suggests that we can use our somatosensory senses via active touch (i.e., haptic perception) to gain information about contained objects. We can shake a cereal box to determine how much cereal is left. Several studies have documented a reliable ability to haptically estimate the number of objects inside a container; all using younger adults. Since age affects tactile acuity and the ability to move one's hands, we investigated to what extent the ability is retained with age. We compared older (71 – 89 yrs) with younger adults (18 – 22 yrs) at their ability to infer via haptic exploration how many objects (1, 3 or 5) were contained in a small cardboard box. There were two sets of balls varying in weight. Wearing noise cancelling headphones and blindfolds, participants were handed one box at a time and told to wield it as they pleased without removing the lid. Performance was assessed in terms of mean number estimates, accuracy (RMSE), precision (RMS residuals from a second-order regression), and response times. Initial results show that although older adults were about 1.5 times slower, they were almost as accurate and precise as younger adults but tended to underestimate more as ball number increased.

2:30-2:50 PM (97)

Spatial Regularities as Predictive Constraints on Object Recognition. MONICA S. CASTELHANO, *Queen's University*, HANNAH LUM SMITH, *Queen's University* — Spatial certainty indexes the strength of learned spatial associations: high-certainty objects are associated with a single region, whereas low-certainty are associated with multiple. While spatial regularities have been shown to guide attention, less is known about their effects on how context constrains object recognition. This study examined this question within a predictive framework using a gaze-contingent paradigm (Boundary paradigm). Objects were placed in an expected or unexpected location and varied in their spatial certainty (high vs. low). Results showed that there was a strong interaction between spatial certainty and placement for behavioral measures, but not eye movements. This dissociation suggests spatial association strength constrain later evaluative stages, but not earlier perceptual stages during object recognition. These findings indicate that spatial regularities between objects and scenes function as predictive constraints on object recognition when high, but the effects are graded and dependent on the processing stage.

2:50-3:10 PM (98)

Understanding the Visual Features which Drive Perception of Natural Scenes through Reliable Errors. DWIGHT J. KRAVITZ, *George Washington University*, PRACHI MAHABLESHWARKAR, *George Washington University*, JOHN PHILBECK, *George Washington University*, SARAH SHOMSTEIN, *George Washington University* — Understanding the visual features that drive perception is difficult because any natural scene contains many consistent features, allowing any single feature or combination thereof to yield "correct" perception. Unpacking that requires discovering situations in

which particular features drive perceptual errors despite the presence of other features. Experimentally, that requires: 1) establishing whether there is a reliable pattern of generalizable errors in natural scene perception, 2) showing the relationship of those errors to visual features, and 3) directly manipulating those features in natural scenes to establish their causal role. Here, we report a series of experiments that accomplish these goals for depth perception in novel 2D natural scene images. Human observers can not only reliably extract depth information from these images, they make highly consistent errors that generalize over independent observers and tasks. Moreover, these errors are driven by both spatial (visible ground plane) and non-spatial (object familiar size) features. We demonstrate the causal influence of the latter through direct manipulations in both spatial perception and visual attention.

3:10-3:30 PM (99)

Effects of Flickering Light on the Phantom Array and Reading. SARAH M. HAIGH, *University of Nevada, Reno*, COOPER J. CHAVEZ, *University of Nevada, Reno*, MARCOS MORENO CERVANTES, *University of Nevada, Reno* — LED electronics can produce a wide range of flicker frequencies, which can cause a range of adverse effects, including discomfort, illusions, headaches, and seizures. One such illusion is the phantom array that manifests as an illusory striped pattern during a saccade across a flickering light source. We recently found that flicker can also slow reading, and that those who are more visually sensitive were even slower. Here, we examined whether slower reading speeds were due to the detection of flicker. The study contained two tasks: the first was to read a paragraph of random short words under 100Hz, 120Hz, 600Hz, and 60kHz flicker, and the second was to assess flicker detection accuracy. We found that reading was fastest at 60kHz and slower at 100 and 120 and slowest at 600Hz. However, flicker detection was worst for 600Hz and there was no overall relationship between speed and detection. Those who were more visually sensitive read slower but were not more likely to detect flicker. This suggests that flicker affects unconscious processing and slower reading is not caused by interference from the phantom array. These findings support calls for regulations on flickering light sources to reduce their effects on health and cognition.

SYMPOSIUM III: Cognitive Aging in Diverse Populations

Friday, November 20, 2026, 3:45-5:45 PM PST

Chaired by Audrey Duarte, *University of Texas at Austin*

3:45-4:05 PM (SYM-011)

Life-Course Income Segregation and Biomarkers of Cognitive Aging and Alzheimer's Disease in Diverse Older Adults. ALEXANDRA CLARK, *University of Texas at Austin*, ABBEY HAMLIN, *University of Texas at Austin*, VINCENT HOLM, *University of Texas at Austin*, YEMI TCHALA, *University of Texas at Austin* — Income segregation is an important structural determinant of health that may shape cognitive aging and Alzheimer's disease (AD) risk. Most work has relied on static estimates of late-life neighborhood context, overlooking the cumulative effects of earlier exposures and changes in neighborhood conditions. We examined whether historical and current levels of income segregation, as well as 10- and 20-year changes in segregation, were associated with plasma biomarkers (glial fibrillary acidic protein (GFAP) and amyloid-β42/40) linked to cognitive decline and AD in a racially/ethnically diverse sample of 119 older adults (60% Black/Latino). Residential addresses were geocoded and linked to harmonized census tract data spanning 2000–2020. Income segregation was quantified using the H index, reflecting the degree to which income groups are spatially sorted across neighborhoods within the broader area. Higher historical segregation and greater long-term increases in segregation were associated with elevated GFAP. Current segregation and more recent increases were linked to amyloid-β42/40. Findings suggest that life-course exposure to income-segregated environments may influence biological pathways relevant to cognitive aging and AD risk.

4:05-4:25 PM (SYM-012)

Vascular Depression as a Pathway to Cognitive Disparities in Aging. VONETTA DOTSON, *Center for Brain/Mind Medicine Brigham and Women's Hospital* — When depression and vascular disease co-occur, their combined impact on brain health is greater than either condition alone. This convergence—often termed vascular depression—has been linked to cognitive decline and dementia. Traditionally conceptualized as a subtype of late-life depression, vascular depression is thought to arise from disruption of fronto-subcortical circuits due to cumulative vascular burden. Compared to non-vascular depression, it is associated with greater cognitive deficits, especially in executive functioning, and may accelerate cognitive aging. Vascular depression may also represent a key pathway through which social and structural inequities contribute to disparities in cognitive impairment and dementia. Chronic stress and related vascular and inflammatory processes disproportionately affect underrepresented populations, increasing risk of depression and cognitive decline. This presentation will highlight recent findings from diverse community samples, including Black and Latino older adults, examining cognitive functioning in vascular depression. I will also present data on social and lifestyle factors—physical activity, social support, and chronic stress—that may moderate its impact on cognition.

4:25-4:45 PM (SYM-013)

Navigating Complex Topics in ADRD Research: The Integration of Mixed Methods Approaches into Clinical Trial Design. CRYSTAL M. GLOVER, *University of California, Irvine* — The field of Alzheimer's disease and related dementias (ADRD) is undergoing rapid advancements and innovation in diagnostics and therapeutics. We are experiencing a saltation from definitive etiological diagnoses only at post-mortem examination to tests that "rule in" causes of cognitive impairment and dementia and potentially identifying ADRD cases decades prior to the onset of symptoms. These developments are occurring, however, with limited guidance for healthcare providers, people living with dementia (PLWD), and informal caregivers. As such, the true meaning of these advancements to PLWD and their supporters remains unclear. Addressing research questions that are relevant to scientific advancement, clinical practice, and lived experiences is a seminal first step to ensuring the utility and optimization of clinical trials and their findings. By implementing mixed methods approaches, we can design and conduct ADRD clinical trials that address challenges, amplify resilience, and set forth emergent practices in the context of PLWD from diverse backgrounds and their supporters, all with the goal of facilitating optimal outcomes in aging for all. This talk will discuss these mixed methods approaches to clinical trial design.

4:45-5:05 PM (SYM-014)

Clinical and Biological Evidence for Bilingualism's Protective Effects in Alzheimer's Disease. STEPHANIE GRASSO, *University of Texas at Austin* — Active bilingualism has been proposed as a cognitive reserve factor in Alzheimer's disease (AD), yet most evidence lacks biomarker confirmation. Across two complementary studies using Spanish–Catalan bilinguals from the Sant Pau Initiative on Neurodegeneration (SPIN) cohort, we examined bilingualism's protective associations with age at symptom onset and neuropsychological/biofluid markers of brain health. We found active bilingualism was associated with delayed symptom onset of 2.21 years in amnestic MCI, 1.42 years in amnestic dementia, and 1.45 years in biomarker-confirmed AD, independent of education, sex, and disease severity. In a follow-up study we found that, among 567 participants with biomarker-confirmed AD (A+T+), active bilinguals outperformed passive bilinguals on attention/executive function, language, and visuospatial/visuomotor measures, demonstrating resilience despite equivalent biological disease stage. Active bilinguals showed more favorable CSF biomarker profiles, providing evidence of resistance to AD pathophysiology, modulated by sex and education. These findings support bilingualism as a multifaceted cognitive reserve factor influencing both clinical expression and underlying pathophysiology in AD.

5:05-5:25 PM (SYM-015)

Language of Testing and Cognitive Outcomes Among Hispanic/Latino Adults. ARIANA STICKEL, *San Diego State University*, CAROLINA COSTA, *San Diego State University*, MARCO SANTOSCOY, *San Diego State University*, SIENNA PEREZ, *San Diego State University*, CARLOS EE ARAUJO-MENENDEZ, *San Diego State University; University of San Diego* — Linguistic diversity is a common thread in many migrant communities, including the US Hispanic/Latino community. There are many aspects of linguistic diversity, and this talk will cover the most basic of those that is encountered in our research– language of cognitive testing. We will present a series of studies that centers Hispanic/Latino adults and is based on work from two publicly available datasets, the National Alzheimer's Coordinating Center (NACC) and Health and Retirement Study (HRS) datasets. First, we will discuss evidence from the NACC dataset for cognitive test bias favoring those tested in English (versus in Spanish). Second, we will compare cognitive aging trajectories in these two groups. Notably, although those tested in English had higher baseline scores on most cognitive tests relative to those tested in Spanish, longitudinal trajectories were largely similar. Last, we will present new work on whether primary language moderates the relationships between depressive symptoms and cognition among Hispanic/Latino adults in the HRS. Taken together, this series of studies will encourage scientists to reflect on how to best consider the impact of language and language of testing in their research and clinical work.

Attention: Cognitive Control I

Friday, November 20, 2026, 3:45-5:45 PM PST

Chaired by Andrew Heathcote, *University of Amsterdam*

3:45-4:05 PM (100)

The role of attention shifts for the Simon task: A direct replication of the attentional shifting account by Stoffer (1991) and a hybrid mechanism underlying different Simon effects. PAMELA BAESS, *University of Hildesheim*, SHABNAM AYATOLLAHI, *University of Hildesheim*, CHRISTINA BERMEITINGER, *University of Hildesheim*, LUISA BOGENSCHÜTZ, *University of Hildesheim*, PIA FENSKE, *University of Hildesheim*, MOHAMMAD HAMZELOO, *University of Hildesheim*, RYAN P. M. HACKLÄNDER, *University of Hildesheim*, GUSTAVO LEON MONTOYA, *University of Hildesheim* — The origin of spatial codes in the Simon task remains a topic of debate in cognitive psychology. Two main theoretical accounts have been proposed: the attentional zooming account, which attributes the Simon effect to attentional shifts within the visual field, and the referential coding account, which argues that spatial codes are formed relative to external reference points. Neither approach fully explains the existing empirical findings, possibly due to the limited statistical power of earlier studies. To address this gap, we conducted a direct replication of Stoffer's (1991) study. Twenty-seven participants completed a Simon task, responding to shape-defined targets that appeared either immediately or after a 500 ms delay. Targets were presented within two types of reference objects: two small squares or one large rectangle. Our findings reveal two concurrent Simon effects: a global effect referenced to the screen center and a local effect referenced to the hemifield. Notably, only the local Simon effect was influenced by both the target presentation mode and the type of reference object. These results provide new insights into the mechanisms underlying spatial code formation in the Simon task.

4:05-4:15 PM (101)

(Data Blitz Presentation) Using Hierarchical Drift Diffusion Modeling to Elucidate Person- and Context-Level Influences on Cognitive Control. RACHEL E. BROUGH, *University of Denver*, KIMBERLY S. CHIEW, *University of Denver* — Motivation by both reward and punishment has been observed to increase proactive control during AX-Continuous Performance Task (AX-CPT) performance. However, drift-diffusion modeling (DDM) suggests that reward and punishment modulate separate aspects of cognitive processing in other task paradigms. It is unclear whether DDM might reveal distinct routes by which reward and punishment modulate AX-CPT performance, or whether such modulation interacts with person-level factors such as age or trait differences. We will analyze three AX-CPT datasets with Hierarchical DDM to examine whether reward and punishment differentially predict shifts in drift rate and decision threshold, and test for modulation by age and variability in inattention, hyperactivity, trait anxiety, or motivational sensitivity. We predict that both incentive valences will facilitate proactive control but via distinct strategies, with reward increasing drift rate and punishment increasing decision thresholds, and that effectiveness of these strategies may vary with age and individual differences. Applying this approach across multiple datasets will help reveal how motivational contexts interact with person-level factors to adaptively shape cognitive control.

4:15-4:25 PM (102)

(Data Blitz Presentation) Attention offloading is not uniformly beneficial: evidence from a multi-dimensional discrimination task. JENNA R. DONET, *Texas Tech University*, JOE OPDENAKER, *Texas Tech University*, PHILIP H. MARSHALL, *Texas Tech University*, MIRANDA SCOLARI, *Texas Tech University* — People often rely on external aids to support cognitive performance, a process known as cognitive offloading. While most research on offloading examines memory-based tasks in self-paced environments; less is known about offloading to support attention while under cognitive load. To address this gap, participants (n = 23) completed a rapid contrast and orientation discrimination task with three difficulty levels. Participants completed forced internal, forced offload, and forced choice phases. In the latter two phases, participants could offload via button press, revealing a cue indicating the upcoming stimulus dimension, at no cost. Binary logistic mixed effects models showed that there was no difference in accurate responses between the forced internal and the forced offload blocks. However, in the forced choice blocks, offloading impaired accuracy on the easy blocks, had no effect on the moderate blocks, improved accuracy on the hard blocks. Despite these benefits, offloading rates were extremely low overall, with the highest rates on moderate trials. These findings suggest a dissociation between optimal and actual offloading behavior under attentional load during perceptual decision tasks.

4:25-4:45 PM (103)

Two aspects of INDIVIDUAL DIFFERENCES in ability to CONTROL ATTENTION. RANDALL W. ENGLE, *Georgia Institute of Technology* — Multiple studies in my lab and others have recently shown that the ability to control attention reflects two separable but highly associated abilities. One, selective attention control, reflects the ability to manage conflict among representations at the time of encoding events. The other, sustained attention control, reflects the ability to maintain focus on an encoded event over time. For example, the ability to discriminate the pitch of two tones separated by 500 msec is highly related to selective attention control but not sustained. When the interval between the two tones varies from 2-12 seconds, sustained attention control predicts the discrimination ability. Sleep deprivation has a greater impact on sustained than selective attention control. These differences are easily apparent in large-scale structural equation studies but are also reflected in brain mechanisms such as pupil dilation and variation and EEG patterns.

4:45-5:05 PM (104)

Varieties of Cognitive Conflict. ANDREW HEATHCOTE, *University of Amsterdam*, METZ MARIT, *University of Amsterdam*, NIEK STEVENSON, *University of Amsterdam*, DORA MATZKE, *University of Amsterdam* — "Conflict" tasks, where different attributes of a choice stimulus can be associated with conflicting responses, are widely used to test cognitive control by comparing performance when the attributes are congruent vs. incongruent. It is usually assumed that standard evidence-accumulation models (EAMs), which were originally developed to explain simple choices about non-conflict stimuli, cannot accommodate the fine-grained effects of congruency on the speed and accuracy of responses in conflict tasks. We investigated this assumption by fitting data from over 500 subjects performing each of these three conflict tasks using standard EAMs drawn from two classes, race and dual-diffusion models. For each type, we fit a range of variants that explain conflict effects using one or more parameter differences. We found that the two dual-diffusion models could not accommodate the fine-grained effects of congruency, but the three race models could. All the race models explain the congruency effects in the same way, with mechanisms that affect the amount of evidence required to decide, and the variability of that evidence. We discuss how this combination of mechanisms suggests a novel "conflict-cancelation" theory of cognitive control.

5:05-5:25 PM (105)

Reconsidering Updating Costs in Working Memory: Evidence from Response Times, Pupillometry, and Meta-Control. YOAV KESSLER, *Ben-Gurion University of the Negev*, MAYA SALOMON, *Ben-Gurion University of the Negev*, NOAM GILADI, *Ben-Gurion University of the Negev* — Current models of working memory (WM) treat updating as a slow, effortful process dependent on controlled gating. Using a modified reference-back paradigm, we challenge this view. When a single item is held in WM, responses are faster and pupil diameter is smaller during updating than during maintenance, reflecting an updating benefit in both speed and mental effort. This pattern reverses when multiple items are maintained. In a second set of experiments, we manipulated the proportion of updating versus maintenance trials and found that the dominant operation in the block determined performance costs: an updating cost emerged when maintenance dominated (75% of trials), whereas an updating gain emerged when updating dominated. Together, these results argue against updating as a dedicated control process. Rather, encoding into WM emerges as a by-product of selective attention and response selection, while actively preventing updating, rather than updating itself, requires additional processing. Additionally, the default mode of WM, flexibility or stability, is determined by task context, reflecting flexible meta-control over updating and maintenance.

5:25-5:45 PM (106)

Modulation of Cognitive Stability, or lack thereof, through Item-Specific Cognitive Flexibility. EMMA S. WIEDENMANN, *George Washington University*, REBEKA C. ALMASI, *George Washington University*, MYEONG-HO SOHN, *George Washington University* — The reciprocity theory of stability and flexibility suggests that if one is increased, the other is inhibited, like a see-saw. Allocating high stability to an item, under this view, should result in greater persistence of the task rule upon switching to a new task, yielding higher switch costs. However, multiple studies have failed to replicate the interaction between stability and flexibility (Gedder & Egner, 2022). This study investigated whether item-specific flexibility modulates stability. During the association phase, participants completed a task-switching paradigm (gender and age task). We manipulated item-specific switch probability by assigning stimuli to high-repeat (80%) or high-switch (80%) conditions. In the transfer phase, participants completed a gender Stroop task (Experiment 1) using the same stimuli from the association phase, and an age Stroop task (Experiment 2). Results showed in both experiments that participants formed item-specific associations during the association phase. However, these learned associations did not influence the congruency effect during the transfer phase. These

findings suggest that the underlying mechanisms for stability and item-specific flexibility are independent.

Recognition I

Friday, November 20, 2026, 3:45-5:45 PM PST

Chaired by Courtney A. Kurinec, *Washington State University*

3:45-4:05 PM (107)

Are Materials Strong Cues in Associative Recognition? OYKU GOZE OZDEMIR, *University of Helsinki*, ASLI KILIC, *Middle East Technical University*, NAHIDE DICLE DOVENCIOGLU, *Middle East Technical University* — Previous research has shown that object features such as color and shape influence memory, but the mnemonic role of perceived material remains less understood. We investigated how shape, material, texture, and reflectance contribute to associative recognition memory across three experiments using familiar (everyday objects such as a jug or mug) and unfamiliar 3D objects (glavens). Familiar objects and novel shapes were rendered with congruent or incongruent materials, while a third experiment manipulated texture and reflectance. Across all experiments, recognition sensitivity (d′) was higher for congruent than incongruent combinations of material, shape, texture, and reflectance. For familiar objects, material and shape congruency contributed equally to memory performance, whereas for unfamiliar objects, material information was remembered better than shape or reflectance. These findings highlight the important role of perceived material, alongside shape and surface properties, in associative recognition memory.

4:05-4:25 PM (108)

Item Distinctiveness Modulates the Relationship Between Hits and False Alarms in Old-New Recognition. ROBERT M. NOSOFSKY, *Indiana University Bloomington*, DANIIL AZAROV, *Indiana University Bloomington* — Recognition memory is strongly shaped by similarity structure, yet how item distinctiveness reorganizes the relationship between hits and false alarms is not well understood. Using distances in a multidimensional feature space to quantify item similarity, we examined item-level recognition performance for real-world objects. Low-distinctive items showed positive correlations between hit rates and false-alarm rates, reflecting variation in inter-item similarity as predicted by standard global-familiarity models. In contrast, highly distinctive items exhibited high hits but low false alarms, reducing or reversing the overall hit–false-alarm correlation. Split-half analyses showed that both hits and false alarms were reliable across participants, but their relationship depended on an item's position within the surrounding similarity space. The Hybrid-Similarity Exemplar model, which combines inter-item similarity with a distinctiveness-dependent self-match signal, captured this reorganization. These findings show that memorability is reliable yet relational, emerging from similarity structure rather than intrinsic stimulus properties.

4:25-4:45 PM (109)

Gaze Reinstatement Implicates Active Inhibition in Directed Forgetting. HUIYU DING, *University of Illinois Urbana-Champaign*, LILI SAHAKYAN, *University of Illinois Urbana-Champaign* — Directed forgetting (DF) is typically explained through encoding-based mechanisms, yet behavioral outcomes cannot determine whether forgetting reflects passive weakening or active modification of memory representations. This research advances a retrieval-dynamics framework, proposing that the mechanisms of DF can be diagnosed at retrieval through qualitative signatures of memory reactivation. Across three experiments, the Looking-At-Nothing (LAN) effect was used to examine whether DF produces retrieval patterns dissociable from those arising from weak encoding or contextual unbinding. We found that forget-cued items elicited gaze reinstatement patterns distinct from weakly encoded items, indicating DF cannot be reduced to quantitative strength differences. Furthermore, gaze reinstatement was selectively attenuated following forget cues but remained intact following thought substitution cues, providing evidence inconsistent with contextual unbinding. These findings constrain theoretical explanations to ones that modify the integrated episodic trace itself, most

consistent with active inhibition, and reposition retrieval as a critical locus for adjudicating competing accounts of DF effect.

4:45-5:05 PM (110)

Dissociable Effects of Prospective Gains and Losses on Recognition Sensitivity: Evidence from Feedback Manipulations and Drift Diffusion Modeling. GIZEM FILIZ, *Washington University in St. Louis*, IAN G. DOBBINS, *Washington University in St. Louis* — Incentives reliably enhance encoding, yet their effects at retrieval remain poorly understood. We examined how prospective gains versus losses influence recognition sensitivity relative to a neutral condition. Three groups (Total N = 238), completed a recognition test with the goal of maximizing points. In the Score Change (SC) group, feedback indicated trial-by-trial changes in point totals. In the Score Change plus Accuracy (SC+ACC) group, accuracy feedback was given even when point totals did not change. These groups were contrasted with a No Feedback (NFB) control group. Across groups, prospective gains increased sensitivity relative to neutral and loss conditions by increasing hit rates without slowing responding. Drift diffusion modeling further revealed that prospective gains selectively increased the drift rate for old items, whereas both gain and loss prospects increased boundary separation. Together, these findings show that prospective gains, but not losses, enhance recognition sensitivity by facilitating episodic retrieval.

5:05-5:25 PM (111)

Facilitating Integration into a Single Mental Model Does Not Moderate Inference Making in Younger or Older Adults. COURTNEY A. KURINEC, *Washington State University*, ANTHONY R. STENSON, *Eastern Oregon University* — Inferences are made by integrating past experiences with overlapping elements (AB, BC) into a single mental model (ABC) from which an indirect association can be inferred (AC). Aging degrades inference making, possibly because older adults are less able to fully integrate the elements. We investigated whether older adults would make more inferences if the elements were easier to integrate. Younger and older adults completed an associative inference task where they studied overlapping object-scene pairs before being tested on the indirect inferences (AC) and directly learned pairs (AB, BC). Half the studied ABC triads consisted of two objects that shared a scene (more likely to be integrated into a single model), and half consisted of two scenes that shared an object (more likely to be stored in separate models). Whether information was more likely to be integrated did not affect younger or older adults' inference making. Compared to older adults, younger adults made more inferences overall and had better memory of the directly learned pairs, but only for pairs from triads that shared an object. These findings indicate that promoting integration does not moderate the age-related deficits in older adults' inference making.

5:25-5:45 PM (112)

Eye movements reveal a threshold process in episodic memory. MICHELLE M. RAMEY, *University of Arkansas*, GRANT S. SHIELDS, *University of Arkansas* — A major debate is whether there is a threshold process in episodic memory--that is, whether memory can fail entirely. Results conflict, which has been attributed to the fact that memory responses are confounded by decision processes. To more directly index memory separately from decision processes, this study (n=75) modeled source-memory-driven eye movements during visual search for targets in scenes. During a test phase, participants saw a preview of each scene sans target, made a recognition judgment, then searched for the target. We examined the angular error of the first eye movement upon test scene search onset in terms of how directly it was aimed towards the target (i.e., first saccade accuracy). We found the pattern predicted by threshold theories: first saccade accuracy was best fit by a mixture model consisting of precision and guessing distributions, such that first saccades were either extremely precise or entirely random. Recognition confidence modulated the guessing rate but not precision, further indicating a threshold. This evidence for a threshold process in implicit source memory supports threshold theories (e.g., DPSD)

and conflicts with continuous process theories that lack a threshold component (e.g., SDT).

Decision Making I

Friday, November 20, 2026, 3:45-5:45 PM PST

Chaired by Darrell A. Worthy, *Texas A&M University*

3:45-4:05 PM (113)

How People Make the Most Important Decisions in Their Lives. CHRISTIN SCHULZE, *University of New South Wales*, SHAHAR HECHTLINGER, *Max Planck Institute for Human Development*, RALPH HERTWIG, *Max Planck Institute for Human Development* — Every day, people make decisions that have lasting impact on their lives—choosing a career, migrating, or starting a family. Yet little is known about how people make these transformative life decisions or the cognitive processes that shape them, because most research has focused on small-stakes laboratory choices with Western, educated, industrialized, rich, and democratic (WEIRD) samples. Across five studies with 4,472 participants spanning the UK, the US, India, Nigeria, and Germany, we found that transformative life decisions are common experiences, and that people across cultures most commonly rely on simple strategies to make them. Moreover, across cultures, decisions made with simple strategies were perceived as satisfying as those made with more complex strategies. However, in WEIRD countries, most individuals recommended complex, maximizing strategies to others—an "ideal–reality gap" absent elsewhere—suggesting that maximizing is a culturally specific belief rather than universal behavior. These findings challenge a long tradition of applying laboratory-derived standards to real-world uncertainty and illuminate new ways to help people navigate the most important decisions in their lives.

4:05-4:25 PM (114)

Maintaining perceptual decisions across short-term delays: An integration of decision-making and working memory. MATHIEU SERVANT, *Université Marie et Louis Pasteur*, JOHAN A. ACHARD, *Université Marie et Louis Pasteur*, THIBAULT GAJDOS, *Aix-Marseille Université*, PIERRE BARROUILLET, *University of Geneva*, VALERIE CAMOS, *Université de Fribourg* — A central question for evidence accumulation models of perceptual decision-making is how decisions are maintained when commitment and action are separated in time. One simple account assumes that the response selected during stimulus presentation is stored across the delay and released once action is permitted. Recent findings from our lab challenge this storage-and-release view. In a delayed-response variant of the random-dot motion discrimination task, participants viewed the motion stimulus but withheld their response until a subsequent response signal (RS). Response times, measured from RS onset, increased systematically as the discriminability or duration of the motion stimulus decreased. This effect cannot be attributed to incomplete decision formation at RS onset, as it persisted even when the delay between stimulus offset and RS onset was extended to seven seconds. To account for these findings, a theoretical framework bridging decision-making and working memory research will be introduced, together with electrophysiological data that support it.

4:25-4:45 PM (115)

Primacy Effects in Decision-Making: An Empirical Test of Reinforcement Learning Models. DARRELL A. WORTHY, *Texas A&M University*, MIANZHI HU, *Texas A&M University*, EMMA DENNIN, *Texas A&M University*, BENJAMIN ULICNIK, *Texas A&M University* — A long-standing finding in the memory literature is the existence of both primacy and recency effects. Several studies have suggested that primacy effects and recency effects may also emerge in decision-making, or reinforcement learning (RL) tasks; however, most RL models appear to assume that recency effects are stronger than prima-

cy effects because expected values are almost always initialized at the same value for all choice alternatives, rather than the first rewards provided by each option. We tested this assumption in two experiments where participants selected from options AB or CD on different trials. Options A and B initially provided larger rewards than options C and D, but declined in value by the late phase of training. At test, options A and C were paired against each other for the first time. Participants showed a strong bias towards option A, indicative of stronger primacy than recency effects in our task. We fit five RL models each with three separate starting point assumptions. The strong primacy starting point assumptions, where expected values were initialized at the first reward for each option and the learning rate decayed as the task progressed, provided the best fits and post-hoc recovery of the data.

4:45-5:05 PM (116)

Pupillometric Signatures of Exploration and Exploitation: Effects of Task Difficulty and Reward. GIOVANNA C. DEL SORDO, *New Mexico State University*, MEGAN H. PAPESH, *University of Massachusetts Lowell*, MICHAEL C. HOUT, *New Mexico State University* — Balancing exploration and exploitation is fundamental to adaptive decision-making, yet cleanly dissociating these states remains methodologically challenging. Using the Complex Card Matching Task, a rule-learning paradigm, two experiments examined how task difficulty and reward modulate the behavioral and pupillometric signatures of the explore-exploit tradeoff. Experiment 1 revealed that exploration is not merely a passive default: it is slower, more arousing, and physiologically distinct from exploitation across pre-trial, decision, and feedback periods, challenging Adaptive Gain Theory's prediction of reduced phasic responding during exploration. Strikingly, task difficulty amplified exploration quantity without modulating its physiological signature, demonstrating that the tradeoff is governed by control state, not task complexity. Experiment 2 showed that although reward increased preparatory arousal and nudged behavior toward exploitation, it neither accelerated rule discovery nor altered the pupil responses associated with each state. Exploration is thus a structurally obligatory, cognitively demanding state that reward can curtail but not fundamentally reshape.

5:05-5:25 PM (117)

Parameter recovery in sequential sampling models under empirical fixation patterns. ZEYNEP ENKAVI, *Claremont McKenna College*, BRAYDEN CHIEN, *Claremont McKenna College*, ELIZABETH SCHRODER, *California Institute of Technology*, ANTONIO RANGEL, *California Institute of Technology* — Attentional drift diffusion models (aDDM) incorporate process data (often eye-tracking) to sequential sampling models of two alternative forced choice (2AFC) paradigms to quantify the degree to which attentional processes affect choice behavior. However, parameter estimation for these models is computationally expensive, and treating process data as exogenous complicates out-of-sample simulation and model falsification. Recent advances have addressed some of these computational barriers. Despite these advances, a critical gap remains in validating the existing computational tools: parameter recovery analyses using these tools rely on synthetic fixation data. Yet empirically, attentional effects are strongly moderated by stimulus properties. To address this gap we characterize empirical eyetracking data from 14 published studies across multiple decision domains and identify systematic differences between synthetic and empirical fixation distributions (EFD). Based on these findings we examine the boundary conditions for parameter and model recovery using EFD and compare the identified attentional process across the empirical datasets using a recent efficient estimation package, EFPT.

5:25-5:45 PM (118)

When and which Cognitive Modeling Improves upon the Predictions of Pure Machine Learning Models? IDO EREV, *Ohio State University*, ORI PLONSKY, *Technion - Israel Institute of Technology*, YEFIM ROTH, *University of Haifa*, EASHAN HASAN, *Ohio State University* — Recent research suggests that LLMs predict human behavior more accurately than prominent cognitive models across

diverse settings. The current paper examines the boundary conditions of this advantage by asking when cognitive modeling enhances predictive performance. Our analysis starts with three comparisons between predictions generated by the LLM Centaur (Binz et al., 2025) and predictions derived from a generalization of the Greedy Sampler cognitive model (Erev et al., 2023). All comparisons focus on predicting choices in 100-trial decisions-from-experience tasks. The results show that Centaur provides more accurate predictions of the next choice of a familiar participants, whereas cognitive modeling improves predictions of longer-term behavior and cold-start predictions. We propose that these findings can be explained by two assumptions: (1) individuals rely on a diverse set of decision rules, and switches between rules are infrequent but consequential; and (2) LLMs excel at detecting the currently used rule, whereas cognitive models better capture the timing and nature of rule changes. Finally, we describe an open choice-prediction competition designed to evaluate the robustness and generality of these findings.

Psycholinguistics

Friday, November 20, 2026, 3:45-6:05 PM PST

Chaired by Blair Armstrong, *University of Toronto Scarborough*

3:45-4:05 PM (119)

Issues of Generalization From Unreliable or Unrepresentative Stimuli: Broad Lessons From Lexical Ambiguity. JIANGTIAN LI, *University of Toronto*, BLAIR ARMSTRONG, *University of Toronto Scarborough* — The reliability and representativeness of the stimuli used in experiments plays a critical role in the generalizability of their findings. To evaluate the potential impact of reliability and representativeness in psycholinguistics and the cognitive sciences more broadly, we conducted a case study using the domain of lexical ambiguity as a foil. We examined how often 240 studies agreed on the ambiguity types assigned to a word (i.e., homonymy, polysemy, and monosemy), and how well the words represented the populations underlying each ambiguity type. We observed that (1) there is substantial, albeit imperfect agreement in assignment to ambiguity types; (2) that coverage of the underlying populations is relatively poor and biased; (3) some clusters of studies engage in substantial stimulus re-use, which may impact generalizability; and (4) in a series of pseudo-experiments, the aforementioned issues could alter the reported patterns of effects observed in the popular lexical decision task. We consider the broader implications of these findings, such as the theoretical basis for generalizing, and how we optimize the trade-off between replication and generalization. We also offer targeted directions to improve research practices.

4:05-4:25 PM (120)

Language Processing Depth as a Function of Current Neurocognitive State: Evidence from Electrophysiology. MEGAN A. BOUDEWYN, *University of California, Santa Cruz* — There is growing recognition that language processing is supported by cognitive control (Ness et al., 2023). Recent work has also demonstrated within-individual variability in language processing based on current neurocognitive state. Specifically, upregulation of the cognitive control system via neurostimulation promotes deeper processing of the same sentences, by the same individuals, compared to sham (Boudewyn & Carter, 2025). Here, we examined whether a state of upregulated cognitive control could be elicited by simply encountering repeated instances of linguistic conflict. Participants (N=36) read verb-noun attachment ambiguities in conflict-rich and minimal-conflict blocks, in a within-participants design. N400 effects were found in the minimal-conflict block, whereas P600 effects were found in the conflict-rich block ($p < 0.05$). This suggests that readers were more likely to revise in response to verb-noun attachment ambiguities in a conflict-rich context. These results provide a novel demonstration of within-individual variability in language processing based on current cognitive control engagement.

4:25-4:45 PM (121)

Using the Semantic Priming Across Many Languages Project to Examine if Predictive Language Models Capture Human Semantic Priming. ERIN MICHELLE BUCHANAN, *Harrisburg University of Science and Technology*, ADDIE CLARK, *Harrisburg University of Science and Technology*, MARIA MONTEFINESE, *University of Padova* — Semantic priming, faster target recognition following a related versus unrelated cue, is a key index of human semantic memory organization. As part of the Semantic Priming Across Many Languages Project, we conducted a pilot study to determine the best method for measuring item-level priming in large language models (LLMs) that aligns with human data. Multiple models and context sentences were tested on English cue-target pairs using surprisal-based priming deltas and embedding similarity differences as candidate indices. Surprisal-based priming deltas were small, but non-zero, indicating "priming" within LLMs. However, LLM priming was uncorrelated with human priming across all models. Embedding similarity differences were near zero most models. Notably, one embedding similarity modestly correlated with human item-level priming, but this similarity did not translate into surprisal-based facilitation. Network analysis revealed five semantic communities with identifiable hub nodes, suggesting structured but human-dissimilar organization. These findings suggest that LLMs encode structured semantic representations that do not map onto human priming; implications for extending these comparisons to additional languages will be discussed.

4:45-5:05 PM (122)

Episodic memory and dialect influence the dynamics of spoken word comprehension. KATELYN L. MCCLURE, *Kent State University*, SARA INCERA, *Eastern Kentucky University*, PHILLIP HAMRICK, *Kent State University* — Growing evidence suggests that listener-internal and listener-external factors influence real-time spoken word recognition. The current study investigated the role of two such factors—dialect and episodic memory—in a spoken word comprehension task. Participants completed an auditory word-picture matching task while their computer mouse trajectories were measured. Specifically, participants heard either local or non-local dialect words in either local or non-local accent, and their mouse movements were tracked as they chose which picture best matched the words. Dialect and accent were crossed factorially. Participants also completed the Continuous Visual Memory Test to measure individual differences in episodic memory. Results indicated significant interactions between dialect, accent, and episodic memory abilities, whereby non-local dialect words and dialect-accent incongruent stimuli were more difficult to process, but this effect was reduced for those with higher episodic memory abilities. The results suggest that dialect information can influence spoken word comprehension, and episodic memory may influence lexical competition resolution.

5:05-5:25 PM (123)

Research Misconduct in China: What's Language Got to Do with It? ADAM JOHN PRIVITERA, *University of Electronic Science and Technology of China*, ZHILONG XIE, *Jiangxi Normal University*, FEI GAO, *Institute of Modern Languages and Linguistics, Fudan University*, PENG WANG, *University of Hong Kong* — China is the global leader in research output, recently surpassing the USA in publications in top scientific journals. However, this growth has coincided with a rise in retracted papers from Chinese institutions, raising concerns about research integrity. While institutional pressures are often cited, another possible factor is the requirement for Chinese academics to publish in English, a foreign language. Prior work suggests that using a foreign language can reduce deontological responding during moral decision-making. Accordingly, the present study examined whether moral decision-making about research misconduct varies by language context. Bilingual researchers at Chinese public universities responded to research misconduct dilemmas in either Chinese or English. When responding in English, participants showed greater willingness to plagiarize and judged plagiarism and data fabrication as more permissible. They were also more likely to endorse dual submission when

the idea originated from a colleague, regardless of language. Overall, findings suggest that working in a foreign language may subtly influence both evaluations of and decisions to engage in research misconduct.

5:25-5:45 PM (124)

Language Comprehension is Tuned to Both Production and Memory Noise. OLIVIA GAWEL, *University of California, Merced*, RACHEL RYSKIN, *University of California, Merced* — Everyday communication happens in noise—speakers make errors, ambient sounds interfere, and comprehenders misperceive. To understand what speakers mean, comprehenders make inferences combining prior expectations with probabilities of how the signal may have been corrupted. Prior work shows that these inferences are sensitive to production noise (i.e., the kinds of errors producers tend to make), but less is known about whether comprehenders account for their own memory corruptions. E1 replicated prior work: participants inferred plausible meanings more often when sentences involved likely production noise. E2 and E3 showed that noise likelihood effects persisted under memory load and higher load increased inferences and distortions in recall. E4 estimated production noise from a corpus; memory noise was estimated from recall. Finally, implausible sentences that were likely to be misremembered as plausible were even more likely to be interpreted according to a more plausible alternative during comprehension, suggesting that comprehension reflects joint inference over production and memory noise.

5:45-6:05 PM (125)

Social Network Characteristics of Cochlear Implant Users: Communication Difficulty and Cognition. ETHAN KUTLU, *University of Iowa* — Hearing loss is tied to social isolation and cognitive decline, yet we know little about how cochlear implant users' personal networks are structured or whom they find hardest to understand. We elicited egocentric networks from cochlear implant users (786 alters, 96 participants) and modeled per-alter communication difficulty with mixed-effects logistic regression. Difficulty was higher for significant others than family (OR=3.40, 95% CI [1.76, 6.56]) and fell with alter age (OR=0.67), with the youngest alters hardest to understand; high support was protective (OR=0.31). Participants differed substantially in baseline difficulty (ICC=0.38). In a subset with cognitive testing (n=29), denser networks predicted poorer memory independent of age (partial r=-0.54), and larger networks predicted lower loneliness (r=-0.49) and greater social integration (r=0.50). Results characterize CI users' social networks and reveal what type of interactions remain challenging after implantation.

Reading I

Friday, November 20, 2026, 3:45-5:45 PM PST

Chaired by Mara Breen, *Mount Holyoke College*

3:45-4:05 PM (126)

Implicit metric processing predicts reading comprehension skill in 6-to-10-year-olds. MARA BREEN, *Mount Holyoke College*, KATERINA DRAKOULAKI, *Mount Holyoke College* — Implicit auditory processing has been proposed to support reading comprehension skill through implicit prosody, which includes neural responses to metric structure. Here, we investigated the endogenous selective attention mechanisms influencing subjective metric tracking of an isochronous sequence of identical tones in children 6-10-years-old by adapting an adult imagined meter paradigm to map the developmental neural trajectories of implicit metric coding. High-density electroencephalography data were recorded from 112 children listening to undifferentiated tones grouped subjectively into quaternary or ternary meters in fast (450ms SOA) and slow (625 SOA) tempi. First, we replicated established findings on cortical auditory evoked potential morphological development. Moreover, behavioral accuracy on the task reflected more mature neural responses to imagined strong beats: In fast trials, high-scorers reliably showed negative responses in the N1 (100-180ms) and LMN (250-450ms) time windows for strong beats across hierarchies. In addition, the strength of the metric effect in the quaternary LMN time win-

dow was a marginally significant predictor of children's reading comprehension skill, demonstrating a potential causal link.

4:05-4:25 PM (127)

Neural sensitivity to semantic anomalies in deaf and hearing readers using EEG/eye tracking co-registration. EMILY M. AKERS, *San Diego State University*, KATHERINE J. MIDGLEY, *San Diego State University*, PHILLIP J. HOLCOMB, *San Diego State University*, KAREN EMMOREY, *Lab For Language & Cognitive Neuroscience* — EEG/eye tracking co-registration allows researchers to measure neural effects during natural reading. Sixty-six deaf and hearing readers read sentences with semantic anomalies in either a medial or sentence final position. Deaf and hearing readers showed similar sensitivity to the medial verb anomaly (indexed by a larger negativity to the violation than the control), and this effect started as early as two words before the violation. For final noun anomalies, deaf readers exhibited a strong negativity starting when the violation was in the parafovea, which continued until they fixated on the violation where they also exhibited a weak late positivity. Hearing readers also exhibited a negativity when the violation was in the parafovea, but they showed a more robust late positivity starting in the parafovea, which strengthened when the violation was fixated. This is the first study to measure deaf readers' sensitivity to semantic violations using co-registration. Deaf readers consistently exhibit sensitivity to semantic violations, regardless of sentence presentation method. Both groups show similar patterns for final word anomalies, with an early negativity turning to a late positivity, which may reflect semantic reanalysis.

4:25-4:45 PM (128)

Effects of Reading Disability and ADHD on Intersubject Correlations with EEG. DANIEL KLEINMAN, *Yale Child Study Center*, MARIA JOSE MACIAS ZUNIGA, *Yale Child Study Center*, NICOLE LANDI, *University of Connecticut* — Reading disability (RD) affects 5-15% of children, often co-occurring with ADHD. We used a naturalistic task to investigate differences in visual and auditory attention between 3 groups of children: typically developing readers (TD; n=32), RD-only (n=52), and RD+ADHD (n=59). Participants (7-16 years old; M=10.2 years) watched a 3-minute movie clip from Despicable Me while EEG was recorded. We computed intersubject correlations (ISC), the similarity in neural responses between every pair of participants within each group; higher ISCs are linked to better attentional behaviors. The top two correlated components comprised a visual component (an occipital negativity) and an auditory component (a bilateral temporal positivity). Comparisons between groups yielded 2 findings: (1) Relative to the TD group, RD participants had lower ISCs for the auditory component, but not the visual component. (2) Relative to the RD group, RD+ADHD participants had lower ISCs for both components. These results suggest that in the context of viewing a naturalistic stimulus, ADHD is associated with greater variability in both visual and auditory attention among children with RD, but RD itself is associated only with greater variability in auditory attention.

4:45-5:05 PM (129)

Is the Perceptual Span Real? STEVEN G. LUKE, *Brigham Young University* — Using the moving window paradigm, researchers can restrict the window of useful information around a fixation to discover how small the window can become before reading is disrupted. This window defines the perceptual span, an area of the text from which the reader extracts useful information. Traditionally, dependent variables in these moving window experiments are global (i.e. words per minute), focusing on the text as a whole. In a moving window paradigm study that replicates Luke et al. (2024), I examined the perceptual span in adult readers with a focus on word-level reading times (e.g. gaze duration). Results showed an interaction between word length and window size; the moving window was only disruptive when the currently fixated word was longer than the window width. Follow-up analyses revealed that reading times were close to baseline when the currently fixated word was fully visible, regardless of window size. When the next word also fit into the window, reading

was normal. Individual and group differences in the perceptual span have been observed in many studies; present results suggest that these differences can be attributed to the magnitude of disruption caused by partial occlusion of the currently fixated word.

5:05-5:25 PM (130)

Reading Skill and the Time Course of Morphological Processing: Electrophysiological Evidence for Stage-Specific Modulation. JOANNA MORRIS, *Providence College*, EMMA KEALEY, *University of Southern California*, FRANKIE GREENE, *Oregon Health & Science University; Portland State University School of Public Health*, JOEMARI PULIDO, *Brown University*, TESS ROONEY, *Columbia University*, ETHAN MOORE, *Providence College*, CRISMAR RAMOS-MARTE, *Providence College* — Skilled reading requires sensitivity to morphological structure and high-quality lexical representations, yet how individual differences in these capacities shape processing dynamics remains poorly understood. ERPs and reaction times were recorded during a lexical decision task on words and morphologically complex nonwords varying in base frequency, family size, and complexity. Individual differences were quantified via PCA of vocabulary knowledge, spelling ability, and print exposure, yielding two orthogonal dimensions: Language Proficiency and Orthographic Sensitivity. Response times reflected item-level morphological structure; individual differences affected speed but not morphological effects. ERPs revealed a different picture: Orthographic Sensitivity selectively modulated the N250 (early form-based parsing) while Language Proficiency selectively modulated the N400 (later semantic integration). This double dissociation indicates the form-based/meaning-based distinction has a genuine temporal neural correlate varying across readers. Individual differences are expressed in neural dynamics rather than overt response times, underscoring the importance of electrophysiological measures for understanding morphological parsing.

5:25-5:45 PM (131)

Parafoveal detection of semantic anomaly for orthographically similar words in deaf readers. ZED SEHYR, *Chapman University*, SAMANTHA SCHWARZ, *University of South Florida*, SARA MILLIGAN, *University of South Florida*, ELIZABETH R. SCHOTTER, *University of South Florida* — During sentence reading, information extracted from upcoming words in parafoveal vision can facilitate subsequent foveal word recognition. ERP studies using rapid serial visual presentation with flankers suggest that orthographically similar words to an expected word can facilitate foveal semantic integration, as indexed by reduced N400 amplitude, contingent on detection of orthographic violations parafoveally. Skilled deaf readers may utilize parafoveal preview differently due to their wider perceptual span. Deaf and hearing participants read highly constraining sentences in an RSVP-with-flankers paradigm with a parafoveal masking manipulation while scalp EEG was recorded. Sentence-final targets were expected, anomalous orthographic neighbors, or anomalous non-neighbors, and were either visible or masked parafoveally. Data collection is ongoing, but preliminary data from 23 hearing and 15 deaf readers partially replicate prior N400 effects in hearing readers and show attenuated N400 effects in deaf readers. Analyses will confirm whether results reflect low power, reading skill, or alternative processing strategies.

Learning & Memory II

Saturday, November 21, 2026, 8:00-10:00 AM PST

Chaired by Gabriel A. Radvansky, *University of Notre Dame*

8:00-8:20 AM (132)

A Spectral TAG of Episodic Memory. ADAM W. BROITMAN, *University of Pennsylvania*, MICHAEL J. KAHANA, *University of Pennsylvania* — Spectral analysis of electroencephalographic (EEG) recordings have revealed consistent frequency-specific power modulations that predict successful memory performance. Across a broad range of

tasks, mnemonic success is marked by a pattern we refer to as spectral TAG, characterized by increased low-theta power (~3-5 Hz; T+), decreased alpha power (~8-10 Hz; A-), and increased gamma power (30+ Hz; G+). We ask whether TAG captures the activation of a single, verses multiple mechanisms, and evaluate whether the effect reflects memory-specific or a task-general cortical engagement. We propose a component theory of TAG in which low-theta and theta-coupled gamma capture item-context binding, broadband gamma reflects effortful neural processing, and alpha suppression marks the engagement of a task-general effector mechanism. Although no single component is unique to episodic memory, their joint activation may be more selective for memory processes than any one alone.

8:20-8:40 AM (133)

Controlling Unwanted Memories: A Multisite Registered Replication of the Think/No-Think Effect. BEN LEVY, *University of San Francisco*, JONATHAN FAWCETT, *Memorial University of Newfoundland*, ZARA BERGSTROM, *University of Kent*, JOHN BULEVICH, *Stockton University*, CHRIS CLARK, *University of Calgary*, PAULA HERTEL, *Trinity University*, JENNA HU, *Memorial University of Newfoundland*, JUSTIN HULBERT, *Bates College*, MADISON LASAGA, *Memorial University of Newfoundland*, KEVIN VAN SCHIE, *Tilburg University*, COLIN M. MACLEOD, *University of Waterloo*, DANIEL TODOROVIC, *University of Waterloo* — The Think/No-Think (TNT) paradigm is an influential approach to studying the control of unwanted memories. Participants learn a series of cue-target pairs until the cue reliably elicits the target; then for a subset of cues they practice avoiding retrieval of the target. Evidence from this paradigm suggests that intentionally not retrieving unwanted experiences renders those experiences less accessible at test (the Suppression-Induced Forgetting, SIF, effect). The SIF effect obtained with independent cues has been suggested to provide compelling evidence for the existence of cognitive inhibition. However, some researchers have questioned its replicability. The current multisite replication project clarifies these concerns by re-examining the TNT paradigm using two common instructional approaches (Thought Avoidance, Thought Substitution) and testing procedures (same-probe, independent probe) across 60+ sites, 11 languages and over 3000 participants. The SIF effect was observed to be small (d ~ .2) for all conditions excepting Thought Substitution when tested using the same cue at test (d ~ .8). Minimal variation was observed across sites. Future work will explore factors impacting the magnitude of the SIF effect.

8:40-9:00 AM (134)

John A. McGeoch: Father of Verbal Learning. COLIN M. MACLEOD, *University of Waterloo* — John Alexander McGeoch was a leading researcher in learning and memory in the 1930s and early 1940s. For many years, his 1942 book—The Psychology of Human Learning, An Introduction—was the definitive summary of the growing field. His story is a remarkable one, given his brief career. In this talk, I will provide a biographical sketch and consider his influence on the field.

9:00-9:20 AM (135)

Levels of Learning and Patterns of Forgetting. NICOLE ANTES, *University of Tübingen*, DANI PARRA, *University of Notre Dame*, GABRIEL A. RADVANSKY, *University of Notre Dame* — There has been a long-standing debate about how to best characterize the rate of memory loss over time when materials vary in how well they were originally learned. The question has been whether better learned materials are forgotten at a slower rate than more poorly learned materials, faster, or is the pattern of the loss of memories essentially the same. There have been several attempts to address this question over the past several decades, with no clear consensus. A core problem has been finding a way to best characterize forgetting that puts different conditions on the same footing. This is often done by fitting solutions to data from a few studies. We used a corpus of data from 41 papers, spanning three types of encoding manipulation, to look at differences in the patterns of forgetting. This revealed that better learned materials lead to a qualitative shift in

forgetting in which the pattern of retention becomes more linear, consistent with the Retention Accuracy from Fragmented Traces (RAFT) model of memory retrieval, which comes from event cognition theories. This qualitative difference highlights the idea that better learned materials affect memories in complex and interesting ways.

9:20-9:40 AM (136)

Icon versus symbol processing effects in sentence verification. EMRAH AKTUNC, *Rensselaer Polytechnic Institute* — The symbol superiority effect suggests that humans process symbols faster and more accurately than words. However, the difference between kinds of symbols has not been delineated sufficiently in the empirical literature. A symbol can bear an arbitrary relationship to what it signifies (e.g. $ for dollar) or it can be an icon that bears a non-arbitrary relationship to its signified (e.g. airport signs). Here, this difference was explored by looking at accuracy and speed in recognition memory and sentence verification tasks. Participants were assigned to one of four groups and performed old/new recognition tasks on lists of either icons, symbols, or their corresponding words. They also performed verification tasks with sentences in which one word was replaced by an icon, or a symbol, or all-word sentences. Although no significant differences were found in recognition accuracy or speed, verification accuracy and speed were significantly lower on sentences with a word replaced by a symbol as compared to the other kinds of sentences. These findings suggest that icons, but not necessarily symbols, are processed more efficiently, and that icons and symbols may be treated as different kinds of stimuli by the human cognitive system.

9:40-10:00 AM (137)

Schema Alignment: A Framework for Levels of Processing. RAYMOND J. SHAW, *Merrimack College*, JAI KALWANI, *Merrimack College* — Craik and Lockhart's levels-of-processing framework shifted attention from memory stores to the activities engaged during encoding. Yet later work often treated structural, phonemic, and semantic tasks as categorical levels of depth, despite a persistent measurement problem: deeper processing is inferred from better memory, and better memory is explained by deeper processing. We propose schema alignment as a mechanistic framework for resolving this problem. Extending Bartlett's "effort after meaning," orienting tasks are viewed not as direct causes of depth, but as constraints that afford schema recruitment and stabilization, making target information meaningful, usable, and reconstructable. We describe a research agenda that identifies and pretests candidate alignment indices, constructs materials varying in predicted alignment, tests judgments of learning and later memory, models performance using those indices, and validates the models with new materials. This approach replaces categorical depth labels with measurable predictors of constructive remembering.

Attention

Saturday, November 21, 2026, 8:00-10:00 AM PST

Chaired by Edward J. Golob, *University of Texas at San Antonio*

8:00-8:20 AM (138)

Impact of decision-making processes on multiple dimensions of subjective listening effort. EDWARD J. GOLOB, *University of Texas at San Antonio*, RICARDO CASTAÑEDA OLAYO, *Kansas State University*, LADYKEVVIONA HOWARD, *University of Texas at San Antonio*, HILAL ASLAN, *University of Texas at San Antonio*, JEFFREY MOCK, *University of Texas at San Antonio* — The conscious experience of listening under challenging acoustic conditions feels effortful. We describe experiments in young adults that examined listening effort by testing how a brief episode of listening for intermittent targets in white noise affected subjective judgments of workload, fatigue, and mood. Findings show that a 12 min trial of detecting target in noise reliably increased cognitive fatigue, decreased positive mood, and did not affect negative mood. Experimental manipulations of trial conditions influenced retrospective judgments of the experience (workload, fatigue), but generally did not affect in-the-moment judgments. Retrospective workload was positive-

ly related to the amount that fatigue increased and subjective performance judgment, yet was unrelated to objective performance. Overall, findings support proposals that listening effort is multidimensional, and highlight the role of decision -making factors, particularly when effort judgments rely on memory. The dissociation between change in positive and negative mood is consistent with two-channel models of affect.

8:20-8:40 AM (139)

Predicting Attentional Dynamics in Immersive VR: Bridging the Gap Between Laboratory and Naturalistic Vision. CHLOE CALLAHAN-FLINTOFT, *U.S. Army DEVCOM Army Research Laboratory*, JOYCE TAM, *U.S. Army DEVCOM Army Research Laboratory* — Scientific understanding of visual attention stems largely from restricted desktop paradigms, leaving a gap in our knowledge of naturalistic vision. To bridge this gap, we evaluated RAGNAROC (Reflexive Attention Gradient through Neural AttRactOr Competition)—a neural model parameterized on desktop data—on its ability to predict attentional dynamics in immersive virtual reality. Participants performed a visual foraging task in a VR dome while we recorded unconstrained eye, head, and weapon movements. Moment-to-moment field-of-view screenshots served as model inputs. Our results show RAGNAROC predicted human search behaviors significantly better than chance. The model's attention map reliably forecasted eye gaze locations, item selection for fixations or shooting, and reaction times for sudden-onset probes. These findings demonstrate that laboratory-based attentional theories robustly generalize to active, unconstrained environments. We highlight how such predictive modeling can translate cognitive theory into meaningful real-world applications, such as optimizing human-centered technologies and advanced computer-aided detection systems in complex mission-critical contexts.

8:40-9:00 AM (140)

Statistical Learning Facilitates Search for Sequential Targets. ANDREW CLEMENT, *Millsaps College* — Previous evidence suggests that statistical learning and other higher-order regularities can facilitate search for multiple targets. However, while these findings have been attributed to compression of target templates in memory, it is possible that these effects are due to facilitated switching between targets. Here, I tested whether statistical learning can also facilitate search for sequential targets. Participants searched for two targets that were cued on pairs of successive trials. In an initial training phase, specific pairs of targets always co-occurred with each other. In a subsequent test phase, participants searched for previously associated or unassociated pairs of targets. Participants were faster at searching for previously associated pairs of targets on both the first and second trials and were more accurate at searching for these targets on the second trial. Participants also fixated fewer distractors and spent less time fixating distractors on both trials, suggesting that these effects were due to a combination of search guidance and distractor rejection processes. These findings suggest that statistical learning can not only compress target templates in memory, but may also facilitate switching between targets.

9:00-9:20 AM (141)

Central preference of consumer items and eye-tracking: Evidence for a central preference heuristic but not gaze cascade effects. VOLKER THOMA, *University of East London* — Presented with similar options people prefer the central items over peripheral ones in spatial arrays (CPE). We tested the 'middle' heuristic versus the gaze explanation for the CPE by manipulating the top-down goal of the task and asked participants either to 'think carefully' or 'use gut feeling' whilst choosing one out of three similar consumer items. The CPE was found in the 'gut' but not the 'think' condition, yet eye-movement patterns were equivalent across both instruction conditions with more frequent and longer fixations on the middle. Choice was negatively correlated with self-reported reflective thinking disposi-

tion (Need-for-Cognition) in the 'gut' but not 'think' condition, indicative of a heuristic thinking strategy. Two more experiments found similar results even when the initial fixation cross was randomly shown across the three positions and when the original instructions were replaced with "Which would you choose?" and "Which do you prefer". These findings demonstrate the effect of instructions on the CPE for consumer items and provide novel evidence for a top-down cause of the CPE rather than bottom-up gaze allocation.

9:20-9:40 AM (142)

Converging methods for distinguishing the nature and effects of endogenous and exogenous temporal attention. COLIN MCCORMICK, *Dalhousie University*, RAYMOND M. KLEIN, *Dalhousie University* — Whereas the endogenous (volitional) and exogenous (reflexive) modes of temporal attention are independent, they are often conflated within the temporal attention literature. To better understand how these modes might differently impact the processing of targets we obtained converging evidence from new experiments (using both speeded detection and a continuous measure of the fidelity of target perception) and by re-analyzing data from an already published extension of a classic study using diffusion modeling. Both modes improved perception and decreased RT but with exogenous alerting, part of this RT decrease was due to a less conservative response criterion.

9:40-10:00 AM (143)

Revisiting the rigidity of the preparation effect. TAL MAKOVSKI, *Open University of Israel*, TOMER SAHAR, *Open University of Israel* — The Preparation Effect (PE) refers to the tendency for individuals to become more alert in anticipation of an upcoming visual stimulus, regardless of whether that stimulus is informative, distracting, emotional, or even disgusting. Recent findings further revealed that the effect is independent of individual differences, indicating that the PE may reflect a rigid, mandatory, process-all mechanism that boosts alertness for any upcoming event. Here, a series of experiments tested the boundaries and flexibility of the PE. In Experiment 1, the effect emerged only when a distractor was certain to appear, but not when distractor occurrence was probabilistic. Experiment 2 examined the time course of the effect and found that, unlike other preparatory effects, the PE remained stable over time. Experiment 3 replaced the standard dot-probe detection task with an offset-detection task and found no significant RT benefit under this condition. Together, these findings demonstrate both the robustness and the limits of the PE. They also clarify key similarities and differences between the PE and other phasic alertness effects, and call for a more nuanced account that considers both observers' temporal expectations and probe demands.

Cognition I

Saturday, November 21, 2026, 8:00-10:00 AM PST

Chaired by Melanie Takarangi, *Flinders University*

8:00-8:20 AM (144)

Gaze Geometry Encodes Task-relevant Abstractions in Working Memory. EDWARD ESTER, *University of Nevada, Reno* — Eye movements have long been associated with spatial working memory (WM) maintenance, both as a signature of attentional rehearsal and as a behavioral marker of internally cued spatial selection. Recent work extends this link beyond spatial content: miniature gaze patterns also encode non-spatial features of remembered items, such as their orientation, during sustained central fixation. Here we ask whether mnemonic gaze signals extend further still — to task-relevant abstractions over remembered content. Previously (Caron & Ester, J Cog Neurosci 2026), we decoded the categorical membership of remembered orientations from delay-period gaze. Here we extend that work using a retrocued paradigm in which a mid-delay cue indicated whether the upcoming probe required a delayed match-to-sample or match-to-category decision. Representational similarity analysis on cross-validated gaze RDMs revealed category-specific geometric structure that emerged only on category-match trials and only after the cue. These data add to a growing literature centering the oculomotor

system in WM and suggest that gaze tracks not only what is being remembered but the abstractions the task currently demands.

8:20-8:30 AM (145)

(Data Blitz Presentation) A Step in the Right Direction: Examining If Arousal Impacts Space-Time Perception. ALEX DETRICH, *University of Utah*, EMMA BUTNER, *University of Utah*, ZOE CALDWELL, *University of Utah*, RACHEL CLARK, *University of Utah*, SARAH H. CREEM-REGEHR, *University of Utah*, JEANINE K. STEFANUCCI, *University of Utah* — Understanding how humans jointly represent space and time plays a central role in magnitude cognition. A Theory of Magnitude (ATOM) proposes a shared system with symmetric space-time mappings, whereas metaphor theory argues that spatial representations ground temporal judgments, creating asymmetry. Evidence remains mixed, and it remains unclear whether arousal alters these mappings. We tested whether high versus low arousal changes the space-time relationship. Participants completed spatial and temporal reproduction tasks under experimentally induced arousal using validated image sets in a double-blind design. Mixed-effects models assessed cross-domain prediction between spatial and temporal estimates and evaluated symmetry across conditions. Results revealed a small but reliable bidirectional relationship between space and time in both arousal conditions. Spatial and temporal variables predicted each other to a comparable extent, with no evidence that high arousal increased spatial dominance. Arousal did not meaningfully change spatial or temporal scaling. These findings support a weak but stable symmetric space-time relationship across arousal states.

8:30-8:40 AM (146)

(Data Blitz Presentation) Trust in AI as a Dynamic Process: A Large-Scale Computational Analysis of Implicit Trust Discourse Across Platforms. ALI SHAHIDY, *Southern Illinois University Carbondale*, USHA LAKSHMANAN, *Southern Illinois University Carbondale* — Trust in AI is typically assessed through single-timepoint self-report measures that obscure both how trust evolves and how multidimensional that evolution is — trust can shift across bases (performance, process, purpose), fragment across domains, and coexist with distrust within the same user. We address this gap through computational analysis of naturalistic AI discourse spanning 38 months across Reddit, HackerNews, and Twitter. A four-layer analytical architecture combines inductive topic modeling, theory-guided keyword analysis grounded in Lee and See's (2004) framework, hybrid trust attitude classification, and implicit trust language detection. A novel dual-lens framework grounded in deontic modality theory distinguishes descriptive trust evaluations from normative discourse. Preliminary analysis reveals that approximately 97% of trust expressions are conveyed implicitly — through reliance signals, evaluative affect, and behavioral attribution — exposing a fundamental limitation of keyword-based approaches in prior computational work. Findings will inform Phase 2 longitudinal experimentation tracking individual trust trajectories.

8:40-9:00 AM (147)

Disgust lingers longer than fear in memory for a trauma analogue. MELANIE TAKARANGI, *Flinders University*, SASHA COX, *Flinders University*, LUCY A. MATSON, *Flinders University* — People experience disgust during and following trauma. Our previous research suggests that disgust reactions persist in memory longer than fear—the emotion that has dominated trauma research. However, we were unable to elicit highly intense feelings of both disgust and fear using negative images. Here, we used negative video clips to evoke similarly, highly intense disgust and fear reactions. Participants rated the intensity of their emotional reactions immediately and again 24 hours (Experiment 1; n = 110) or one week (Experiment 2; n = 111) later, allowing us to assess changes in remembered emotional intensity over time. Participants' overall disgust and fear reactions faded similarly over 24 hours (ηp^2 = .003), but disgust faded less than fear over one week (ηp^2 = .14). For the video clips participants identified as most disgust- and fear-eliciting, disgust faded

less than fear after both 24 hours ($\eta p^2 = .05$) and one week ($\eta p^2 = .12$). These findings suggest that disgust reactions—particularly to the most evocative stimuli—persist in memory more than fear reactions, especially over longer delays, with implications for treating people experiencing trauma-related disgust.

9:00-9:20 AM (148)

Individual differences in situation model content. DANIEL MIRMAN, *University of Edinburgh*, MARIE NGUYET CAM JADE TISSIER, *University of Edinburgh*, MELISSA THYE, *University of Edinburgh* — Understanding a narrative requires building a 'situation model': a mental model that combines one's world knowledge with the information presented in the narrative to represent the characters, their relationships, and the story events. Because one's own knowledge contributes to the situation model, different people may form somewhat different situation models, but very little is known about the factors that contribute to differences in situation models across people. Participants (N=63) in this study completed individual difference assessments, then viewed two short films and answered questions about the characters and events. A word embedding model was used to convert these descriptions into vectors and quantify description similarity, which were compared with similarity from the individual differences assessments. Similarity in hobbies was associated with all situation model similarity measures. Similarity in personality (HEXACO) was associated with event-based aspects of the situation models (summaries and predictions). Empathy quotient was not associated with any of the situation model similarity measures. This study provides a first step toward understanding how individual differences contribute to situation model formation.

9:20-9:40 AM (149)

What Organizes Public Event Memory? Event-Category Cues, Period Primes, and Memory-Function Cues. TUGBA UZER YILDIZ, *Bilkent University*, ŞULE GÜLPINAR, *Bilkent University* — Although collective memory is central to social identity, little is known about how public events are cognitively organized. Across three studies with middle-aged adults, we tested whether public-event retrieval is shaped by event-category cues, period primes, and memory-function cues. In Study 1, participants (N = 72; M_age = 48.68) received political and nonpolitical event cues and recalled political, nonpolitical, or personal events. Political cues preferentially elicited faster and less effortful political-event recall. In Study 2, participants (N = 73; M_age = 45) received public and personal cues with or without period primes. Primes did not facilitate retrieval; instead, retrieval was faster when cue type was compatible with the instructed event type, especially when nonpolitical cues prompted personal-event recall. In age-matched Study 3 (N = 26; M_age = 46.12), collective-action and directive cues produced higher recall, whereas social cues produced the greatest effort and lowest recall. Findings suggest that political events are embedded in socio-political narrative clusters, whereas nonpolitical events are more integrated with autobiographical memory.

9:40-10:00 AM (150)

The effect of episodic change and schema coherence on event perception and memory. YINING DING, *Washington University in St. Louis*, BAYLEY M. WELLONS, *University of North Carolina at Greensboro*, MATTHEW A. BEZDEK, *Elder Research, Inc.*, CORY FOX, *Washington University School of Medicine*, CHRISTOPHER N. WAHLHEIM, *University of North Carolina at Greensboro*, JEFFREY M. ZACKS, *Washington University in St. Louis* — In everyday life, people use past experiences to predict what may happen in new situations, and the prediction quality may be influenced by both episodic memory and schematic knowledge. We investigated how these two sources of prediction quality influence event perception and memory updating. In two experiments, participants watched movies depicting two days in an actor's life, in which some activity endings repeated and some changed. In the second experiment, the activity endings were sometimes incoherent with viewers' knowledge. We found evidence that schema-incoherent endings increased segmentation probability, but no comparable evidence for episodic changes. However, viewers who

did segment in response to changes were better able to update their memory. Remembering changes and outdated features was associated with better memory updating for both schema-coherent and schema-incoherent endings, with bigger benefit for changes that preserved the level of schema coherence. This extends prior findings to show that memory updating need not entail weakened memory of outdated features. These results underline the importance of retrieval and comparison in memory updating, and implicate prediction error as a potential updating signal.

Judgment

Saturday, November 21, 2026, 8:00-10:00 AM PST

Chaired by Alice Mason, *University of Bath*

8:00-8:20 AM (151)

Semantic Coherence Shapes Truth Judgments Beyond Repetition. MIRI BESKEN, *Bilkent University* — Repeated statements are judged truer than new ones, but everyday repetition is rarely verbatim. The present research examined whether semantic coherence can influence perceived truth beyond mere repetition through inferences from categorical information about concepts. Across three experiments, participants were exposed to full statements or category information about known and unknown concepts and subsequently completed a truth-judgment task with full statements. Experiment 1 showed that full-statement exposure increased truth judgments for both known and unknown concepts, whereas categorical exposure did so only for unknown concepts. Experiments 2 and 3 manipulated semantic coherence between exposure and truth-judgment phase, and Experiment 3 additionally manipulated the semantic nature of exposure (semantic vs. non-semantic). Coherent information consistently received higher truth judgments than incoherent information, but only following semantic exposure; non-semantic exposure produced no coherence effect. These results suggest truth judgments track coherence with prior semantic knowledge rather than mere processing ease, favoring Unkelbach and Rom's (2017) referential theory of truth over a pure fluency account.

8:20-8:40 AM (152)

Experts' Perceived Risks and Benefits of Artificial Intelligence in the Intelligence Analysis Domain. MANDEEP K. DHAMI, *Middlesex University London*, DAVID R. MANDEL, *Defence Research & Development Canada* — Drawing on subjective expected utility theory, we conducted two (within-subjects) studies with NATO-affiliated personnel (Ns = 36 and 118) to assess the value and perceived probability of key benefits and drawbacks of AI, alongside general attitudes to AI and support for adoption of AI in intelligence production. Across both studies, participants exhibited generally positive attitudes toward AI, particularly when framed in terms of benefits. Although benefits were rated as more valuable and more likely than drawbacks, and yielded higher expected utilities, support for AI adoption was not predicted by these integrated risk assessments. Instead, general attitudes toward AI emerged as the most consistent predictor. Moreover, attitudes were associated with perceptions of benefits but not drawbacks, indicating a decoupling in risk evaluation. These findings suggest that support for AI in the intelligence analysis domain is not grounded in a fully rational, probability-weighted assessment.

8:40-9:00 AM (153)

Do Groups Consisting of Independent or Interacting Members Make Better Judgments? ROBERT GOLDSTONE, *Indiana University Bloomington*, ANTONIO MONACO, *Indiana University* — Do groups make better judgments when their members can see each other's judgments? By Wisdom of the Crowd theories, independence among members' judgments improves a group's judgment by reducing correlated errors across individuals. However, if members who know they know relatively little about a topic are more likely to be influenced by others, then group performance might improve with group interactions. To explore this, we had 66 groups of 2-16 participants answer Gapminder questions about countries (e.g. "What was the life expectancy in Mozambique in 2017?") first on their own for 20 seconds, and then with 20 seconds of access to their network neighbors' dynamically changing answers.

For each question, network structure was randomly configured to be: None (invisible peers), One (access to only one neighbor), Half, or All. Using the average deviation of each final individual guess from the truth, we find that visible networks outperformed None, with Half performing best. Using the deviation of the average of the guesses from the truth, we find that None and Half performed best. Individual guesses moved toward both the truth and others (when visible), and people who were further from the truth moved more toward others.

9:00-9:20 AM (154)

Abstracting Blucifer: How People Adopt Conspiracy Theories. IRA E. HYMAN, JR., *Western Washington University*, ANNABELLE ECKEL, *Western Washington University*, SHAYLA PEROTTI-ORCUTT, *Western Washington University* — When presented with a set of related information, people abstract and remember the underlying gist and narrative better than the individual pieces of information. We investigated how gist and narrative abstraction can be applied to the adoption of conspiracy theories. In this experiment, we exposed participants to one of three sets of statements about the Denver International Airport: simple facts, normal explanations of the facts, or conspiracy-implying explanations of the facts. Participants then provide open-ended descriptions of why the Denver Airport had cost overruns and was delayed before rating normal and conspiracy narratives about the Denver International Airport. Participants also completed the General Conspiracy Belief Scale. We found that participants exposed to statements related to a normal narrative were more likely to use words and phrases related to the normal narrative in their explanation. In contrast, people who were exposed to facts linked to a conspiracy narrative were more likely to use conspiracy-based language in their explanations. Even when people do not hear the full narrative directly, they may abstract the gist of the underlying conspiracy narrative.

9:20-9:40 AM (155)

Learning Real-World Distributions in a Changing Environment. ALICE MASON, *University of Bath*, OMID GHASEMI, *University of New South Wales*, BEN R. NEWELL, *University of New South Wales*, ABA SZOLLOSI, *University of New South Wales* — How do people learn and track changing environmental patterns in noisy, real-world contexts? Our recent work shows that learning complex, noisy distributions requires substantial mental scaffolding: performance improves when environments are constrained. We extend this to real-world learning by examining how people track weather patterns in an increasingly extreme climate. Participants from different UK regions estimated the frequency of extreme heat events in their local area, with or without feedback about the true distributions. Participants overestimated the historical frequency of extreme heat events. Without feedback, they over-extrapolated these trends into future predictions, whereas feedback reduced this bias. We interpret these findings in terms of how people construct internal representations in complex, noisy environments. We also examine moderating factors including years lived in a region and climate concern. These results suggest that real-world distribution learning is consistent with laboratory tasks: without sufficient structure or feedback, people's struggle to form accurate representations of complex distributions.

9:40-10:00 AM (156)

Doing as AI says, not as AI does: Learning calibration from machine predictions. PHILLIP C. HEGEMAN, *Indiana University*, EESHAN HASAN, *Ohio State University*, EUNGIK LEE, *Federal Reserve Bank of New York*, ANDREW CAPLIN, *New York University*, JENNIFER S. TRUEBLOOD, *Indiana University Bloomington* — Well-calibrated probabilistic thinking is essential for effective human-AI collaboration, helping people use AI advice selectively and appropriately. We test whether calibration can be improved through trial-by-trial learning from AI-predicted probabilities in a medical decision making task. Novice participants (N=300) judged the probability that white blood cells were

blast (cancer) cells across three phases: training with ground truth feedback, practice with AI exposure, and test without feedback. AI predictions, coming from a highly accurate CNN trained on probability judgments from skilled annotators, varied by condition: original (poorly calibrated, conservative) probabilities, recalibrated (well-calibrated) probabilities, or categorical predictions. Exposure to the original conservative AI substantially reduced characteristic over-extremity at test, improving calibration relative to other conditions, with minimal improvement on other metrics across all conditions. This suggests calibration improved through superficial mimicry of the AI's uncertainty: the original AI's conservative probabilities, though miscalibrated relative to its own high accuracy, were better suited to the lower accuracy of novices.

Learning & Memory III

Saturday, November 21, 2026, 8:00-10:00 AM PST

Chaired by Brooke N. Macnamara, *Purdue University*

8:00-8:20 AM (157)

Showups Conducted by Police in the Field Yield Overconfident Choosers but Highly Accurate Rejectors. MITCHELL L. EISEN, *California State University, Los Angeles* — Participants (N = 979) witnessed a staged-crime and were immersed in what they were led to believe was an actual police investigation using the field-simulation paradigm in which they attempted to make identifications from photographic-lineups or live-showups administered by police under real-world field-conditions. Confidence-accuracy characteristic analyses for confidence and response-time data for showups yielded findings that diverge form lab research. Consistent with previous lab research, for lineups, confidence and response-time post-dicted accuracy for choosers, but not rejectors. However, for showups, the opposite pattern was found, as confidence and response-time post-dicted accuracy for rejectors, but not choosers. Although, high-confidence showup rejectors were highly accurate, choosers were overconfident. The overconfidence problem with showups will be discussed in concert with data from five other field-simulation experiments published over the past 10-years showing that showup identifications made with 80-89% confidence performed at near-chance accuracy (58.7%) and nearly half of all false-identifications were asserted with 90-100% confidence.

8:20-8:30 AM (158)

(Data Blitz Presentation) ERP Correlates of Context Variability during Encoding and Subsequent Memory Effects. ECE YUKSEL, *Virginia Polytechnic Institute and State University*, RACHEL A. DIANA, *Virginia Polytechnic Institute and State University* — Although research has established encoding strategies that improve episodic memory retrieval, we don't yet know how global cognitive factors contribute to these individual strategies. Previous work (Salan et al., 2025) found significant benefits to simple item recognition when a repeated item was studied in variable contexts as compared to the same context. We report a replication of this finding using picture stimuli and a longer delay period. We then examine event-related potentials (ERPs) recorded during encoding in order to investigate how cognitive processes and their timing differ in variable contexts as compared to the same context and how these factors predict subsequent memory. Components of interest during repetition of each item include the P3, which reflects attentional processing and working memory updating, the FN400, which reflects conceptual fluency/familiarity, and the LPC, which reflects retrieval of contextual details from the earlier exposure. These components, and the timecourse of the entire encoding window, are then linked to subsequent memory performance during a delayed recognition test to examine how basic cognitive mechanisms contribute to the context variability encoding strategy.

8:30-8:40 AM (159)

(Data Blitz Presentation) Segmented space, extended time: Spatial boundaries shape retrospective duration memory. OMRAN K. SAFI, *University of British Columbia*, CHARLES LIN, *University of British Columbia*, DANIELA PALOMBO, *University of British Columbia* — Prior research suggests that retrospective duration estimates are shaped by the contents of memory. Event segmentation theory proposes that our continuous experiences are parsed into discrete events. Across N=4 experiments we investigate the interplay of event segmentation (using spatial boundaries) and retrospective duration memory using naturalistic virtual reality. Participants navigated a series of environments with or without a boundary and subsequently provided retrospective duration estimates. We hypothesized that events with boundaries would be recalled as longer in duration compared to those without due to increased segmentation. Supportive of this, across discovery (N=54) and replication samples (N=77), we found that the presence of a boundary increases recalled duration. Next (N=54), we found that the effect disappears when introducing a one-week delay. A subsequent experiment (N=68) probing mechanisms supports a prediction error account of segmentation. Finally, across all experiments, we found a robust compression effect wherein events were recalled as being shorter than they actually were. Overall, these findings suggest that spatial boundaries shape how time is reconstructed, biasing experiences to feel longer.

8:40-9:00 AM (160)

Multi-tasking versus multi-learning: Performance, but not learning, suffers when pursuing simultaneous goals. BROOKE N. MACNAMARA, *Purdue University*, KYLE LAFOLLETTE, *University of Chicago*, DAVID J. FRANK, *Youngstown State University*, ALEXANDER P. BURGOYNE, *Human Resources Research Organization* — Decades of multitasking research have confirmed that performance tends to be poorer when carrying out two tasks simultaneously compared with managing each task in turn. Yet, the impact of multitasking on learning is unclear. Here, we trained participants (N = 232) on two novel tasks either sequentially or simultaneously, then manipulated whether participants were tested in the same context (e.g., simultaneous to simultaneous) or switched to the other context (e.g., simultaneous to sequential). During multitasking, participants only demonstrated improvement in one task. However, when dual-task constraints were lifted, their performance jumped to the level of their sequentially trained peers in both tasks. That is, multitask-trained participants demonstrated latent learning. In contrast, sequentially trained participants demonstrated learning in both tasks during training, but when switched to the simultaneous condition following training, displayed zero performance transfer. This pattern demonstrates that performance, but not learning, suffers when pursuing simultaneous goals.

9:00-9:20 AM (161)

A Shocking Failure of Source Memory: Repeated Suspect Presentations Contaminate Memory and Put Innocent Suspects at Risk. ANDREW M. SMITH, *Iowa State University*, REBECCA C. YING, *Iowa State University*, JOHN T. WIXTED, *University of California, San Diego* — The legal system assumes that eyewitness memory can be tested repeatedly across time without contamination. This belief underlies retesting memory after initial nonidentifications and the use of fair lineups following biased procedures. Yet, there are strong theoretical reasons to expect that testing memory contaminates memory. We tested the repeated-suspect effect using a large sample (N = 3,861), diverse stimuli, and realistic retention intervals. Participants viewed a simulated crime, completed an initial showup (or not), and then a lineup one week later. Repeated exposure sharply increased innocent-suspect identifications, rising from 5% in the no-showup control to 21% for initial rejecters and to 74% for initial identifiers. Confidence was inflated and weakly diagnostic. The final test activates witness memory not only for the face viewed at the crime scene but also for faces viewed on earlier tests. Repeated exposures to innocent suspects leads to dangerous source misattributions and ultimately to the mistaken identification of innocent suspects. Testing memory incidentally

contaminates memory, rendering subsequent tests inherently biased.

9:20-9:40 AM (162)

A global matching model of choice and response times in the Deese-Roediger-McDermott semantic and structural false recognition paradigms. ADAM OSTH, *University of Melbourne*, LYU-LEI ZHANG, *University of Melbourne*, SAMUEL WILLIAMS, *University of Melbourne* — In the Deese-Roediger-McDermott paradigm participants study a set of items that are all similar to a non-presented critical lure. A common finding is that false recognition to critical lures is much higher than to other non-presented items, regardless of whether similarity is semantic or structural (e.g., phonological or orthographic) relations. While there exists a handful of computational models of this paradigm, they have only been applied to semantic but not structural false recognition, they have not been fit at the level of individual participants, and they have not been applied to response times (RTs). We present a global matching model that addresses all three of these current gaps. In addition to being able to account for heightened false recognition of critical lures, the model was able to account for differences across both individual participants and items, lower correlations between semantic and structural false recognition than true recognition, differences in false recognition across levels of processing, improved true recognition but not false recognition with higher study time, and heightened false recognition under speed emphasis, all with a single retrieval process.

9:40-10:00 AM (163)

Benefit or Bottleneck? Structured Reflection and AI-Driven Feedback in Practice-Based Learning. PAULO F. CARVALHO, *Carnegie Mellon University*, MICHAEL W. ASHER, *Carnegie Mellon University*, GILLIAN GOLD, *Carnegie Mellon University* — Active practice with feedback is theoretically superior to passive instruction for both learning and metacognitive calibration. What type of feedback should be provided? We tested whether adding structured self-explanation prompts to rich, personalized AI-generated feedback enhances Python learning compared to practice-only and video conditions (N=302). Both practice conditions substantially outperformed a high-quality instructional video (d=0.66–0.93) on near- and far-transfer coding problems, replicating predicted benefits of active practice for performance. Video participants were severely overconfident (+20%), while practice participants were underconfident (−11%), consistent with practice providing ongoing diagnostic feedback about knowledge states. Structured reflection, however, proved a temporal bottleneck: it doubled feedback-processing time and reduced practice volume by 40% without improving learning rates per problem. These findings suggest that when AI feedback is already elaborated, reflection activities may be redundant and that completing more practice-feedback cycles may outweigh the theorized benefits of deeper per-problem processing via self-explanation.

Reward, Motivation & Emotion

Saturday, November 21, 2026, 8:00-10:00 AM PST

Chaired by Sara B. Festini, *University of Tampa*

8:00-8:20 AM (164)

Questioning Socratic Questioning: Deconstructing the Impact of Explanation, Personalization, and Interactivity. MICHAEL W. ASHER, *Carnegie Mellon University*, MENG CAO, *Carnegie Mellon University*, PAULO F. CARVALHO, *Carnegie Mellon University* — AI tutoring tools are increasingly built around Socratic questioning, responding to student errors with scaffolded questions rather than direct explanations. The theoretical rationale is clear: the questioning approach aims to keep the learner doing the cognitive work, and the scaffolding and interactivity provided by the tutor may help keep students engaged and making progress. However, extended dialogue can be time-consuming, and repeated questioning may frustrate learners who lack the background knowledge to answer productively. In a preregistered experiment (N = 400), we systematically isolate three components of Socratic tutoring—explanation, personalization, and interactive dialogue—to assess their costs and benefits

for learning, efficiency, and motivation. Participants practice setting up constraint equations in calculus and are randomly assigned to one of four feedback conditions that incrementally add these components: correctness-only, generic explanation, personalized explanation, or full Socratic dialogue. Findings clarify which components of Socratic tutoring drive learning gains and for whom, informing whether this approach is justified over simpler alternatives.

8:20-8:30 AM (165)

(Data Blitz Presentation) Different cue use, same mechanism? A single parameter explains compensatory and non-compensatory cue weighting. SARAH FORST, *University of Mannheim*, ARNDT BRÖDER, *University of Mannheim* — Probabilistic inference decisions vary in the extent to which individuals rely on highly valid cues or integrate multiple cues. While heuristic accounts explain this variance through the selection of distinct strategies, Parallel Constraint Satisfaction (PCS) models attribute it to differences in cue weighting captured by the continuous sensitivity parameter P. Using parameter-recovery simulations, we show that P can be estimated without bias from choices, decision times, and confidence. Reanalyses of two datasets demonstrate that adherence to heuristic predictions varies systematically with P, suggesting that seemingly discrete heuristics can be represented within a continuous, unified framework. In a preregistered experiment (N = 189), reinforcing compensatory versus non-compensatory cue use systematically shifted P estimates, demonstrating that individuals adaptively adjust their cue weighting. Across studies, variation in P was continuous and related to behavioral, process, and self-report measures. Overall, the findings suggest that apparent strategy differences reflect graded cue weighting within a unified mechanism of information integration rather than qualitatively distinct decision processes.

8:30-8:40 AM (166)

(Data Blitz Presentation) Physiological Correlates of Motivated Emotion Regulation and its Effects on Downstream Memory. ALYSSA J. ASMAR, *University of Denver*, KIMBERLY S. CHIEW, *University of Denver* — Emotion regulation is key to both momentary and long-term adaptive behavior. Such effects might be influenced by the motivational contexts in which emotion regulation takes place, as well as consequences of motivation and emotion regulation strategy on subsequent memory for regulated stimuli. While reward motivation is typically linked with enhanced memory, it is unclear whether motivation to down-regulate emotion also leads to such benefits. Our prior 2-day behavioral study found that motivation led to impaired memory under motivation vs. baseline conditions regardless of regulation instruction. Our current study extends this work, using our prior task paradigm with concurrent skin conductance and pupil dilation measures to disentangle how changes in emotional arousal with motivation and regulation strategy may predict memory outcomes. Contrary to our previous behavioral results, preliminary results (N = 27, goal N = 90) reveal enhancements in memory, rather than reductions, under motivation. This work will further clarify the mechanisms underlying motivated memory in regulatory contexts where the effects of motivation and the effects of emotional arousal on memory may be in opposition.

8:40-9:00 AM (167)

Effects of Reward Anticipation on Memory Encoding and Cognitive Control Outcomes: A Meta-Analysis. HOLLY J. BOWEN, *Southern Methodist University*, KYLE E. THURMANN, *University of Denver*, DIANE H. MOON, *Southern Methodist University*, AUDREY D. NG, *University of Denver*, MEGAN E. LUCYSHYN, *University of Denver*, KIMBERLY S. CHIEW, *University of Denver* — Cognitive performance is enhanced under increased motivation. Monetary incentive delay (MID)-style paradigms have been widely used to elicit and examine reward anticipation effects on cognition, but the extent to which effects are comparable across domains is unclear. This meta-analysis synthesizes

the literature examining how reward anticipation modulates memory accuracy (58 effect sizes, N = 2072), cognitive control accuracy (70 effect sizes, N = 2615), and cognitive control reaction time (RT; 74 effect sizes, N = 2554). Reward effect magnitudes differed, with the largest effect for cognitive control RT (Cohen's d = 0.807), followed by memory accuracy (Cohen's d = 0.537), and cognitive control accuracy (Cohen's d = 0.286). Memory accuracy was moderated by reward incentive type, encoding intentionality, memoranda type, and retrieval format. Cognitive control accuracy was moderated by reward amount and task type, and cognitive control RT by both type and amount of reward incentive and task type. Reward effects on cognitive performance appear highly sensitive to contextual parameters, with study-level variability in experimental designs accounting for notable heterogeneity, particularly for memory encoding.

9:00-9:20 AM (168)

Impact of Rote Rehearsal on Working Memory Prioritization with Negative-Value Cues. SARA B. FESTINI, *University of Tampa*, ALLISON SCHULTZ, *University of Tampa*, BRIANNA TORRES, *University of Tampa*, TAYLOR WILSON, *University of Tampa* — People engage in active removal of working memory (WM) representations when it is explicitly required, as with directed forgetting instructions and negative-value cues. Here, we tested the mechanisms of such WM prioritization by requiring rote rehearsal of all memoranda. Participants performed an item-recognition WM task with a recent probes manipulation to occasionally induce proactive interference (PI), followed by an incidental long-term memory (LTM) recognition test. Words were assigned either -5 or +5 points after encoding. Critically, participants were required to repeat all words out loud continuously, forcing equivalent overt rehearsal across all value types. Rote rehearsal significantly disrupted WM prioritization, such that similar levels of PI and incidental LTM were observed for both high- and negative-value items. Comparisons to conditions with unrestricted rehearsal or articulatory suppression revealed that only rote rehearsal impaired WM prioritization. These data inform theories of the voluntary removal of information from WM, indicating that, when permitted, participants strategically devote extra processing to high-value items, yet required rehearsal of irrelevant information disrupts successful prioritization.

9:20-9:40 AM (169)

A metacognitive model of self-paced learning. SI MA, *Rutgers University*, QIONG ZHANG, *Rutgers University* — Self-paced learning, where individuals freely decide how much time to spend encoding each item, is often associated with better long-term memory retention and is further regulated by time pressure. Multiple competing verbal theories exist, yet a computationally explicit explanation is lacking. We hypothesize that the relationship between self-paced learning and memory emerges from people's optimizing task performance under limited cognitive resources during encoding. Unlike participants under a pre-determined presentation schedule, self-paced participants can better allocate and recover cognitive resources according to both endogenous and exogenous factors, leading to better learning. These hypotheses were validated via a metacognitive model of memory encoding, where an object-level process uses allocated resources to strengthen memory, and a meta-level process controls how to optimize total recall by adaptively allocating and recovering resources. Our model predictions align with empirical findings and reconcile several previous verbal accounts of self-paced learning.

SYMPOSIUM IV: Collective Future Thinking at Times of War and Conflict

Saturday, November 21, 2026, 10:00 AM-12:00 PM PST

Chaired by Qi Wang, *Cornell University*

10:00-10:20 AM (SYM-016)

How is the Russia-Ukraine War Going to End: Collective Forecasts in Americans, Australians, and Chinese. QI WANG, *Cornell University*, NAZIKE MERT, *Stetson University*, OLIVIA JAGGI, *Cornell University,* MITCH SHORT, *Deakin University,* HUIHUI YU, *Peking University,* NINXUAN FENG, *Peking University,* DAVID HALLFORD, *Deakin University,* YUBO HOU, *Peking University* — The war between Russia and Ukraine, which started on February 24, 2022, has lasted for over four years and the future of when and how it will end remains uncertain. How people imagine what may happen to the war can be shaped by their larger societal context and their nation's stance in the conflict. In this project, we examined collective future thinking about the Russia-Ukraine war among participants from the US, Australia, and China, three countries that differed in their national policies and general narratives regarding the Russia-Ukraine war. Data collection took place between 2022 and 2023 when the war was in an active stalemate. American and Chinese college students (Study 1) and American, Chinese, and Australian community adults (Study 2) imagined two future events that might happen to the war in Ukraine with Russia, describing them in detail and rating their phenomenological quality. Findings showed that people's forecasts about the war were in line with their nation's narratives and policies. These findings shed light on the anticipatory process about the future of an ongoing war, which holds significance in people's attitudes and actions toward conflict resolution and peace intervention.

10:20-10:40 AM (SYM-017)

Temporal Discounting in the Value of Peaceful Protest: Endorsement of violent protest predicted by an interaction of the temporal distance and likelihood of desired outcome. JEREMY YAMASHIRO, *University of California, Santa Cruz*, JOSHUA ROTONDO-VALENTINE, *University of California, Santa Cruz* — We examine how endorsement of peaceful versus violent political action to attain a desired goal emerges as a function of two interacting components of collective future thinking: 1.) the perceived likelihood of a desired outcome using the respective method and 2.) temporal discounting in the value of peaceful means at greater temporal distance from the present. When future change is simultaneously delayed and has a lower perceived likelihood of occurring, people were more likely to prefer violent over peaceful political action. Different political issues demonstrated different rates of temporal discounting for the value of peaceful means. One cognitive factor that may explain this variability is level of construal, that is, how concretely versus abstractly people are imagining future outcomes.

10:40-11:00 AM (SYM-018)

National narrative schemas about international relations as frames for collective memory and future thinking. WILLIAM HIRST, *The New School,* MEYMUNE N. TOPCU, *MEF University* — The ways people imagine their nation's past is often shaped by pre-existing narrative frames or narrative schematic templates. These narrative templates and their influence on future thinking can impact the way a country interacts with the larger world, including, in too many instances, wars and international conflicts. With this in mind, we asked American participants in two experiments to read a description capturing one narrative frame (unilateralism, multilateralism, or isolationism) and then recall either national or personal past events. All participants were then asked to imagine future national events. Not only did the reading of a narrative consistent with a particular framing shaped future thinking in lines with this framing, but the effect was also more

robust when participants recalled instances of past events consistent with this frame rather than with autobiographical events. The results demonstrate how the narrative template people use to tell the story of a nation's past shape the way they imagine its future. They also underscore the critical role actively remembering the past might play in shaping the future.

11:00-11:20 AM (SYM-019)

The Collective End of History Illusion. ADAM PUTNAM, *Furman University,* OLIVIA MILLER, *Furman University,* LILLI SMITH, *Furman University* — The End of History Illusion describes how people perceive themselves as having changed in the past, but do not anticipate changing in the future. Does this illusion occur when people think about the groups they belong to? We had two samples of 1,000 Americans (in 2022 and 2025) rate how much either they or the United States has changed in the last 10 years or will change in the next 10 years. Both samples perceived the United States as having changed more in the past than it would in the future, displaying a *collective* End of History Illusion. Additionally, Americans who thought the country was in a good place anticipated less future change, and Americans who thought the country was experiencing high levels of conflict provided higher estimates of collective change in both the past and future. We argue that both the personal and collective End of History Illusion are driven by processing fluency and self-enhancement motivations that favor how things are in the moment. Understanding how people perceive their nation's tendency to change contributes to how we understand collective memory and collective future thinking.

11:20-11:40 AM (SYM-020)

Presidential Elections: Polarization, Collective Mental Time Travel and Collective Anxiety. AYŞECAN BODUROGLU, *Koç University*, MEYMUNE N. TOPCU, *MEF University*, SILA MUTAF, *University of Michigan - Ann Arbor* — We live in societies, characterized by deep sociopolitical divides and conflicts. Presidential election campaigns often further fuel polarization within societies, possibly driving collective anxiety. We investigated the interplay between collective anxiety and collective mental time travel, focusing on how past and future thinking influenced the experience of anxiety during presidential elections during the 2023 Turkish and the 2024 US Presidential Elections. Participants imagined one of two election outcomes (incumbent vs. opposition win) and listed their concerns regarding this outcome. Imagining the opposing candidate's victory increased anxiety for specific concerns in both contexts. Only Turkish opposition supporters reported elevated levels of collective angst and collective nostalgia, especially when future concerns were linked to past national events. Critically, Harris and Trump voters diverged in their experience of angst and concerns for future vitality, regardless of their collective memories. Altogether these findings demonstrate that the experience of collective anxieties is shaped not only by the link between collective past and future, but also by the collective histories of group.

11:40 AM-12:00 PM (SYM-021)

Collective and Personal Future Thoughts and Identity in Ukraine during War. SCOTT COLE, *York St John University,* MARIUS BOELTZIG, *University of Münster,* CLARE RATHBONE, *Oxford Brookes University,* ANTON KURAPOV, *Paris Lodron University of Salzburg; Taras Shevchenko National University of Kyiv,* EWA SMOŁKA, *Jagiellonian University*, RICARDA SCHUBOTZ, *University of Münster,* KRYSTIAN BARZYKOWSKI, *Jagiellonian University* — People regularly imagine their own ("my future") and their country's future ("our future"). How do people imagine these two types of future in wartime? In this study, we examined a country-at-war, Ukraine (N = 377), and two comparator peacetime countries (Germany, N = 239; Poland, N = 207). We examined differences between three countries and the two domains of future thinking (Self, Collective) upon emotionality valence, importance, agency, and temporal distance of future thoughts. In contrast to our hypotheses, collective futures sampled from Ukraine were significantly more optimistic than those in Germany and Poland. Collective and personal futures in Ukraine were also

more aligned in Ukraine, with higher correlations between the personal and collective. Nevertheless, future thoughts across all countries showed a self-collective valence dissociation. "Merging" of personal and collective future thinking into an optimistic outlook in Ukraine is explained in terms of identity theory and cognitive dissonance. This study contributes to understanding future thinking in national crises, counteracts findings and assumptions in collective mental time travel research and provides support for identity fusion theory.

Human Learning and Instruction II

Saturday, November 21, 2026, 10:00 AM-12:00 PM PST

Chaired by Steven C. Pan, *National University of Singapore*

10:00-10:20 AM (170)

Is Practice and Feedback Sufficient or Is Lecture Needed? RYAN PATRICK, *University of Georgia*, AMEDEE MARTELLA, *University of Georgia*, LOGAN FIORELLA, *University of Georgia*, JOHANNA SCHÖNHERR, *University of Osnabrück*, ALYSSA LAWSON, *Colby College* — Recent research suggests that practice and feedback alone can be as effective and more efficient than lecture alone or a combination of lecture and practice. Given that previous studies have typically employed lower-level mathematics content, the aim of the present study was to determine if practice and feedback alone is sufficient for learning more complex mathematics content. The present study compared four instructional designs in learning the topic binomial probability within a lab setting: lecture only (n = 47), lecture followed by practice and feedback (n = 47), lecture interspersed with practice and feedback (n = 51), and practice and feedback only (n = 42). ANOVA results indicated that although all conditions had similar effects on learning ($p = .700$), the lecture only condition was far more efficient than the other conditions (all ps < .01). These findings suggest that even with higher level mathematics content, practice and feedback alone can support learning as effectively as lecture-based instruction, though lecture-only instruction may offer greater efficiency.

10:20-10:30 AM (171)

(Data Blitz Presentation) The Devil is in the Details: Specific Labels Improve Memory for Natural Scenes. AARON COUSINS, *University of York*, SILVIA GENNARI, *University of York*, KARLA K. EVANS, *University of York* — The language used to name or describe an image shapes subsequent memory for it, yet previous research has produced conflicting findings regarding whether category labels improve or impair visual memory. Across two experiments, we examined how the specificity of linguistic labels influences long-term recognition memory for real-world images. More detailed, item-specific labels produced significantly better recognition than repeated basic-level category labels, this advantage emerged both when labels were generated by participants and when they were heard. Importantly, both forms of linguistic encoding outperformed non-linguistic control tasks, demonstrating a general benefit of language, though the nature of this differed across label types. Item-specific labels increased hit rates while also reducing false alarm rates, whereas basic-level category labels improved hit rates alone. This suggests that language enhances visual memory not simply through verbal rehearsal, but by shaping the distinctiveness of visual representations. Specific linguistic descriptions appear to support richer and more discriminable memory traces, improving the ability to distinguish previously seen items from novel exemplars of the same semantic category.

10:30-10:40 AM (172)

(Data Blitz Presentation) Effects of Personalization on Student Retention in Online Data Science Learning. FARSHID FARZAN, *University of Memphis*, SHELBI KUHLMANN, *University of Memphis* — This study examined whether static personalization reduces dropout in short online data science learning. In a 2 × 2 design, 98 undergraduates completed an activity with either learning preference alignment (sequential vs. global) or a personalized

non-interactive agent. Retention was measured as completion vs. dropout. Logistic regression showed that learning preference personalization significantly increased completion, while the agent alone had no main effect. However, a significant interaction indicated that the benefit of personalization depended on the agent's presence. Additional exploratory models examined the role of prior knowledge (pretest scores), prior experience in statistics, programming, and data science, and computational thinking ability. Higher prior knowledge, programming experience, and computational-thinking scores independently predicted greater odds of completion. Overall, retention in short online data science courses improves with preference-aligned instruction, while prior knowledge and computational thinking also play key roles. Despite the benefits of personalization, learners with lower preparation and weaker computational-thinking skills were more likely to disengage.

10:40-11:00 AM (173)

Age-Related Variation in the Drawing Effect: Evidence for the Role of Frontal-mediated Multimodal Integration. SOPHIA H. N. TRAN, *University of Waterloo*, STEPHANIE DENISON, *University of Waterloo*, MYRA A. FERNANDES, *University of Waterloo* — Drawing a sketch of to-be-remembered target words enhances memory more than reading them. The effect is maintained across the adult lifespan, although the benefit is reduced in older adults (Tran & Fernandes, 2023). Drawing's benefit is thought to arise from the generation and integration of semantic, visuospatial, and motor representations of a target, which together contribute to a more robust and durable memory trace. The need to integrate these representations may explain why older adults showed a reduced benefit, as this frontal-mediated function declines in old age. Because frontal brain regions develop later in childhood, we examined whether the magnitude of the drawing benefit would track with age. Children aged 6, 7 or 8 years-old encoded target words by drawing, reading, or hearing them. We replicated that drawing led to higher recall than the other encoding techniques. Importantly, eight-year-olds, whose frontal regions are more developed, showed a significantly greater drawing benefit than six- and seven-year-olds. Findings suggest the ability to integrate multiple representations underlies the magnitude of benefit one can derive from drawing at encoding.

11:00-11:20 AM (174)

Questioning the Socratic LLM: A Lack of Benefit from AI Dialogue Compared with Self-Explanation. BENJAMIN A. MOTZ, *Indiana University Bloomington*, OLIVIA A. GATTO, *Indiana University Bloomington*, DANIELLE MCNAMARA, *Arizona State University* — Socratic tutoring is viewed as a promising application of AI in education, where dialogue with an AI agent would provoke students to address gaps in their understanding, and develop stronger connections between ideas. Yet there has been no empirical test of whether dialogue with a Socratic agent benefits learning beyond solo self-explanations with immediate feedback. We tested this contrast in an authentic undergraduate Cognitive Psychology course. Students explained answers to practice questions by typing self-explanations with AI feedback or by explaining to an AI agent in Socratic dialogue, alongside a passive control of reading provided explanations. Active explanation improved later quiz performance over passive reading, but dialogue produced no advantage over self-explanation. Self-explainers emphasized the main idea and forged coherent links between concepts. Socratic dialogue prompted students to mention more ideas, with more evidence of elaboration, yet they had weaker connections between ideas and to the practice question's central point. Active explanation reliably outperforms passive study, but Socratic dialogue does not show clear advantages over self-explanation.

11:20-11:40 AM (175)

Taming the Wandering Mind? Effects of Interpolated Prequestioning on Attention During Video Lectures. STEVEN C. PAN, *National University of Singapore*, ELISYA TUNG, *National University of Singapore*, LUKE CHIANG, *National University of Singapore*, ALYSSA INDRAJAYA, *National University of Singapore*, MICHELLE KAKU, *JET Programme, Tokyo Metropolitan Board of Educa-*

tion — Interpolated prequestioning is a learning technique in which questions about to-be-learned material are interspersed within instructional content, requiring learners to generate guesses prior to encountering correct answers. Three experiments examined whether this technique improves learning by altering attentional states during video lectures. Participants viewed pre-recorded lectures containing either interpolated prequestions or statements of learning objectives and reported ongoing thoughts via categorical experience sampling probes. Across experiments, interpolated prequestioning reliably increased rates of on-task thoughts and dampened off-task thoughts relative to viewing statements. It also improved performance on subsequent memory and comprehension tests, which mediation analyses indicated were explained by shifts in attentional state distributions during encoding. These patterns held across undergraduate and online adult learner samples and were robust to variations in question format. Together, these findings suggest that interpolated prequestioning enhances learning by actively structuring attentional engagement, providing a powerful mechanism to regulate focus during video-based instruction.

11:40 AM-12:00 PM (176)

How Does Generative AI Impact College Learners' Memory and Comprehension of Complex Text Material? KATHRYN WISSMAN, *Otterbein University*, DANIEL PETERSON, *Skidmore College*, ELLERY BARCOMB, *Skidmore College*, HANNAH EPSTEIN, *Skidmore College*, AMBER FEDOR, *Skidmore College*, ELLA FORD, *Skidmore College*, ERICA STERN, *Skidmore College*, STERLING WOLK, *Skidmore College* — The use of generative AI is steadily increasing, particularly among student populations (Sousa & Cardoso, 2025), prompting researchers to examine its impact on learning. We examined how generative AI impacts memory and comprehension of complex texts. Learners read a short, educationally relevant text and were randomly assigned to one of four review groups. In the control group, learners simply re-read the text. In the Read-Recite-Review group, learners practiced recalling the text before comparing their recall with the source text. In the unsupported-AI group, learners uploaded the text to ChatGPT and then used the chat function to review however they see fit. In the supported-AI group, learners were further instructed to ask ChatGPT comprehension questions to review. Following a short delay, learners completed free recall and answered comprehension questions. Initial outcomes suggest that generative AI and re-reading produce comparable retention and comprehension, and performance is highest following Read-Recite-Review.

Cognition II

Saturday, November 21, 2026, 10:00 AM-12:00 PM PST

Chaired by Jessecae K. Marsh, *Lehigh University*

10:00-10:20 AM (177)

Evolving Music Consumption Patterns Influence Autobiographical Memory and Reminiscence Tiers. LAURA M. GETZ, *University of San Diego*, JUSTINE CANIO, *University of San Diego*, MIA LOPEZ, *University of San Diego* — Our research explores the interaction of music and memory building from prior research showing people recall more vivid autobiographical memories for music from adolescence and early adulthood (Krumhansl & Zupnick, 2013). However, today's on-demand access to music shaped by streaming platforms may alter this previous reminiscence bump pattern. Undergraduates (n = 89) listened to clips from the Billboard Year-End top two singles from each year 1970-2024. For each five-year period, participants heard five-second excerpts of each song and rated songs on recognition, personal memories, enjoyment, quality, and emotional response. Instead of a reminiscence bump, we found reminiscence tiers: low personal memories for most music predating parents' birth years, moderate memories for music between parents' and participants' birth years, and high memories and recognition for music postdating participants' birth years. Modern music consumption may explain these findings; algorithmic platforms may weaken the reminiscence bump and instead lead to the development of reminiscence tiers, highlighting the need to study how emerging streaming preferences shape the connections between music, memory, and identity.

10:20-10:40 AM (178)

A theory-based solution to response bias in self-reports (with a case-study about impulsivity measurements). JESS GRIMMOND, *University of Newcastle*, QUENTIN GRONAU, *University of Newcastle*, GUY E. HAWKINS, *University of Newcastle*, SCOTT D. BROWN, *University of Newcastle* — Self-reports are used ubiquitously in psychology and related disciplines. Despite their importance, self-report measures such as Likert scales have a well-known problem: Standard analytic approaches do not control for the confounding effects of idiosyncratic response biases. We present a model-based solution to this problem. Our model disentangles response bias from latent constructs of interest to obtain less biased scores of the latent states of respondents. Inspired by Thurstonian approaches, the model makes light assumptions beyond those standard for Likert scale design. The model uses a data-driven approach to control for response biases, without the need to prespecify bias types or response strategies, by leveraging information about response bias shared across multiple psychological constructs. We demonstrate the model's ability to uncover insights into previously-invisible patterns with a case-study using recently-published data on the psychometric properties of self-report impulsivity measures. Our analyses demonstrate that the response styles of individual people are (a) stable across time, (b) stable across tasks, and (c) exert substantial influence over apparent impulsivity measurements.

10:40-11:00 AM (179)

A Conjunction-Fallacy-Like effect in Rats and Humans. AARON P. BLAISDELL, *University of California, Los Angeles*, VALERIA GONZÁLEZ, *Reed College*, IKPONMWOSA PAT-OSAGIE, *University of California, Los Angeles*, ROB TSAI, *University of California, Los Angeles*, CYRUS KIRKMAN, *University of California, Los Angeles*, MELISSA QIU, *University of California, Los Angeles* — In 1983, Tversky and Kahneman reported the now famous Linda Problem as an example of a logical fallacy in which the conjunction of two independent events or traits were judged by human participants to be more likely than either alone. This logical fallacy has been heavily studied in humans over the past 40 years. I report a series of experiments showing a similar type of fallacy in rats using a trial-wise contingency learning procedure. This fallacy is surprisingly robust to manipulations of trial-type base rates. I next show the same fallacy in humans using a similar trial-wise contingency learning procedure. In humans, the fallacy was not as strong, and was easily eliminated by manipulating the trial-type base rates during acquisition. I end with a discussion of the evolutionary basis of the fallacy and propose a foundational theoretical framework that places the conjunction fallacy in a broader context of learning and behavior principles.

11:00-11:20 AM (180)

It must have always been there: People assume that rules they discover must have always been there. HENRIKE FLIMM, *Ludwig Maximilian University of Munich*, MATAN MAZOR, *All Souls College, Oxford*, CHRIS DONKIN, *Ludwig Maximilian University of Munich* — Inferring that something is new requires confidence that one would know if it were old. We provide evidence across a range of cognitive tasks showing that people often lack this confidence: participants $back$-$projected$ a simple regularity that appeared in the second half of a task (e.g., multi-armed bandit, visual search, and recognition memory tasks). That is, they seemed to believe that the regularity had been present long before they detected it, despite no evidence for its presence. This effect appears inconsistent with people's tendency to overestimate their ability to detect observable changes and reflects a dissociation between learning and behaviour.

11:20-11:40 AM (181)

Probabilistic versus Deterministic Naive Beliefs about Causality. JESSECAE K. MARSH, *Lehigh University*, KATIE PAN, *Lehigh University* — Causes do not always produce their effects (e.g., wine sometimes causes headaches). Two interpretations have been offered to explain such events: causes raise the probability of their effects but do not deter-

mine them (probabilistic causality) or causes always produce their effects unless another factor disrupts the relationship (deterministic causality). We examined whether people have probabilistic or deterministic naive beliefs about why a cause may not produce an effect. When asked to generate explanations of why some percent of the time a cause did not produce an effect (Experiment 1), participants overwhelmingly listed intervening factors that prevented the effect's occurrence. When provided explanations for a missing effect (Experiment 2), participants rated preventative factors, missing enabling conditions, and not enough of the cause being present as likely explanations. Probabilistic explanations were rated as unlikely. Overall, people may think of preventers when explaining missing effects, but are willing to accept other deterministic explanations as well. We discuss implications for understanding people's causal cognition.

Bilingualism: Development & Individual Differences

Saturday, November 21, 2026, 10:00 AM-12:00 PM PST

Chaired by Vincent Deluca, *UiT The Arctic University of Norway*

10:00-10:20 AM (182)

Do more languages make you more aware of your proficiency? ANNE NEVEU, *Kean University*, DORIT SEGAL, *Open University of Israel* — Self-reports of proficiency (SRs) are known to be biased in bilinguals, questioning their ability to determine dominance and balance. The study examined whether additional language knowledge improves SRs. We tested 37 monolinguals, 79 bilinguals and 18 multilinguals with various language combinations, who completed category fluency tasks and pre- and post-test self-ratings in all their languages. We analyzed to what extent pre-test SRs predicted category fluency task scores across groups, whether post-test ratings were adjusted based on perception of performance, and whether dominance patterns affected results. We found that ratings increased in accuracy per additional language known across dominant and nondominant language(s). Additionally, post-task self-ratings did not significantly change from pre-task self-ratings, regardless of dominance and across groups. Higher perceptions of performance were associated with more balanced fluency scores, suggesting that bilinguals and multilinguals evaluate their proficiency more globally, relative to one another, rather than separately.

10:20-10:40 AM (183)

Self-Ratings of Language Proficiency Depend on Context. DORIT SEGAL, *Open University of Israel*, ANNE NEVEU, *Kean University* — Self-ratings of language proficiency are widely used in bilingualism research and clinical settings, yet little is known about the processes underlying these judgments. Using a metacognitive framework, the study examined whether self-ratings are influenced by their timing within an experimental session and by recent linguistic experience. A total of 186 unbalanced Hebrew–English bilinguals rated their proficiency in both languages before and after completing either an easy or a difficult vocabulary test in one of their languages. Self-ratings were highly sensitive to immediate experience. In both languages, completing a difficult task lowered self-ratings in the tested language. Moreover, when the difficult task was completed in the native language, self-ratings in the untested second language also declined, suggesting that bilinguals use their native language as a benchmark against which second-language proficiency is evaluated. These findings challenge the assumption that self-ratings reflect stable representations of proficiency and instead suggest that they are dynamic, context-dependent inferences shaped by prior beliefs and recent experience.

10:40-11:00 AM (184)

Exploring the effects of multilingual language engagement and age on the aperiodic component of the EEG signal. KATHERINE SENDEK, *UiT The Arctic University of Norway*, JASON ROTHMAN, *Lancaster University*, VINCENT DELUCA, *UiT The Arctic University of Norway* — The aperiodic component, a broadband measure of spectral power, has

been shown to be sensitive to shifts in overall signal organization and excitation/inhibition balance, both between and within individuals. This measure has been utilized effectively in a number of other fields but has not been implemented in assessments of multilingualism-induced neural adaptation. In a case study, we demonstrate the methodological advantages of incorporating this measure into multilingual brain research. Using resting state EEG for a varied multilingual group, we show that the aperiodic component shifts systematically with age and is sensitive to the effects of multilingual experience across the lifespan, consistent with pretexting models of multilingual brain changes. These findings demonstrate the advantages of incorporating the aperiodic component to inform studies of the multilingual brain, by providing previously inaccessible insights into signal organization using only EEG. Additionally, multilingualism-induced adaptation may also contribute to mechanistic knowledge of the aperiodic component itself.

11:00-11:20 AM (185)

Do social networks predict eye movements to mental state inferences? MEHRGOL TIV, *University of Pittsburgh*, KARLA TARIN, *McGill University*, JESSE HAEFNER, *University of Pittsburgh*, ANTONIO INIESTA, *University of Granada*, VEGAS HODGINS, *McGill University*, CHAIMAA EL MOUSLIH, *McGill University*, DEBRA TITONE, *McGill University* — Mental state inferences reflect the inner thoughts, feelings, and goals of others, a cognitively intensive and socially impactful process. We assess the automaticity of inferences during first (L1) and second (L2) language reading by comparing eye movements during natural reading of 138 mental state and logical inference sentence pairs among bilinguals (N = 61, Eng/Fre). Then, we examine whether bilinguals' social network experiences predict eye movements. L2 readers had longer total reading times for mental state vs. logical inferences overall. As cross-linguistic bridging in the social network increased, total reading times to all inferences increased. Interestingly, we detected a significant interaction between inference type and cross-language network bridging, such that bridging predicted faster reading times for mental state than logical inferences. The results suggest that although linguistic inferences are more effortful for bilinguals who are more central in their networks, this process is alleviated when inferences involve mental state content.

11:20-11:40 AM (186)

Bilingual Experience and Large-Scale Network Segregation Across Adulthood. MEGAN NAKAMURA, *University of San Diego*, HAOYUN ZHANG, *University of Macau*, TOMS VOITS, *University of Gothenburg*, CHRISTOS PLIATSIKAS, *University of Reading*, MICHAL KORENAR, *University of Amsterdam*, MICHELE T. DIAZ, *Pennsylvania State University* — This study examines whether bilingual experience is associated with neural network organization across adulthood. Prior work shows that age-related reductions in resting-state functional connectivity (RSFC) network segregation among the Default Mode (DMN), Language, and Multiple Demand (MD) networks, is linked to broader age-related changes in functional specialization and neural resilience (Nakamura et al., 2026; Zhang et al., 2026). Building on these findings, we used RSFC network segregation data from multiple independent adult lifespan samples to examine how bilingual experience and age relate to large-scale functional organization among the DMN, Language, and MD networks. Bilingual experience is modeled using Language History Questionnaire (LHQ) and Language and Social Background Questionnaire (LSBQ) derived measures of multilingual diversity, language-use, entropy, proficiency, and immersion context. Preliminary findings suggest that bilingualism may be associated with greater network segregation across DMN, Language, and MD networks. Ongoing analyses aim to further characterize specific dimensions of bilingual experience.

11:40 AM-12:00 PM (187)

First- and Second-Language Vocabulary Knowledge Differentially Support Online Reading Processes in Deaf Child Signers: Evidence from Eye-tracking. FRANCES G. COOLEY, *Rochester Institute of Technology* — Deaf children who acquire a natural sign language early in life are unique bilinguals: they are first-language (L1) users of a sign language (e.g., ASL), second-language (L2) learners of the written form of the ambient spoken language (e.g., English), and exclusively process text in their L2. One important unanswered question remains: how do L1 and L2 vocabulary knowledge support reading in deaf bilinguals? We report findings from an eye-tracking study of nine deaf ASL-English bilingual children (ages 9–11) examining how ASL and English vocabulary knowledge support when- (fixation durations) and where-decisions (skipping, regressions) during natural reading. Stronger ASL vocabulary predicted more efficient where-decisions and visual progression through text, including fewer skips and regressions, whereas stronger English vocabulary predicted more efficient when-decisions through shorter fixation durations. These findings reveal a dissociation between signed L1 and spoken/written L2 knowledge during reading, reflect the benefit of strong L1 ASL skill for successful reading development, and highlights the importance of interpreting deaf readers' outcomes within a bilingual, cross-modal framework.

Prospective Cognition

Saturday, November 21, 2026, 10:00 AM-12:00 PM PST

Chaired by Donna Rose Addis, *Rotman Research Institute, Baycrest Academy for Research and Education*

10:00-10:20 AM (188)

Interpretations of Difficulty and Prospective Memory Performance. KIMBERLY M. WINGERT, *U.S. Army Research Institute*, HUNTER BALL, *University of Texas at Arlington* — Encountering difficulty can either signal that something is impossible for an individual or important to persist at. These interpretations of difficulty are thought to arise due to how individuals interpret their metacognitive experience, and interpretations of difficulty have been shown to be relatively malleable in the literature. Prospective memory relies on the ability to detect cues in the environment and retrieve the appropriate response to the cue and act on it. The current study examined whether interpretations of difficulty relate to prospective memory performance. Results indicated that interpretations of difficulty as a signal of impossibility were related to components of prospective memory. Additional work will explore the reason for this relation between interpretations of difficulty as signal of impossibility and prospective memory, and potential avenues for improving prospective memory performance will be explored.

10:20-10:30 AM (189)

(Data Blitz Presentation) From Past Construal to Future Imagination: The Role of Counterfactual Thinking and Control Beliefs. EMINE SEYMA CAGLAR, *University of California, Santa Cruz*, JEREMY YAMASHIRO, *University of California, Santa Cruz* — This study examined how different ways of construing the past—factual versus counterfactual thinking—shape people's imaginations of the future at the collective level. We conducted a 2 × 2 between-subjects experiment (N = 207) manipulating thinking condition (counterfactual vs. factual)

and event agency (high vs. low). Participants read about a fictional event that occurred in an imagined country, then wrote about the country's future. Results showed that counterfactual thinking increased human agency attributions for future events, and this shift was associated with more positive future representations. This effect depended on how strongly participants believed the alternative would have changed the outcome. Additionally, divine control beliefs moderated this relationship: factual thinking strengthened external agency attributions among individuals with high divine control beliefs, whereas counterfactual thinking attenuated this pattern. These findings demonstrate that future imagination is jointly shaped by how individuals mentally engage with the past and their preexisting control beliefs.

10:30-10:40 AM (190)

(Data Blitz Presentation) Anxiety and Personal Future Thinking in the Context of the COVID-19 Pandemic: The Moderating Effect of Resilience. YUSUF GHAURI, *Toronto Metropolitan University*, MAX MARSHALL, *Toronto Metropolitan University*, LIXIA YANG, *Toronto Metropolitan University* — Intro: Those with higher levels of anxiety tend to think about their future more negatively. Resilience has been shown to buffer the negative effects of anxiety on various outcomes, but it is unclear whether resilience might buffer the association between anxiety and personal future thinking in the context of the pandemic. Method: Using data from 1,818 undergraduate students, linear regression models tested main and interaction effects of resilience and anxiety, adjusting for demographic covariates. Significant interactions were probed at 1 SD above/below the mean. Results: Resilience (b=4.25) and anxiety (b=-.32) were significantly associated with future thinking ratings (all ps <.001). Resilience significantly moderated the effects of anxiety on future thinking, such that students with higher resilience compared to lower resilience demonstrated more positive future thinking at lower levels of anxiety; however, these differences diminished as anxiety increased (b=-.14, p=.007). Conclusions: Higher resilience was associated with less positive future thinking among those with higher anxiety. This suggests that the benefits of resilience may become limited at the most extreme levels of anxiety, particularly during the pandemic.

10:40-11:00 AM (191)

Recasting the past into the future: Examining naturalistic future thinking in aging. DONNA ROSE ADDIS, *Rotman Research Institute, Baycrest Academy for Research and Education*, SABRINA VALENZANO, *Rotman Research Institute, Baycrest Academy for Research and Education*, ISAAC KINLEY, *Rotman Research Institute, Baycrest Academy for Research and Education*, JASMINE COLLINS, *Rotman Research Institute, Baycrest Academy for Research and Education* — Episodic future thinking paradigms typically elicit the imagining of novel, unplanned future events. We hypothesize that in everyday life people often think about past events re-occurring in the future, a process called "recasting". In two online behavioural studies we used a relatively unconstrained future simulation task with younger and older adults. We found that irrespective of age, the majority of future events were based on a past event. Recasting was more frequent when thinking about the near future (Expt 1), and occurred more often for events that had been experienced in the recent past (Expt 2), in line with predictive processing accounts. We also found that recast future events were easier to imagine and more detailed and plausible that novel future events. These results advance our understanding of the naturalistic ways people think about their futures in everyday life, showing that the past often becomes the future.

11:00-11:20 AM (192)

Hold that Thought: Expectations of External Support Influence Prospective Memory Maintenance in Younger and Older Adults. CONNOR DUPRE, *University of Texas at Arlington*, DYLAN ELLIS, *University of Texas at Arlington*, HUNTER BALL, *University of Texas at Arlington* — The current study tested whether expecting reliable reminders similarly reduces thinking about upcoming prospective memory (PM) intentions in younger and older adults, and whether both groups show comparable performance declines when reminders are unexpectedly

unavailable. After gaining experience with the task, participants completed critical trials with 0%, 50%, or 100% expectations that reminders would be available, although only half actually received reminders at retrieval. Intermittent thought probes during the retention interval assessed PM-related, ongoing-task, and task-unrelated thoughts. Across age groups, PM-related thoughts decreased with experience in the 100% condition but increased in the 50% condition. Moreover, while older adults showed lower target detection overall, both age groups benefited equally when reminders were available and showed similar declines when reminders were unexpectedly unavailable. These findings indicate that younger and older adults similarly adjust intention maintenance in response to reminder reliability, although overall lower target detection in older adults suggests that equivalent levels of intention maintenance may not fully offset age-related performance costs.

11:20-11:40 AM (193)

Individual Differences in Prospective Memory and their Relationship to Cognitive Abilities. WIEBKE B. HEMMING, *Heidelberg University*, MARKUS JANCZYK, *University of Bremen*, JAN RUMMEL, *Heidelberg University* — Contemporary theories of prospective memory (PM) distinguish between controlled monitoring and more target-driven retrieval processes. To disentangle these underlying processes, we applied a bi-factor structural equation model to PM performance (N = 197). PM was assessed in a 2-back ongoing task with focal and non-focal PM targets, and the model separated PM-general from PM-focal-specific variance. We additionally assessed attentional control, working memory capacity (WMC), fluid intelligence, task-switching costs, and dual-task costs. The bi-factor model showed good fit and supported the distinction between the two factors. PM-general was positively associated with attentional control and WMC and negatively associated with task-switching costs but not with dual-task costs. In contrast, PM-focal-specific showed no associations with any cognitive ability measure. Together, these findings suggest that the PM-general factor captures meaningful individual differences in PM processing and is embedded in a broader nomological network of cognitive abilities, whereas focal-specific variance appears largely independent of the cognitive abilities examined here.

11:40 AM-12:00 PM (194)

Metacognitive Bias and Emotional Factors as Predictors of Prospective Memory Performance Across Adulthood. ANNA PUSSER, *Auburn University*, FAITH MILLER, *Auburn University*, SUSAN TEUBNER-RHODES, *Auburn University* — Prospective memory (PM) relies on cognitive and metacognitive processes, yet little is known about how individuals evaluate their own PM performance. We examined whether trait worry and metacognitive bias are associated with subjective and objective PM outcomes. Adults (planned N = 80) completed the Prospective and Retrospective Memory Questionnaire, Penn State Worry Questionnaire, and lexical decision and Virtual Week PM tasks with prediction and postdiction ratings. Preliminary data (n = 19) showed trait worry was associated with greater self-reported PM failures ($r = .51$, $p = .004$), but not objective PM performance (rs = .01 to .30). Greater overconfidence strongly predicted poorer PM accuracy across tasks (rs = –.91 to –.94). Although overconfidence was reduced at postdiction, substantial bias remained. These findings suggest metacognitive bias may be a stronger predictor of objective PM performance than trait worry. Inaccurate self-assessment may contribute to actual PM failures, while those with elevated worry simply believe that they experience more failures, regardless of actual PM performance.

Metacognition & Metamemory II

Saturday, November 21, 2026, 10:00 AM-12:00 PM PST

Chaired by Trent N. Cash, *University of Waterloo*

10:00-10:20 AM (195)

How we think we know ourselves: Investigating meta-meta knowledge in decision making. TRENT N. CASH, *University of Waterloo*, SAMUEL G. B. JOHNSON, *University of Waterloo*, CLARA COLOMBATTO, *University of Waterloo* — Recent research suggests decision makers have reasonably accurate metacognitive knowledge of the factors that influence their decisions. We explore how participants believe they generate this knowledge. Across 4 studies, participants (n = 1,046) made multi-attribute choices between homes (Studies 1/4), doctors (Study 2), or charities (Study 3), then self-reported the weight they placed on each of six attributes. Participants then reported their beliefs about how they generated these weights, rating their usage of ten metacognitive strategies. Across studies, the most used strategy was holistic self-reflection ("I reflected on my preferences and values"). Self-reported weights were largely accurate, but no strategy was consistently correlated with accuracy. Total strategy usage (summed) was negatively associated with accuracy. A manipulation of attribute informativeness shifted choice behavior, but not beliefs about how metacognitive knowledge was generated. In sum, decision makers displayed accurate metacognitive insight into the factors driving their choices, yet reported limited reliance on sophisticated metacognitive strategies for generating these insights – instead relying on broad beliefs about their values and preferences.

10:20-10:30 AM (196)

(Data Blitz Presentation) Prior Familiarity Enhances Illusory Truth. JOSHUA N. TEWES, *University of Cologne*, NADIA BRASHIER, *University of California, San Diego*, CHRISTIAN UNKELBACH, *University of Cologne* — During health emergencies, vast amounts of both true and false information spread widely. This exposure rapidly familiarizes the public. We tested whether prior familiarity with a topic impacts illusory truth, a phenomenon where repeated claims seem truer than new ones. In two preregistered experiments (total N = 200), participants saw statements about the familiar COVID-19 virus and the unfamiliar Oropouche virus. A pilot study confirmed that participants lacked knowledge specific to the claims about both viruses. Later, they judged the truth of these items as well as new ones. We observed a larger truth effect for claims about COVID-19 than those about Oropouche. This effect of familiarity replicated even when we warned people that they would encounter false content. Our findings inform theories of belief formation and suggest that repetition is especially potent when a topic has gone viral, potentially undermining responses to crises.

10:30-10:40 AM (197)

(Data Blitz Presentation) Street-View Déjà Vu: Reading AI-Generated Literary Narratives Describing Scenes Makes those Scenes Later Feel Familiar. SARAH N. HORNE, *Colorado State University*, ANNE M. CLEARY, *Colorado State University* — Most people have experienced déjà vu, the odd feeling of familiarity for a novel experience. Dating back to the 19th century, some report experiencing déjà vu for a new place as a result of having read a literary passage that vividly described it. In two experiments, we investigated how AI-generated literary-like narratives vividly describing places influenced the probability of participants reporting déjà vu when viewing a street-view image of the previously described scene. When participants were unable to identify the place depicted in a street-view image, they were significantly more likely to report déjà vu when they had previously read a vivid description of the scene ($M = .51$, $SD = .28$), than when they had not ($M = .29$, $SD = .18$), $t(56) = 7.30$, $p < .001$, $d = 0.97$. We replicated this pattern in Experiment 2 with a larger online sample, finding that participants were significantly more likely to report déjà vu when for previously described scenes ($M = .37$, $SD = .22$) compared to scenes not previously described ($M = .26$, $SD = .19$), $t(89) = 6.77$, $p < .001$,

d = 0.52. We also explored how participants' self-reported and survey-measured mental imagery abilities were related to their rates of laboratory and real-life déjà vu.

10:40-11:00 AM (198)

Prospective Metacognitive Accuracy and Anthropometric Cues During Cold-Water Immersion. TIMOTHY DUNN, *Naval Health Research Center*, JACOB BROOKFIELD, *Naval Health Research Center*, NICHOLAS STONE, *Naval Health Research Center*, DOUGLAS JONES, *Naval Health Research Center* — One critical gap in the literature on metacognition is how individuals monitor and judge their physiological state versus their cognitive state. This study examined prospective metacognitive accuracy for core body temperature (Tc) during cold-water immersion (CWI) and the anthropometric cues predicting (mis)calibration. Active-duty military members (N=40) prospectively judged their Tc over a 60-minute period, including a 10-minute CWI in near-freezing water, which was compared with their objective Tc. On average, participants were relatively calibrated but subsequently judged they would be colder than they actually were. Distinct patterns of miscalibration emerged based on anthropometrics. Lower body fat percentage was associated with overestimating Tc, potentially reflecting a generalized overconfidence in physical abilities. Increased height was associated with overall better calibration, likely due to enhanced interoceptive signaling from larger body surface areas. These variations in prospective metacognition may have major real-world consequences on rewarming behaviors and downstream real-world performance and decision-making.

11:00-11:20 AM (199)

Spreading the Love: Can Tip of the Tongue States Make People Curious about Unrelated Information? ANDREW M. HUEBERT, *University of Southern Mississippi*, BRYAN FRANKS, *University of Southern Mississippi*, DUSTIN S. ACKLEY, *University of Southern Mississippi* — Tip of the tongue states (TOTs) have been shown to be associated with feelings of curiosity for the unidentified target. This fits well with the Region of Proximal Learning (RPL) framework, which suggests people are most curious when they almost know something. TOTs have also been shown to affect feelings and decisions unrelated to the TOTs. Thus, we examined if TOTs can also make people curious about information unrelated to the TOTs. We gave participants trivia statements and asked participants if they were experiencing TOTs for each answer. We also presented unrelated obscure words on each trial and asked participants how curious they were to know what each unrelated word meant. In Experiment 1, we found that participants gave higher curiosity ratings to the unrelated words when experiencing TOTs compared to non-TOTs. Experiment 2 also demonstrated that people were more curious about the unrelated words when they experienced TOTs compared to non-TOTs or correctly identifying the answers to the original questions. Our results suggest that feelings of almost knowing can spread curiosity to information unrelated to what is producing the feeling of almost knowing.

11:20-11:40 AM (200)

Prevalence and Individual Differences in Beliefs about the Negative Association between Creativity and Analytical Ability. YI SHAO, *Oklahoma City University* — Two preregistered studies examined the prevalence of explicit and implicit beliefs in a negative creativity–analytical ability association and explored individual difference predictors. Study 1 recruited a university community sample (N = 100); Study 2 recruited a nationwide teacher sample (N = 105). Both samples showed low endorsement of the negative association, with teachers showing even lower endorsement than the university sample. Combining both samples, analytical ability negatively predicted explicit beliefs, while dispositional analytical thinking style negatively predicted implicit beliefs. These findings suggest the belief in a creativity–analytical ability trade-off is uncommon, and those with stronger analytical skills are particularly likely to reject it. Results carry implications for creative metacognition and educational practice.

11:40 AM-12:00 PM (201)

Making judgments of learning enhances face recognition via elaborative processing. MINYU CHANG, *Trinity University*, DANIEL M. BIALER, *University of Arkansas*, MORGAN O. LEMLER, *Trinity University* — Making judgments of learning (JOLs) can directly improve subsequent memory (positive JOL reactivity) or impair it (i.e., negative JOL reactivity). The current study examined JOL reactivity in face recognition. In Experiments 1 and 2, we used a 2 (JOL condition: JOL, No-JOL) × 2 (Stimulus race: Asian, White) × 2 (Participant race: Asian, White) mixed design and found that JOLs produced positive reactivity in face recognition in both two-alternative-forced-choice recognition and old/new recognition. Importantly, the positive reactivity occurred for both same-race and cross-race faces. This is inconsistent with the changed-goal hypothesis, which predicts positive reactivity for easier-to-remember, same-race faces but negative reactivity for harder-to-remember, cross-race faces. However, it is consistent with the elaborative processing account, which posits that making JOLs enhance elaborative processing more than people spontaneously do. In Experiment 3, we factorially manipulated depth of processing (deep vs. shallow) and JOL condition (JOL vs. No-JOL). The results showed that positive JOL reactivity only occurred in the shallow but not deep processing condition, again supporting the elaborative processing account.

SYMPOSIUM V: What We Miss When We Study Cognition, Metacognition, and Motivation Separately

Saturday, November 21, 2026, 1:30-3:30 PM PST

Chaired by Paulo F. Carvalho, *Carnegie Mellon University*

1:30-1:50 PM (SYM-022)

Dissociating Metacognitive Monitoring and Motivational Influences on Learners' Study Decisions. GILLIAN GOLD, *Carnegie Mellon University*, MICHAEL W. ASHER, *Carnegie Mellon University*, PAULO F. CARVALHO, *Carnegie Mellon University* — Why do students often make suboptimal study decisions? These decisions might be attributed either to metacognitive processes or to motivational factors that shape engagement. Integrating these perspectives may provide a more complete account of how learners make their study choices. We explored whether learners' preferences reflect how much they think they know or how they feel about their general abilities. Participants (N = 300) learned to code. They were randomly assigned to easier or harder practice and to receive either positive or negative social comparison feedback. We found that task difficulty influenced metacognitive calibration and actual performance but did not shape subsequent study decisions. Instead, social comparison feedback drove study choices: learners who received positive feedback preferred active, practice-based strategies, whereas those who received negative feedback preferred passive video. These findings highlight a dissociation whereby metacognitive factors influence learning directly, but study decisions are guided by motivational beliefs. We propose that learners are not poor decision-makers but instead prioritize motivational information when making study choices.

1:50-2:10 PM (SYM-023)

Using Utility Value and Choice to Promote Interest in Statistics. MICHAEL W. ASHER, *Carnegie Mellon University*, JUDITH M. HARACKIEWICZ, *University of Wisconsin, Madison* — We conducted a series of seven laboratory experiments (N = 2,019) in which college students learned about statistics, and we examined two different teaching practices that might help students develop an interest in the material: (a) We provided participants with meaningful choices as they learned and (b) presented them with information about the utility of the topic for various careers. Although both practices promoted interest in statistics, neither manipulation affected learning outcomes during the lab session itself. However, the information about utility value led students to seek further resources about statistics on campus, indicating the beginnings of a more stable interest that extended beyond the learning situation. This pattern suggests that motivational interventions may require time and repeated re-engagement to ultimately influence learning—a process that is obscured when motivation and learning are studied independently or assessed at a single time point. More broadly, this evidence suggests that beliefs about the usefulness of academic content for valued personal goals can play an important and unique role in the development of enduring interest.

2:10-2:30 PM (SYM-024)

Learning from Errors: Theory, Data and Application. JANET METCALFE, *Columbia University* — Errors can be viewed in radically different ways. They can be taken simply as failure. Or they can be seen in an entirely different light--as providing a signal opportunity for learning. I will review theories on the mechanisms and role(s) of errors in learning. Both views have support. But which dominates depends upon the circumstances and neural systems engaged. The results from experimental investigations and case studies will be reviewed. For most people the commission of errors (with correction) enhances learning. But there are exceptions, and caution is needed. Furthermore, even in populations in which errors could, in principle, be beneficial, such results depend upon how, in practice, these errors are corrected. To illustrate, I will describe a multi-session study that was designed to improve the performance of Grade 9 children on The New York State Algebra 1 Regents Examination by allowing them to make errors and then providing corrective feedback. Overall, the program was a success. However, *how* the feedback was provided mattered. While lecturing did little good, engaging the students *interactively* to delve into the reasons for their errors resulted in *productive* 'failure' and learning from errors.

2:30-2:50 PM (SYM-025)

Destigmatizing Support: A Brief Intervention to Promote College Students' Use of Peer Education Services. CAMERON HECT, *University of Rochester*, KALI H. TRZESNIEWSKI, *University of California, Davis*, ELIZABETH A. CANNING, *Washington State University*, LISA B. LIMERI, *Texas Tech University*, EVELYN MANDUJANO, *University of California, Davis*, ANH VU, *University of Rochester* — Peer education services promote performance, retention, and equity in college, but are routinely underutilized. While reminders can increase the salience of these resources, they often ignore the stigmatizing implication that help-seeking signals a deficit. In a preregistered experiment, 605 introductory biology students were randomized to receive either "resourcefulness-framed" or "encouragement-only" reflection activities throughout the term. Whereas the encouragement-only reflections provided only standard encouragement, resourcefulness framing characterized peer education as a strategic choice made by successful students. This increased attendance of peer education services by 37% and promoted sustained engagement, increasing the likelihood that students would attend multiple sessions rather than only one. Mediation analysis indicated that resourcefulness framing drove resource use, in part, by shifting students away from a remedial construal of peer education services. These findings illustrate the efficacy of "wise nudges," which simultaneously target choice architecture and subjective meaning-making to promote engagement with institutional resources.

2:50-3:10 PM (SYM-026)

AI as a Peer? Examining Learning, Engagement, and Strategy Use in Human–AI vs. Human–Human Instruction. MICHELLE RIVERS, *Santa Clara University*, YILIANG JIANG, *University of California, San Diego*, TAL WALTZER, *University of Albany*, GAIL HEYMAN, *University of California, San Diego* — Educational research often evaluates instructional tools based on performance outcomes alone, overlooking how these tools shape learners' engagement and strategic behavior. The present studies examine how AI chatbots function as peer instruction partners, and how their use interacts with students' engagement and learning strategies. In Study 1, undergraduate students learned a challenging concept and discussed questions with either a human partner or ChatGPT. Only the human partner condition showed significant gains on multiple-choice assessments, with no differences on essay responses. Study 2 introduced scaffolding to support more effective use of ChatGPT and employed more sensitive learning measures. Scaffolding improved the quality of students' interactions with the chatbot (e.g., greater conversational engagement, less copying, more iterative dialogue). Both scaffolded and unscaffolded ChatGPT groups showed greater multiple-choice gains than the human partner condition, though essay performance again did not differ. These findings highlight that the effectiveness of AI in learning contexts depends on how students engage with it—underscoring the need to examine learning, engagement, and strategy use as an integrated system.

Language I

Saturday, November 21, 2026, 1:30-3:30 PM PST

Chaired by Cassandra L. Jacobs, *University at Buffalo, State University of New York*

1:30-1:50 PM (202)

Sequence Learning for Words and Nonwords. ANDRÉS BUXÓ-LUGO, *University at Buffalo, State University of New York*, CASSANDRA L. JACOBS, *University at Buffalo, State University of New York*, YANG DI, *University at Buffalo, State University of New York* — When speakers plan a word that partially overlaps in its sounds with previous words (e.g., "cat" after "cap"), the word has a longer duration (i.e., overlap lengthening). Full-sequence repetition (e.g., "cat" after "cat"), however, shortens the duration of the second production (i.e., repetition reduction). Mechanistic production-centered accounts have explained these effects as relying on lexical representations: repetition reduction in duration emerges from faster lexical access of repeated words, while overlap lengthening emerges from lexically-driven competition of words with similar onsets. We propose that these effects may emerge from incremental learning over sequences of phonological content. In two experiments using a multi-event description task ("The cap/ball/cat shrinks. The flashes.") with both words and nonwords, we test whether lexical access is necessary to elicit overlap lengthening and repetition reduction. We find that partial phonological overlap leads to longer target duration (Experiment 1) and full repetition leads to shorter target durations (Experiment 2), regardless of lexical status. Thus, results suggest that lexical access is not necessary for either effect.

1:50-2:00 PM (203)

(Data Blitz Presentation) Coherence Building from Reading Comprehension to Written Production: Roles of Connective Input and Individual Differences in Second Language Learners. JESSICA SISHI FEI, *University of Maryland, College Park*, MIN WANG, *University of Maryland, College Park* — Reading comprehension and written

production are closely related, yet whether comprehension shapes production among second language (L2) learners remains unclear. This study examines whether text representations constructed during reading influence subsequent writing. L2 learners (N = 123) read narratives with manipulated causal and concessive connectives and completed comprehension and continuation writing tasks. Correct connectives led to more coherent production, reflecting active construction of situation models, whereas incorrect or absent connectives increased linguistic alignment with surface features of the input, suggesting that learners relied more on the input when connectives failed to signal coherence. Effects were moderated by individual differences: higher cognitive reasoning facilitated coherence, whereas lower L2 proficiency increased surface alignment. Comprehension mediated the effect of input on coherence but not on alignment. These findings suggest that text representations are shared across comprehension and production but selectively recruited during production, depending on input coherence and learners' cognitive and linguistic resources.

2:00-2:10 PM (204)

(Data Blitz Presentation) Reliability of Repeated-Name Penalty: A self-paced reading task. KALIL N. WARREN, *University of South Carolina*, AMIT ALMOR, *University of South Carolina* — The repeated-name penalty (RNP), slower reading of a repeated name than a pronoun for a salient referent, is a foundational finding in discourse processing. We are interested in using it as an individual differences measure of how strongly readers track referent accessibility, and tested whether the RNP difference score supports this use. Sixty-one native English readers completed a phrase-by-phrase self-paced reading task with three anaphoric conditions. The group-level effect replicated robustly (~280 ms across regions 2–4, $p < .001$). However, by-subject random slopes were singular; split-half reliability was negative or undefined; the signal-to-noise ratio implied attenuation to ~6.5% of true correlations; and within-subject reading times across conditions were highly correlated ($r = .71$). Like Stroop and the relative-clause asymmetry, the RNP is robust in groups but unreliable in individuals, at least in sentence-by-sentence reading times. Eye-tracking and word-by-word extensions are planned.

2:10-2:30 PM (205)

Comparing Linguistic Features of Connected Speech Between People with Aphasia, TBI, and RHD. RACHEL OSTRAND, *Google*, SARYU SHARMA, *Idaho State University*, VINEETHA S. PHILIP, *National Institute of Speech and Hearing*, BRIELLE C. STARK, *Indiana University Bloomington*, REEM S. W. ALYAHYA, *City St George's, University of London*, LUCY DIPPER, *City St George's, University of London*, LAURA MURRAY, *Western University* — Analyzing linguistic features of speech production (discourse analysis) has shown promise in identifying neurological disorders like dementia, both to predict degree of impairment and to differentiate patients from healthy controls. However, few studies compare linguistic features across multiple neurological populations. Using transcripts of connected speech from TalkBank corpora, we compared people in 4 clinical categories (mild aphasia, latent aphasia, traumatic brain injury, right hemisphere damage) on 3 language elicitation tasks: (a) narrative (retelling Cinderella), (b) procedural (sandwich preparation), and (c) picture description (Cat Rescue). We computed several categories of linguistic features both manually and automatically: speech productivity (e.g., total words, speech rate), lexical characteristics (e.g., parts of speech, lexical diversity), and semantic features (e.g., correct information units, coherence). We address 3 research questions: (1) Can linguistic features differentiate between neurological disorders? (2) Are some speech tasks better able to elicit relevant features, making them diagnostically more useful? (3) How does manual vs. automatic feature calculation compare in predicting neurological status?

2:30-2:50 PM (206)

Does the Sandwich Priming Procedure Enhance Masked Semantic Priming Effects? STEPHEN J. LUPKER, *University of Western Ontario*, GIACOMO SPINELLI, *University of Zurich* — Lupker and Davis (2009) introduced the masked sandwich priming procedure, in which the target itself is presented prior to the prime of interest (e.g., white-whete-WHITE) on all trials, demonstrating that the procedure led to enhanced orthographic priming effects in comparison to the effects observed when using the conventional masked priming procedure (e.g., whete-WHITE). More recently, Lupker and Spinelli (2023) reported that the sandwich priming procedure also produced enhanced masked morphological priming effects (e.g., walker-WALK) but not enhanced masked pseudomorphological priming effects (e.g., corner-CORN), a difference that cannot be attributed to orthographic factors. While this result appears to have a morphological basis, there is still the question of whether it could be a semantically-based effect. The results of the present experiments indicate that masked semantic priming effects are not enhanced when using the sandwich priming procedure, implying that Lupker and Spinelli's (2023) enhanced priming for walker-WALK prime-target pairs has a morphological basis.

2:50-3:10 PM (207)

Are mechanisms of word learning also used for word re-learning in the injured brain? BRENDA RAPP, *Johns Hopkins University*, YUAN TAO, *Johns Hopkins University*, SARTAJ SINGH, *University of South Carolina*, JENNIFER SHEA, *Johns Hopkins University*, ROBERT WILEY, *University of North Carolina at Greensboro* — The mechanisms that support the "relearning" following neural injury are poorly understood. To what extent does re-learning in the injured brain share the mechanisms of learning in the intact brain? And, are there also mechanisms that are unique to re-learning? The significant methodological challenge is distinguishing between shared and unique mechanisms in re-learning. To address this, we analyzed BOLD and behavioral data from two studies: one involving new word-form learning in older adults, the other involving post-stroke re-learning of word forms. We examined if brain areas in which BOLD responsiveness was associated with word learning or relearning were shared or unique in these two groups. We found that post-stroke re-learning and new learning in healthy adults shared many of the same mechanisms, while re-learning also recruited unique mechanisms. Shared areas included both classical subcortical and cortical learning areas, as well as cortical language areas. Unique to relearning was an overall right-lateralized recruitment and the contributions of some additional areas. This approach and findings can contribute to developing a comprehensive theory of re-learning, informed by the vast literature on learning and memory.

3:10-3:30 PM (208)

Language Network Predictability and Language-Related Social Stress among Heritage Speakers: A Social Network Perspective from Childhood to Adolescence. ELEONORA ROSSI, *University of Florida*, RUIZHE LIU, *University of Florida* — Bilingual language experience is never static, and it is influenced by several factors. Still, relatively little research examines how language use is shaped by social connections. This study examines whether personal language network composition and structure are associated with language-related social stress among heritage Spanish speakers in infancy and in adulthood. Using egocentric network data, participants reported their social networks and language use before and after age 13. We measured language entropy as network composition and language assortativity as network structure. Acculturative stress related to speaking Spanish and English was measured using the Multidimensional Acculturative Stress Inventory. Bayesian logistic regression models showed that higher early language assortativity was associated with lower likelihood of both Spanish and English stress, while later network measures were weaker and more uncertain. Language entropy showed similar negative directions but greater uncertainty. These findings suggest that socially organized early language environments may reduce uncertainty through language socialization, shaping how heri-

tage speakers learn under what expectations different languages are used.

Cognition III

Saturday, November 21, 2026, 1:30-3:30 PM PST

Chaired by Timothy L. Hubbard, *Arizona State University*

1:30-1:50 PM (209)

Does Object-Based Warping Occur with Target Motion or with Visual Judgments? TIMOTHY L. HUBBARD, *Arizona State University*, SUSAN E. RUPPEL, *University of South Carolina Upstate*, KATHLEEN C. MCCULLOCH, *University of Lancashire* — In object based warping, distance between two dots (locations) within an object is judged as larger than distance between two equidistant dots on a featureless background. Prior studies of object-based warping used stationary targets and a motor response measure, and experiments reported here used stationary and moving targets and a visual judgment response measure. In all experiments, a pair of target dots was presented, and after the target dots vanished, a pair of probe dots was presented. Probe dots were closer, the same distance as, or further apart than target dots, and participants judged whether probe dot distance was the same as target dot distance. Experiment 1 presented stationary target dots and probe dots within a larger square or in isolation. Experiment 2 presented moving or stationary target dots and stationary probe dots within a larger square. Experiment 3 varied alignment of target dots within a moving larger square, and probe dots were stationary and matched target dot alignment. In all experiments, when dot pairs were within an object, participants indicated dot distance was smaller than actual distance, a pattern opposite to typical object-based warping. Implications for spatial representation are considered.

1:50-2:10 PM (210)

A shared egocentric bias in social and spatial perspective-taking. MARTA RODRÍGUEZ ARAMENDÍA, *Universitat Jaume I*, RAPHAEL KAPLAN, *Universitat Jaume I* — Navigating the spatial and social world both involve integrating one's first person viewpoint with others, but it's unclear if they share an underlying mechanism. One way to test this idea would be to isolate transferrable subjective biases that distort physical and social viewpoint-invariant allocentric reference frames. Here, we test if an egocentric bias, social anchoring-and-adjustment–individuals' distorted estimation of others' preferences by overrelying on their own perspective–is transferable to allocentric spatial cognition. Two independent groups of participants performed an egocentric anchoring-and-adjustment task, egocentric spatial distance estimation task, allocentric spatial recognition task, and an allocentric social comparison task. We observed anchor biases across all tasks in both samples. Crucially, social and spatial allocentric task performance was selectively influenced by anchor biases in the same way. A computational model subsequently revealed that this shared influence is explained by egocentric biases distorting a domain general allocentric representation present in both tasks. Together, our results suggest that a shared cognitive computation underlies physical and metaphorical viewpoint integration.

2:10-2:30 PM (211)

The Neurofeedback Illusion: Alpha Power Rises Regardless of Volitional Control. JACOB MAAZ, *Centre National de la Recherche Scientifique (CNRS); Aix-Marseille University*, LAURENT WAROQUIER, *Aix-Marseille University*, ALEXANDRA DIA, *Centre National de la Recherche Scientifique (CNRS); Aix-Marseille University*, VÉRONIQUE PABAN, *Centre National de la Recherche Scientifique (CNRS); Aix-Marseille University*, ARNAUD REY, *Centre National de la Recherche Scientifique (CNRS); Aix-Marseille University* — Electroencephalographic neurofeedback (EEG-NF) stands as an effective technique for modulating EEG activity using corresponding EEG-based sensory

feedback. However, the mechanisms underlying this EEG modulation remain poorly understood. In particular, it is unclear whether the observed alpha (8-12 Hz) modulation during single EEG-NF sessions reflects hypothesised feedback-based learning or non-specific influences instead. This present preregistered, double-blind, sham-controlled study investigated the specific and non-specific mechanisms of alpha upregulation through EEG-NF. Healthy young adults received genuine (n = 30) or sham (n = 30) visual feedback of their real-time alpha power at Pz during a single EEG-NF session. Extreme evidence effectively favoured continuous increases in alpha power throughout the session. However, these increases strikingly occurred independently of the veracity of visual feedback (genuine or sham, i.e., no matter the possibility to actually regulate alpha power). These results suggest that alpha modulation through EEG-NF actually relies on non-specific influences. Overall, this study importantly challenges the ability of EEG-NF to effectively modulate human EEG activity.

2:30-2:50 PM (212)

Memory of defeat: Remembering the past and imagining the future. LUDMILA ISURIN, *Ohio State University* — This paper explores the relationship between the collective memory of the past and the imagination of the future. It reports on the results of a survey based on 300 US-based respondents. The survey was a partial replication of Topcu and Hirst's (2020) study and investigated a possible correlation between the collective memory of the past military conflicts and the imagined future conflicts in such measures as phenomenal characteristics, valence, and agency. The results of the survey showed a positive correlation between remembering the past and imagining the future. Educational level and political affiliation showed a significant positive correlation between the evaluation of past conflicts and future protracted conflicts. For example, political affiliation showed a significant positive correlation among Democrats, whereas among Republicans the correlation was also positive but failed to reach significance. Moreover, Republicans rated future events' outcomes significantly more positively than Democrats and Democrats were more likely to blame America as a nation for the outcome of the event than did Republicans.

2:50-3:10 PM (213)

The Cognitive "We": Mental and Physiological Alignment During Shared Mental States. FLORENCE MAYRAND, *McGill University*, JESSICA SAVOIE, *McGill University*, JELENA RISTIC, *McGill University* — While humans can represent the minds of others, it remains unknown how this process unfolds during real life interactions. To study this, we developed a new interactive perspective taking task in which two participants (N=120; 60 dyads) were seated either side-by-side (Shared mental perspective) or face-to-face (Non-Shared mental perspective). Participants alternated between manually responding from Self and Other perspectives and half of the dyads wore heart rate monitors. Replicating prior findings, responses were slower when responding from the Other perspective and in the Non-Shared condition. Critically, however participants were also slower for Self responses in the Shared side-by-side condition, suggesting an emergence of a merged, interactive "we" mental space. Supporting this, a significant synchrony in heart rate was found only in the Shared condition. Thus, naturalistic interactions foster coordinated mental representations of self and other, which appear to be accompanied by a physiological alignment as well.

3:10-3:30 PM (214)

Determining the computational cognitive mechanisms underlying the effects of stress on action cancellation and perceptual interference control. GRANT S. SHIELDS, *University of Arkansas* — Prior work has found that stress exerts distinct effects on various forms of inhibitory control. However, the mechanisms underlying these differential effects are unclear, and prior work has challenged whether such a differential effect can truly occur. This study aimed to address these issues by elucidating the computational cognitive mechanisms underlying the behavioral effects of stress on forms of inhibitory control. In a well-powered, preregistered study, we manip-

ulated stress via the socially evaluated cold pressor or its corresponding no-stress control condition and examined effects on a hybrid stop-signal/flanker task. We estimated processes underlying inhibitory control via computational cognitive modeling. We found that the stress manipulation influenced task performance as assessed by its behavioral outcomes (i.e., stop-signal reaction time, flanker interference). Computational modeling is ongoing to fit the preregistered models to participants' data. The results of this study will elucidate the computational cognitive mechanisms underlying the effects of acute stress on action cancellation and perceptual interference control, which will clarify how, at a process level, stress affects these forms of inhibitory control.

Cognitive Aging II

Saturday, November 21, 2026, 1:30-3:30 PM PST

Chaired by Elisabeth Bradford, *University of St. Andrews*

1:30-1:50 PM (215)

Older Adults Rely on Google Less Than Younger Adults: Age-Based Differences in the Internet Fixation Effect. TORI PEÑA, *Stony Brook University*, SYDNEY DIMARTINO, *Stony Brook University*, SHARDA UMANATH, *Claremont McKenna College* — The internet has transformed the way people access information. It is common for people to use sources, such as Google, to assist with cognitive tasks. Interestingly, younger adults (YA) who are required to use the internet are more likely to rely on the internet again compared to people who initially were required to use their own memory (Storm et al., 2017) – known as the internet fixation effect. We used a 2 (Priming: Google or Memory) x 2 (Age: Younger or Older Adult) between subjects design in two experiments (N = 512) to examine whether older adults (OA) show the same effect. First, participants viewed a list of trivia questions and were asked to either answer the questions from memory or using Google. Afterwards, participants viewed another set of easier trivia questions and were given the option to use Google (or not). In Experiment 1, both YA and OA were primed with the same questions. In Experiment 2, we used age-normed questions to match the difficulty of the questions between age groups. In both experiments, there was an internet fixation effect ($p < .001$). However, OA used Google by choice less than YA ($p < .001$). These results may reflect age-based differences in how people use the internet to search for information.

1:50-2:00 PM (216)

(Data Blitz Presentation) Casual Game Training Produces Game-Specific Learning but Limited Cognitive Transfer in Older Adults. JULIE A. DICARLO, *Tufts University*, NATHAN WARD, *Tufts University* — Older adults increasingly turn to computerized games as a potential means of maintaining cognitive function, but evidence for transfer from game training remains mixed. We tested whether 15 hours of casual game training would improve cognition in healthy older adults. One hundred and one (ages 60–80) were randomly assigned to play either free, online casual games previously associated with working memory and reasoning demands or active-control casual games with no such cognitive mappings. Participants completed a pre/post cognitive battery assessing working memory, reasoning, divided attention, task switching, episodic memory, and processing speed. Although both groups improved substantially on the games they trained, there was little evidence of differential transfer to untrained cognitive tasks. Group × Time interactions were nonsignificant across standard cognitive measures and a novel multitasking paradigm separating task-switching and dual-tasking costs. Expectancy and game-experience ratings did not clearly explain the null transfer effects either. These findings suggest that short-term casual game training in older adults may produce robust game-specific learning without broad cognitive transfer.

2:00-2:10 PM (217)

(Data Blitz Presentation) Age Group Differences in Functional Neural Substrates of Mnemonic Discrimination. EMERALD WANG, *University of California, Riverside*, JENNA L. MERENSTEIN, *University of Utah*, ILANA J. BENNETT, *University*

of California, Riverside — Mnemonic discrimination (MD)—the ability to distinguish highly similar experiences—depends on two neural computations: pattern separation (PS) and pattern completion (PC). Although behavioral MD deficits in aging are well established, their underlying neural substrates remain unclear. Past research has relied on two fMRI approaches–stimulus-driven (SD) and response-driven (RD)–yet whether these capture identical neural regions across age groups is unknown. The present study examined behavioral performance and fMRI activity in 33 younger and 35 older adults during the Mnemonic Similarity Task test phase, employing both approaches (SD, RD) and contrast (PS, PC) across whole hippocampus, its subfields (CA3/DG, CA1), and the whole brain. Independent of age, the hippocampus (whole, DG/CA3, CA1) showed activity consistent with the PS and PC contrasts for the SD approach, but only the PS contrast for the RD approach. Older adults showed both more (whole hippocampus and CA3/DG for RD PC) and less (CA1 for SD PS) activity than younger adults. These findings indicate that while SD and RD contrasts target the same latent constructs, they are not functionally identical, underscoring the need for careful methodological selection.

2:10-2:30 PM (218)

Assessing Lure Discrimination and Psychometric Properties of the Optimized Mnemonic Similarity Task (oMST) for Cognitive Screening Across Testing Contexts, Stimulus Sets, and Languages. LILIAN AZER, *University of California, Irvine*, CRAIG STARK, *University of California, Irvine* — Early detection of cognitive decline remains challenging due to limited availability of scalable, self-administered cognitive assessments. We evaluated the optimized Mnemonic Similarity Task (oMST), a brief automated assessment of hippocampal-dependent memory, across multiple experiments (N ≈ 1,600). We examined reliability and generalizability across testing environments, repeated administrations, stimulus sets, languages, and data-quality filtering approaches. Lure discrimination was highly consistent between in-person and remote administration, demonstrating robustness across testing contexts. Performance remained stable across repeated administrations, with no evidence of practice-related gains. Lure discrimination was also comparable across the 18 independent stimulus sets. Cross-linguistic analyses showed comparable performance between English and Spanish versions of the oMST, with slightly lower performance in the Chinese version. Finally, traditional recognition-based cutoff thresholds (REC < .50) captured both low-effort and guessing responses, whereas foil-based metrics more selectively identified guessing behavior. Together, these findings support the oMST as a reliable and scalable cognitive screening tool.

2:30-2:50 PM (219)

Mind the Age Gap: How Age Bias Shapes Perspective-Taking Across the Lifespan. ELISABETH BRADFORD, *University of St. Andrews* — Although the ability to understand others' perspectives emerges early in childhood, adults still frequently make errors when mentalizing. This study investigated factors influencing successful perspective-taking, focusing on whether the age of another person affects mentalizing performance. Children (7–13 years), young adults (18–30 years), and older adults (60–80 years) completed an adapted Strange Stories task in which protagonists were either from the same-age group or a different-age group to the participant. Participants explained characters' actions in stories requiring mental state understanding (mindreading trials) or not requiring such understanding (control trials). Results revealed a general own-age bias, with participants responding more accurately and quickly to stories featuring same-age protagonists compared to other-age protagonists. However, patterns of group prioritization differed across age groups, suggesting developmental changes in social categorization processes. These findings highlight the role of age-related biases in shaping social understanding and demonstrate how perspective-taking evolves across the lifespan.

2:50-3:10 PM (220)

What Is Curiosity? Insights from Aging and Real-World Information-Seeking. MICHELLE E. HIRSCH, *York University*, BUDDHIKA BELLANA, *York University - Glendon Campus*, ANDRÉE-ANN CYR, *York University - Glendon Campus* — Curiosity is a fundamental driver of exploration, learning, and engagement with the world across the lifespan. Yet despite growing interest in curiosity within psychology, important questions remain about how curiosity should be conceptualized, how it shapes real-world behaviour, and whether it changes with age. In this talk, I will survey a program of research examining curiosity from complementary perspectives, including real-world information-seeking, subjective experiences and beliefs about curiosity, and the motivational processes that support learning and memory. Across experimental, qualitative, and naturalistic approaches, this work highlights curiosity as a construct that is intertwined with prior knowledge, affective experience, and well-being. I will discuss evidence suggesting that curiosity is not uniformly reduced in later life, but instead may shift in its expression and motivations. Together, these findings provide a framework for understanding how curiosity supports lifelong learning, exploration, and healthy cognitive aging.

3:10-3:30 PM (221)

Making meaning, sharing stories: reframing the semantic shift in autobiographical memory. SARAH L. HENNESSY, *University of Arizona*, JESSICA R. ANDREWS-HANNA, *University of Arizona*, MATTHEW D. GRILLI, *University of Arizona* — Aging is associated with a shift from episodic to semantic details in autobiographical recall, often interpreted as cognitive decline. However, semantic details may instead serve adaptive functions, situating events within a broader life story ("time integration") or highlighting personal significance ("meaning integration"). Across two pre-registered studies, we investigated time and meaning integration in autobiographical memory and their self and social functions, in the context of cognitive aging. In Study 1, older adults (N=157, 60+) showed greater meaning, but not time, integration than younger adults (N=44, 18-30), and personal semantic details predicted both forms, though integration was not associated with self-continuity. In Study 2, time and meaning integration each independently improved listener ratings of synthetic memories across multiple social and communicative dimensions in an online representative sample (N=300, 18-82). Together, these findings suggest that the semantic shift in aging may reflect meaning integration, which may serve adaptive communicative benefits rather than pure decline, opening new avenues for understanding the functions of non-episodic details in autobiographical memory.

Test Effects

Saturday, November 21, 2026, 1:30-3:30 PM PST

Chaired by Andrew C. Butler, *Washington University in St. Louis*

1:30-1:50 PM (222)

Encouraging retrieval practice using stepwise multiple-choice questions: Do individual differences in delay aversion and attention play a role? MEREDITH O. MINEAR, *University of Wyoming*, CONSTANCE HALL, *University of Wyoming*, ANNYHER REYES AYALA, *University of Wyoming* — Recent work has investigated whether multiple choice questions (MCQs) can be optimized for retrieval practice by using a stepwise procedure which introduces a delay between the question and the answer set with learners being encouraged to attempt recalling the answer before seeing the choices. However, there is mixed evidence on whether this improves performance (van den Broek et al., 2023). One possibility is that the delay is fixed, typically around 4 seconds, which does not take individual differences in attention and delay tolerance into account. In our study, we compared word-pair items that were tested after initial encoding using stepwise MCQs where students were able to choose the delay length to those tested using standard MCQs with no delay in a vocabulary learning task. The final test was cued recall. We also measured individual differences in ADHD symptoms and delay aversion. We

found delay aversion was correlated with ADHD symptomology and the average duration of students' self-imposed delay. Although there was no difference between standard and stepwise items at final test, the average delay taken was positively correlated with final memory performance for both item types.

1:50-2:00 PM (223)

(Data Blitz Presentation) AI Assistance Dampens the Benefits of Retrieval Practice. GRANT M. KRAMER, *University of California, Santa Cruz*, BENJAMIN C. STORM, *University of California, Santa Cruz* — People are more likely to remember information when they engage in generative retrieval practice than when they restudy passively. However, artificial intelligence (AI) enables near-instantaneous and fluent access to information, reducing the need for effortful retrieval. In this study, we examined the mnemonic consequences of using AI to assist retrieval practice. Participants studied a set of facts and then either restudied those facts, practiced retrieving target words from memory, or practiced retrieving target words with the assistance of AI. Participants who used AI benefited significantly less from retrieval practice than participants who did not, an effect that became increasingly pronounced over repeated trials. Both groups, however, outperformed restudy. These results suggest that the use of AI may not eliminate the benefits of retrieval practice, but it may act to reduce them, presumably by circumventing the cognitive processes most effective for learning.

2:10-2:30 PM (225)

Does Metacognitive Knowledge Predict the Benefits and Use of Retrieval Practice? RACHEL N. SMITH-PEIRCE, *Washington University in St. Louis*, ANDREW C. BUTLER, *Washington University in St. Louis* — Learners generally benefit more from practicing the retrieval of newly learned information from memory relative to re-studying it (Rowland, 2014), yet they often choose to use re-studying over retrieval practice (Kirk-Johnson et al., 2019). Although these findings are robust across studies at the aggregate level, there is substantial variation within each study at the individual level. The present research attempts to explain this individual-level variation through metacognitive knowledge about the effectiveness of learning strategies and how to use them. Participants read passages containing 12 key concepts, engaged in three practice rounds, and took test on all concepts two days later. The concepts were assigned to either retrieval practice or re-studying in Experiment 1, whereas learners chose either retrieval practice or re-studying for each concept in Experiment 2. Although metacognitive knowledge did not predict the benefits of retrieval practice, knowledge of why learning strategies are effective predicted greater retrieval practice use, $B = 1.50$, $t(114) = 2.22$, $p = .001$, suggesting that interventions that help learners acquire metacognitive knowledge could facilitate their use of retrieval practice.

2:50-3:10 PM (227)

Effects of retrieval practice and sentence generation on vocabulary learning in middle-school children. JOÃO MENEZES, *Universidade de Brasilia*, ANTONIO JAEGER, *Universidade Federal de Minas Gerais* — Retrieval practice and elaborative encoding typically improve memory retention, although their effects on vocabulary learning remain unclear, especially considering feedback and literacy. To address these issues, we conducted two classroom experiments (N = 200) in which sixth-grade children performed a series of study-practice sessions to learn word-pseudoword associations through retrieval practice, sentence generation, and copying. In the final test, the pseudowords served as cues for the recall of the corresponding paired words. In Experiment 1, retrieval practice was followed by immediate feedback and produced greater retention than sentence generation, whereas sentence generation produced greater retention than copying. In Experiment 2, immediate feedback was removed and retrieval and sentence generation produced indistinguishable effects, while both outperformed copying. Importantly, a dictation test included in Experiment 2 revealed that writing skills did not moderate these effects. These findings demonstrate that retrieval and elaborative encoding are effective strategies for vocabulary learning in middle-school children with diverse writing skills.

3:10-3:30 PM (228)

Reevaluating Theories of "The Testing Effect" in Light of the Common Confound Between Forward and Direct Testing Effects. NEIL W. MULLIGAN, *University of North Carolina at Chapel Hill*, ANNABEL GEREAU, *University of North Carolina at Chapel Hill* — Retrieval practice can potentially improve memory either directly (the direct testing effect) – improved memory for the tested material – or indirectly (most importantly via the forward testing effect) – improved encoding of material learned after a practice test. "The Testing Effect" is typically defined as the direct testing effect but much of the research on this topic has combined potential direct and forward testing effects. Mulligan et al. (2022) and Gereau & Mulligan (2026) demonstrated how this issue can dramatically influence the size and direction of the observed testing effect. Theories of "the testing effect" primarily focus on the direct effects of retrieval on subsequent memory but have generally been evaluated with respect to the larger body of studies that confound direct and forward testing influences. Consequently, standard theories of the testing effect need to be reevaluated. The current talk discusses the ramifications for theories of the testing effect, and begins this reevaluation.

Cultural Social Influences on Cognition

Saturday, November 21, 2026, 1:30-3:30 PM PST

Chaired by Elif Sozer, *Koç University*

1:30-1:50 PM (229)

Beyond Winners and Losers: Emergence of Collective Mental Time Travel Pathways Upon Remembering Consequential Elections. ELIF SOZER, *Koç University*, MEYMUNE TOPCU, *MEF University*, AYŞECAN BODUROGLU, *Koç University* — Collective past and future representations can be thematically linked and vary across sociopolitical identity. Here, we introduce the notion of collective mental time travel (CMTT) pathways: distinct connections that emerge between past and future representational networks upon reflection on a critical public event. We demonstrate that these pathways capture nuanced sociopolitical profiles shaping CMTT. In Study 1, a representative sample remembered the 2023 Turkish Presidential Elections, and equally important past and future events. Participants rated each event's characteristics (Valence, Vividness, Agency, Importance). Using these ratings, we identified four unique representational pathways in which the elections bridged collective past and future. Each CMTT pathway had distinct sociopolitical profiles: Despite losing, vividly remembering the election as very important, characterized by high national agency, and continuing post-election conversations were related to high future individual agency; remembering a positive and agentic past was related to high future political group agency. These studies illustrate how CMTT pathways can be activated by reviewing critical and consequential public events.

1:50-2:00 PM (230)

(Data Blitz Presentation) Thinking across the Strait: A Study on Taiwanese Collective Temporal Thought. ZIZHAN YAO, *University of California, Santa Cruz*, JEREMY YAMASHIRO, *University of California, Santa Cruz* — How do Taiwanese citizens remember their national past and envision their collective future? This study investigates Taiwanese collective temporal thought (CTT) using an online event-fluency paradigm. Taiwanese participants (N = 270; three age cohorts: 20–39, 40–59, 60+) freely listed past and future national events under either origin or normative framing conditions, then rated each event on valence, temporal distance, and construal level. We analyze phenomenological measures to identify valence-based biases and construct co-occurrence networks to map how events are structurally organized across conditions, generations, and temporal domains. Freeman's betweenness centrality identifies landmark events functioning as narrative hubs, while network-level metrics characterize overall centralization. Results are compared against prior mainland Chinese data, leveraging the cross-strait comparison as a natural experiment in how democratic versus authoritarian contexts shape collective cognition. Findings illuminate the cogni-

tive architecture of Taiwan's collective identity at a moment of acute geopolitical significance.

2:00-2:10 PM (231)

(Data Blitz Presentation) Trust the Source, Trust the Force? Cognitive Responses to Police Use of Force Narratives. TIFFANY SHAO, *Claremont Graduate University*, WILLIAM CRANO, *Claremont Graduate University* — People today form attitudes in an information environment saturated with conflicting claims and competing sources. Although classic persuasion theories assume individuals are motivated to form accurate, evidence-based attitudes, this assumption is increasingly strained. Competing sources of information can impede evaluation, thereby influencing how people process information in ways that protect prior beliefs and social identities. These dynamics highlight the need to understand how message features and source cues activate cognitive mechanisms that contribute to biased processing. This study is a 2 by 2 by 2 between-subjects experiment examining how source credibility and suspect race shape cognitive responses to police use of force (UOF) narratives. Findings suggest that high-credibility sources encourage message scrutiny, resulting in more elaborative and evaluatively negative thoughts about the officer's actions. In contrast, when the suspect is Black, low-credibility sources lead to lower cognitive engagement and neutral thoughts, which suggests a reliance on preexisting racial schemas. These findings suggest that credibility of the source of the information can influence judgments about police behavior.

2:10-2:30 PM (232)

Is Reward Processed Differently When it is Social?: A Challenge to the Prevailing 'Common Neural Currency' Perspective. JENNIFER BEER, *University of Texas at Austin*, YANNI JIANG, *University of Texas at Austin*, ZHANG ZIYAO, *University of California, Berkeley*, ALAA KHADER, *University of Texas at Austin*, JARROD LEWIS-PEACOCK, *University of Texas at Austin*, JESSICA CHURCH, *University of Texas at Austin* — Have researchers been too quick to dismiss the idea that there is something psychologically unique about processing social (compared to non-social) reward? Researchers have argued that it doesn't matter if people anticipate a smile or a dollar, social and non-social reward processing share a 'common neural currency.' However, previous research has (a) rarely directly compared anticipation of social and non-social rewards and (b) failed to look beyond one metric of neural activation (i.e., overall changes in activation magnitude). The present fMRI study (N = 106) is the first to directly compare social and non-social reward anticipation to test differences in activation magnitude, functional connectivity, multivariate activity patterns (MVPA), and modulation by individual differences in social reward motivation. Task performance was significantly motivated by both social and non-social reward. The study found that social and non-social reward anticipation share some neural circuitry but are dissociable when local activation patterns and individual differences in social motivational priorities are considered. The findings recast our understanding of ways in which social reward processing may indeed be distinct.

2:30-2:50 PM (233)

The Importance of Prospective Memory Support from One's Partner: Gender Differences in the Link between Prospective Memory Division of Labor and Resentment among Parents. ERIN E. HARRINGTON, *University of Wyoming*, EMMA PETERSON, *University of Wyoming* — Women are typically responsible for most household cognitive labor, including prospective memory (PM; e.g., planning, reminding). Relational repercussions, like resentment, often result from perceived inequities in the division of these tasks. Yet, couples can offer each other PM support, which may mitigate the negative effects of cognitive load on resentment. We examined the moderating effects of gender and perceived partner PM support on the link between perceived PM division unfairness and partner resentment among parents (N=502, 50%women). A significant three-way interaction emerged (p=.004). Among men, greater perceived unfairness related to greater resentment regardless of the extent of partner PM support (ps>.026). For women with low levels of

partner support, greater unfairness related to greater resentment ($p<.001$). At average levels of support, perceived unfairness was unrelated to resentment ($p=.506$), and at high levels of support, greater unfairness related to less resentment ($p=.019$). In sum, PM support alone may not sufficiently reduce the perceived burden of taking on a greater cognitive load for men. However, greater support may assuage the negative impact of cognitive load on relational dynamics among women.

2:50-3:10 PM (234)

Science Self-Efficacy and Trustworthiness in STEM. ALANA M. MCDEARMOND, *University of Nevada, Las Vegas*, MELISSA TROYER, *University of Nevada, Las Vegas*, JENNIFER RENNELS, *University of Nevada, Las Vegas* — Our identities influence the way we view the world and how others view us. In the current study, we examined how identity influences perceived trustworthiness of scientific authors. Participants read science textbook excerpts where author name was manipulated to indicate a specific intersecting identity (race/gender). They then rated the authors' trustworthiness using the Muenster Epistemic Trustworthiness Inventory and completed scales related to their own science self-efficacy. We also qualitatively examined participants' views of their own science experiences. Overall, trustworthiness ratings were high. Considering all of the data, we found that neither scientists' nor participants' intersecting identities significantly predicted participant trustworthiness in science authors. However, participant science self-efficacy scores predicted their trustworthiness in scientists. Our qualitative analyses uncovered various themes in what participants describe as influential to their science self-efficacy, such as social comparison and achievement. These results suggest that a person's self-efficacy may be related to their perception of others.

3:10-3:30 PM (235)

Let's taco 'bout friendship: Friendship Shapes Nonverbal Coordination Patterns during Affiliative Conversations. VERONICA ROMERO, *Colby College*, ALEXANDRA PAXTON, *University of Connecticut* — When people talk about neutral or positive topics, their movement often becomes more coordinated over time. Previous research finds a positive and bidirectional link between movement coordination and rapport. Although prior work has explored this connection among people with pre-existing relationships, very few prior studies have investigated the differences in interpersonal synchrony in friends. 103 dyads participated of which 44 reported being friends, and 59 reported not knowing each other. Participants had a video-recorded friendly conversation in the lab. Compared with strangers, friends' head and torso movements were coordinated more overall and more stably—even though those patterns of coordination were simultaneously more complex. The present work sheds light on the impact of friendship on nonverbal conversation dynamics and emphasizes the importance of quantitatively studying different kinds of prior relationships. Our results highlight the importance of asking participants about their previous relationship in future studies.

Visual Working Memory

Saturday, November 21, 2026, 3:30-5:30 PM PST

Chaired by Kirsten C.S. Adam, *University of California, Davis*

3:30-3:50 PM (236)

No consistent real-world object benefit for visual working memory: Limitations of encoding strategies and testing format. OLGA KOZLOVA, *University of California, Davis*, KIRSTEN C.S. ADAM, *University of California, Davis* — Although the capacity of visual working memory (WM) is limited to 3 to 4 items, recent work has suggested that WM capacity limits may be higher for realistic stimuli (e.g., photographs of real-world objects) relative to simplistic stimuli (e.g., colored squares). This finding

is often referred to as a "real-world object benefit". Here, we tested whether memory test format and encoding strategies may modulate the real-world object benefit. Across three behavioral experiments (n=24 each), we found that the previously observed real-world object benefit did not generalize well to different WM test formats or encoding strategies. When participants recalled the positions of all items, we consistently observed a real-world object cost, rather than a benefit (all experiments, $p < .001$). Our results suggest that the real-world object benefit may arise only when the memory test does not require precise knowledge of feature-location bindings, and can instead be answered using a global familiarity signal (i.e., 2-AFC test with novel "off-display" foils). Thus, real-world objects may enhance global familiarity yet fail to boost the number of arbitrary feature bindings that may be accurately maintained within capacity-limited visual WM.

3:50-4:10 PM (237)

Masking Effects in Visual Working Memory are not Disruption of Working Memory Consolidation. TIMOTHY J. RICKER, *University of South Dakota*, DILLON A. QUIÑONES, *University of South Dakota*, KRISTEN G. QUIGLEY, *Simon Fraser University* — In visual memory experiments, backward masking is regularly used to terminate working memory consolidation. Existing evidence for backward masking as post-perceptual termination of consolidation is not as strong as generally assumed. We present some of the issues with this theoretical position in the existing literature and then cover two new experiments on the effects of visual masking during delayed estimation performance. Experiment 1 explored the effects of backward masking on orientation stimuli. Masking stimuli contained orientation information that was biased clockwise, biased counterclockwise, or unbiased relative to the orientation of the memory target. The mask bias was carried through to memory responses on an item-by-item level. This indicates visual integration of the mask with the memory item rather than overwriting the perceptual image and ending consolidation. Experiment 2 replicated this design with forward masking. The results were similar with the same magnitude of error introduced by the mask, but a weaker memory bias and lower overall performance. We conclude that non-perceptual masking effects reflect strategic encoding processes to avoid visual integration of the mask with memory targets.

4:10-4:30 PM (238)

Learned Updating Readiness Modulates the Precision of Visual Working Memory. ANTHONY W. SALI, *Wake Forest University*, VERITY ELLIOTT, *Wake Forest University* — Individuals must regularly update the contents of visual working memory in response to changing environmental demands. In previous work, we have demonstrated that individuals learn to anticipate the likelihood of upcoming cued attention shifts and adapt their readiness to shift accordingly in both the domains of spatial attention (e.g., Sali et al., 2020) and task-switching (e.g., Sali et al., 2024). However, the extent to which learned updating flexibility impacts the fidelity of visual working memory representations remains unknown. In the current study, participants updated and maintained color memory representations in response to visual cues, which probabilistically varied according to temporal delays. On probe trials, participants indicated the color stored in memory using a color wheel, providing a metric of the precision of memory at the temporal delays associated with high and low updating likelihoods. Memory precision was lower in contexts associated with a high likelihood of updating, reflecting a learned adjustment in fidelity. This lowering of memory precision may reflect preparation for the upcoming update, easing the degree to which individuals may overwrite an old color representation with another.

4:30-4:50 PM (239)

Visual working memory capacity is shaped by conceptual knowledge, not just perceptual features. VIOLA S. STOERMER, *Dartmouth College*, YONG HOON CHUNG, *Dartmouth College*, TIMOTHY BRADY, *University of California, San Diego* — Classic theories of visual working memory propose fixed capacity limits rooted in perceptual systems. Yet emerging evidence challenges

this view: meaningful, real-world objects are better remembered than abstract or arbitrary stimuli, suggesting that conceptual knowledge can unlock additional memory capacity. In a series of experiments, we investigated what drives this memory advantage and under what conditions it emerges. Using carefully controlled stimulus sets that equate perceptual properties while varying conceptual meaning we show that memory improvements arise from semantic understanding rather than differences in visual features. Critically, these benefits track the subjective perception of meaning rather than objective stimulus properties alone. Neural evidence further supports this conclusion, with increases in delay-period activity emerging selectively for meaningful stimuli. Together, these findings demonstrate that visual working memory capacity is not fixed but is dynamically shaped by how stored information connects to pre-existing conceptual knowledge, significantly extending current theories and highlighting the importance of studying memory with ecologically valid, real-world stimuli.

4:50-5:10 PM (240)

The human brain streams our lives to disk: Working memory follows long-term memory, it does not precede it. GEOFFREY F. WOODMAN, *Vanderbilt University*, SEAN M. POLYN, *Vanderbilt University* — Classic cognitive models inspired by traditional computer architectures propose that storage in long-term memory only happens after information is registered in working memory. Computers held information in working memory until saved to the hard drive for permanent storage. This classic view continues to guide cognitive science. Inspired by Psychonomes past, here we discuss our late selection view in which humans never have to click save but instead our brains stream our lives to our episodic disk, with working memory serving as a viewer. That viewer can focus on what is happening, just happened, or it can mentally time travel to the distant past. We will review recent data and modeling consistent with this view from our laboratories and the literature.

5:10-5:30 PM (241)

Cooperation and Competition between Working Memory and Long-term Memory Templates in the Guidance of Visual Attention. ANDREW HOLLINGWORTH, *University of Iowa*, ARIEL M. KERSHNER, *Neumann University*, BRETT BAHLE, *University of Michigan* — Visual attention is guided by templates specifying goal-relevant features, maintained in visual working memory (VWM) or long-term memory (LTM). A central challenge is explaining how these biases combine into a priority signal. We report experimental results probing two modes of interaction between VWM and LTM templates. First, when templates converge to prioritize the same object location, guidance is coactive: biases from the two memory systems sum on a common priority signal, despite different temporal dynamics (VWM is faster). Second, in competitive contexts, we observe reliable dominance from VWM guidance: VWM-matching objects are selected first, largely independently of LTM strength or relevance. The expression of LTM-based biases is typically delayed until after VWM-based guidance has been implemented. This temporal prioritization allows current goals to control attention with minimal interference from competing habits. Finally, cooperation and competition between VWM and LTM can arise under a common architecture. Within the competitive dynamics of a priority map, timing differences in priority signals naturally produce summation when templates align and functional dominance by the earlier source of bias when they conflict.

Language II

Saturday, November 21, 2026, 3:30-5:30 PM PST

Chaired by Abhilasha A. Kumar, *Bowdoin College*

3:30-3:50 PM (242)

Tracking visuo-spatial attention in the reading brain. JOSHUA SNELL, *Vrije Universiteit Amsterdam*, VENJA BECK, *Vrije Universiteit Amsterdam* — It may be argued that, during reading, the brain is performing one core task: to encode the locations of objects (e.g., the locations of letters in words, the lo-

cations of words in sentences). Possibly visuo-spatial attention is a key component herein; meaning, for example, that failure to notice the mistake in 'Do love you me' is caused by diffuse attention. We tested this hypothesis by letting participants make grammaticality judgments about transposed-word (TW) sentences (e.g., the was man here, the went dog away) and ungrammatical control sentences (e.g., the man dog here, the was went away) while recording pupil size. Exploiting the principle that the pupil responds to the brightness of covertly attended locations, we presented sentences against backgrounds with varying brightness (ranging from white in the center to black in the periphery, and vice versa), which allowed us to infer the widespreadedness of attention through pupil size. In line with the hypothesis, the likelihood of erroneously perceiving TW-sentences as correct was increased in trials where visuo-spatial attention was more diffuse. Findings are discussed in light of a general theory of the reading brain.

3:50-4:00 PM (243)

(Data Blitz Presentation) Information from parafoveal preview is initially accessed independently of a reader's expectations. SAMANTHA SCHWARZ, *University of South Florida*, ANSLEY DAVIS, *University of South Florida*, HAYLEE LITTLE, *University of South Florida*, ELIZABETH R. SCHOTTER, *University of South Florida* — Efficient text processing requires successful integration of upcoming information with prior sentence context. Constraining contexts allow readers to generate expectations about upcoming words, including their orthographic and semantic properties, for facilitated processing. Information about upcoming words is initially accessed when they are in parafoveal vision, but it is unclear how this processing may relate to a readers' expectations. We used a boundary-change paradigm to present previews that were identical (expected words; e.g. "He deposited his paycheck at the bank"), or anomalous words that were orthographic neighbors (e.g. bark) or non-neighbors (e.g. hook). Preview type did not interact with constraint for the likelihood of skipping a word (i.e. bypassing foveal fixation). However, this interaction was observed in later reading measures (e.g. gaze duration and regressions out of the target word). In high constraint sentences, neighbors facilitated processing relative to non-neighbors, but there was no difference between anomalies in the absence of expectations. These results suggest that information extracted from parafoveal preview is accessed separately and is combined with expectations at a later processing stage.

4:00-4:10 PM (244)

(Data Blitz Presentation) Age-Related Differences in Memory for Discourse: The Effect of Modifier Semantics. DANIELLE RAMOS, *California State University, Fullerton*, HOSSEIN KARIMI, *California State University, Fullerton* — Previous research has shown that semantically modified noun phrases are encoded more strongly and remembered more accurately than unmodified noun phrases. The present study examined whether different types of modifiers can affect subsequent retrieval of associated nouns across younger and older adults. Critical sentences contained a target word (butterfly) and a competitor (passenger), and modifiers either semantically fit only the target word (blue and shimmering), or both nouns (tired and resting). Preliminary data from younger adults (N=15) revealed no significant difference in accuracy for target words across conditions. However, data collection on older adults is currently ongoing and will be completed by early fall, with a final sample size of 60 participants for each age group. We expect to observe differences in memory for target words and competitors as a function of modifier type and age.

4:10-4:30 PM (245)

The role of form-meaning interactions in semantic memory retrieval. ABHILASHA A. KUMAR, *Bowdoin College*, CHANNING HAMBRIC, *Lehigh University* — Emerging evidence suggests that semantic and phonological representations are closely interdependent, though how word form shapes semantic processing remains unclear. Three lines of work examined this relationship. First, in a large verbal fluency dataset spanning six categories, individuals performed better when the items produced shared both semantic and form-based features across taxo-

nomic and functional categories. Second, individuals with cochlear implants showed broader activation of phonological information across the lexicon, but less flexibility in using it locally to support semantic retrieval than peers with normal hearing. Third, people with aphasia produced fluency items that were less phonologically similar overall and showed phonological influence at both cluster and switch points, whereas healthy controls relied more on phonological information within clusters. Together, these findings highlight the interdependence of form and meaning in lexical processing and the flexible use of form-based information in neurotypical memory retrieval.

4:30-4:50 PM (246)

Cognitive Architecture of Semantic and Executive Control Abilities: A Latent Variable Analysis. MARIA MONTEFINESE, *University of Padova*, ERIN MICHELLE BUCHANAN, *Harrisburg University of Science and Technology*, SILVIA BENAVIDES-VARELA, *University of Padova*, IRENE DI PIETRO, *University of Padova*, ETTORE AMBROSINI, *University of Padova* — Semantic control (SC) regulates information retrieval from semantic memory to support task-appropriate behavior and is thought to interact with domain-general executive functions (EF). We examined the latent structure of SC and EF in 250 adults who completed semantic and visuospatial tasks assessing selection, shifting, inhibition, updating, and inductive reasoning across three online sessions. Preliminary structural equation modeling (SEM) analyses tested whether SC and EF are independent, equivalent, or related constructs. Two-factor models assuming related SC and EF fit the data better than models assuming independence or equivalence, although fit indices remained suboptimal. The best fit was obtained with a bifactor model including a general control factor alongside SC- and EF-specific factors. SC and EF uniquely predicted semantic and visuospatial control tasks, respectively, while sharing common variance through a domain-general control component. These findings support both the unity and diversity of cognitive control processes.

4:50-5:10 PM (247)

Hearing Ethnicity Across Language Contexts: Talker Identification and Accentedness in Vietnamese-Heritage L3 English Learners. THANH LAN TRUONG, *University of Tübingen*, ARIEL CHAN, *University of California, Santa Cruz* — Research has shown that listeners can identify speakers' ethnicities from voice alone. Prior work found that Vietnamese-heritage German speakers were reliably identified by both Vietnamese-heritage and monolingual German listeners, replicating patterns observed among Asian American speakers of English. The present study extends this finding to a novel population: Heritage speakers as L3 English learners. White monolingual American English or bilingual Vietnamese-American English listeners identified nativeness and rated accentedness and ethnicity for four speaker groups differing in ethnicity (white vs. Vietnamese-heritage) and language background (monolingual English, monolingual German, Vietnamese-English, or Vietnamese-German). Results showed that, although Vietnamese-German speakers were perceived as the most heavily accented, Vietnamese-American listeners identified both Vietnamese-heritage speaker groups at comparable rates. Meanwhile, monolingual listeners were most accurate when identifying monolingual English speakers. Together, these findings suggest that ethnic identity is encoded in speech across diverse language contexts and that listeners' ethnicity shapes talker identification.

Recall

Saturday, November 21, 2026, 3:30-5:30 PM PST

Chaired by Sarah J. Barber, *Georgia State University*

3:30-3:50 PM (248)

Savings-Enhanced Memory and Directed Forgetting May Operate Through Shared Mechanisms. SARAH J. BARBER, *Georgia State University*, MEENAKSHI MENON, *Georgia State University* — Cognitive offloading and directed forgetting both free up cognitive resources to improve memory for other information (Storm & Stone, 2015). This research investigated whether the partial savings-en-

hanced memory effect (Feller & Storm, 2024) operates similarly to item-method directed forgetting. To test this, 172 participants completed three randomized memory tasks (Remember All, Partial Savings, and Directed Forgetting) in which they studied trivia facts paired with specific cues (Remember, Save, or Forget). Results revealed that recall of Remember-cued items was significantly higher in both the Partial Savings and Directed Forgetting conditions compared to the Remember All condition. Notably, recall of Remember-cued items did not differ significantly between the Partial Savings and Directed Forgetting conditions. Self-report data indicated that participants used similar strategies when responding to Save and Forget cues. Together, these findings suggest that savings-enhanced memory and directed forgetting may rely on similar underlying mechanisms, potentially by reducing proactive interference.

3:50-4:10 PM (249)

Computational Modeling of Structured Memory Search. SUDEEP BHATIA, *University of Pennsylvania*, WENJIA ZHAO, *University of Warwick* — We use computational memory models to study how people search through knowledge structures. Participants in our paradigm are cued with a target word pair and are asked to retrieve other word pairs from memory. Across four experiments, we find that both featural and relational knowledge guide search, but are recruited differently depending on the task and exhibit distinct dynamics. Featural knowledge plays the strongest role and is especially important in free association between word pairs. Relational knowledge has a robust effect on analogy generation but plays a weak role in free association. Additionally, instructions to be creative reduce reliance on featural knowledge but not relational knowledge. Finally, the use of featural knowledge decays strongly with successive responses whereas the use of relational knowledge is persistent across the trial. Importantly, we can quantitatively predict these effects, parameterize associated mechanisms, and fit parameters to data, using a principled extension of established memory models. This allows us to integrate theoretical work on structured reasoning with computational models of memory search, laying the groundwork for parametric cognitive process models of high-level cognition.

4:10-4:30 PM (250)

Explaining Speed and Accuracy in Serial Order Memory: A Dynamic Context Account. GREGORY E. COX, *University at Albany, State University of New York*, GORDON D. LOGAN, *Vanderbilt University* — A core function of memory is to guide the selection of items that must be produced in a particular serial order, but we lack an account that can jointly explain the speed and accuracy of serial production, how people recover from errors, and the content of the memory representations that guide selection. We present a novel extension of the Context Retrieval and Updating model that accounts for the joint distributions of accuracy and response time in different serial order memory tasks by modeling selection as a race between accumulators, with one accumulator per item, driven by the similarity between the serial context associated with that item and the current serial context at retrieval. The model recovers from selection failures, in which no item is selected, by updating the serial context with a distributed representation of item activations across memory. Tasks and individual participants differ in the extent to which contexts are encoded in terms of different mixtures of item- and position-based information. The resulting model unifies previously competing item- and position-based accounts of serial order memory while extending memory theory to jointly explain speed and accuracy across different tasks and individuals.

4:30-4:50 PM (251)

Recognition and Location Memory for Unfamiliar Faces. TODD C. JONES, *Victoria University of Wellington*, FRANCIS C. FORDE, *Victoria University of Wellington*, GEORGIA Z. WESTFALL, *Victoria University of Wellington*, JESSICA D. WALSH, *Victoria University of Wellington*, SHANYA A. VINCENT, *Victoria University of Wellington* — Most episodic memory research has examined the where and when aspects of episodic memory indirectly. Nevertheless, a small body of research has asked where

or when stimuli have been encountered directly. We report a series of location memory experiments that took this latter approach. In each experiment, participants saw multiple, unfamiliar faces with scenes of well-known structures. The scenes were seen one at a time in nonoverlapping screen locations. Afterward, participants attempted to recognize who was seen earlier and specify where they were seen, and we obtained confidence levels for both judgements. Relative to memory for who was seen, memory for where someone was seen was quite challenging, though performance was clearly above chance. Location confidence was quite high when location accuracy was correct (on target) compared to near and more distant misses. We discuss the recognition and location accuracy results, including location errors, with respect to dual-process and event memory theories.

4:50-5:10 PM (252)

Effects of Acute Arousal Induction on Episodic Memory: Evidence for the Primacy of Stimulus-Level Arousal. PAUL D. LOPRINZI, *University of Mississippi* — Arousal influences memory formation, but it remains unclear whether different arousal sources differentially affect memory. This study compared physiological arousal induced by vigorous exercise with emotional arousal induced by an evocative video, relative to matched control conditions. Seventy-six young adults completed four counterbalanced conditions across separate visits: treadmill exercise, treadmill rest, emotional video viewing, and neutral video viewing. Each manipulation occurred immediately before encoding a word list containing high- and low-arousal items. Free recall was assessed at 20 minutes and 24 hours. Manipulation checks confirmed successful induction of both physiological and emotional arousal; however, neither arousal source influenced overall recall. In contrast, high-arousal words were recalled more frequently than low-arousal words at 24 hours, regardless of condition. Bayesian analyses supported these findings, showing evidence against effects of arousal induction and strong evidence for item-level arousal effects. These results suggest that transient state-level arousal does not reliably enhance episodic memory when decoupled from stimulus relevance.

5:10-5:30 PM (253)

Remember that episode when … ? Understanding the relationship between plot density and long-term memory of serialized TV. CYNTHIA CABAÑAS, *Free University of Amsterdam*, HÉCTOR PÉREZ, *Valencia Polytechnic University*, CATHERINE BOHN-GETTLER, *College of Saint Benedict; Saint John's University*, DAVID N. RAPP, *Northwestern University*, JOSEPH P. MAGLIANO, *Georgia State University* — Plot density (i.e., the number of plots that are advancing in each scene) is a core feature of serialized television, yet its relationship to memory remains underexplored. This study examined the relationship between plot density and long-term recall of events from TV series. Participants selected a television series they had recently watched and freely recalled events from its first season. Plot map analyses were developed for each series, which provided a basis for quantifying the plot density of scenes from which recalled events originated. We assessed whether recall frequencies diverged from the underlying plot-density structure of each series. Chi-square analyses compared observed recall frequencies across scenes with different levels of plot density against the expected distribution derived from the plot maps. Results indicated a non-linear relationship between plot density and recall for three of the four series, with moderate-density scenes being preferentially recalled.

Reading II

Saturday, November 21, 2026, 3:30-5:30 PM PST

Chaired by Trevor Brothers, *North Carolina Agricultural and Technical State University*

3:30-3:50 PM (254)

Sharp readers: Lexical precision in skilled reading comprehension. TREVOR BROTHERS, *North Carolina Agricultural and Technical State University* — The quality of lexical representations is critical in skilled reading, but most vocabulary tests only assess a reader's familiarity with very low-frequency words (e.g. leviathan) that rarely appear in everyday texts. Here, we investigated lexical precision – the accu-

racy of readers' semantic representations for common words – as a novel predictor of adult reading comprehension. In Experiment 1 (N = 46), we found clear individual differences in lexical precision using adaptive tasks that required fine-grained semantic judgements. These new measures showed convergent and divergent validity and predicted unique variance in reading comprehension, independent of vocabulary size. In Experiment 2 (N = 120), we replicated these findings using structural equation modelling. Lexical precision formed a coherent factor that was independent of vocabulary size, working memory, or attentional control. Strikingly, lexical precision and vocabulary size jointly explained more than 90% of the reliable variance in reading comprehension among healthy college-age adults. These results highlight the need for language assessments that capture the fidelity of word representations, which may improve the diagnosis and treatment of reading difficulties.

3:50-4:10 PM (255)

Reading Between the Lines: How Second Language Readers Construct Meaning from Context. LIN CHEN, *University of Illinois Urbana-Champaign*, WEIQI WANG, *University of Pittsburgh* — Even when second language (L2) readers possess vocabulary knowledge comparable to native (L1) readers, they often struggle with reading comprehension (August & Shanahan, 2006). This discrepancy suggests that successful reading depends not only on vocabulary but also on the ability to connect individual words with context to construct coherent meaning representations. This study examines how L2 readers use multiple-level contextual information to support meaning construction and how this process is shaped by L2 proficiency. EEG was recorded from 108 L2 English readers with varied English proficiency while they read texts from The New York Times. The results showed that lexical-semantic similarity, syntactic phrase structure closure, and sentence-level word predictability affect meaning construction. Specifically, words that were more semantically related to preceding words, closed more syntactic structures, or were more predictable resulted in less negative N400, reflecting facilitated processing. These effects were greater among higher proficiency readers. The findings suggest that L2 readers use multiple contextual cues to support comprehension, although their sensitivity to those cues is enhanced by language proficiency.

4:10-4:30 PM (256)

Recent Changes in Word Predictability Modulate Neural Responses During Reading of Naturalistic L2 Texts. XIAOPING FANG, *Beijing Language and Culture University*, YUEFAN HAO, *Beijing Language and Culture University*, JIE ZHANG, *Beijing Language and Culture University*, LIN CHEN, *University of Illinois Urbana-Champaign*, JIAXIN YUAN, *Beijing Language and Culture University*, LINER YANG, *Beijing Language and Culture University*, ERHONG YANG, *Beijing Language and Culture University* — Reading unfolds incrementally, and word predictability fluctuates dynamically across a text. However, it remains unclear how recent changes in predictability shape ongoing language comprehension. In the present study, a pretrained GPT-2 model was used to derive word-by-word predictability estimates from naturalistic texts. Recent changes in predictability were operationalized as changes in surprisal from Wordn−2 to Wordn−1. Chinese–English bilinguals read English newspaper excerpts while electrophysiological responses were recorded. Results showed that less predictable words elicited a larger N400 and a reduced late positive component. Critically, recent changes in predictability modulated predictability effects on Wordn differently as a function of readers' vocabulary knowledge. Among readers with larger vocabularies, recent increases in predictability enhanced predictability effects on subsequent words, whereas the opposite pattern was observed among readers with smaller vocabularies. Overall, these findings highlight the dynamic nature of predictive processing during naturalistic reading and suggest that lexical knowledge shapes readers' adaptation to moment-to-moment changes in linguistic predictability.

4:30-4:50 PM (257)

Orthographic predictability facilitates and precedes semantic predictability effects on the parafoveal N400 during natural reading. SARA MILLIGAN, *University of South Florida*, ALLYSON COPELAND, *University of Utah*, JACK W. SILCOX, *University of Utah*, SNEZANA A. TRENDOVA, *University of South Florida*, BRENNAN PAYNE, *University of Utah*, ELIZABETH R. SCHOTTER, *University of South Florida* — Prior ERP studies show that N400 effects are modulated by not only semantic, but also orthographic expectancy (e.g., Laszlo & Federmeier, 2019). However, these insights are limited to foveal processing as those studies used foveal rapid serial visual presentation (RSVP). During natural reading, parafoveal vision offers the first access to orthographic information and word skipping can fully eliminate foveal processing. We co-registered eye tracking and EEG to test whether orthographic predictability facilitates semantic processing for the parafoveal N400 (i.e., pN400). Parafoveally previewed words were either 1) expected (EX), 2) anomalous but orthographically related (OR), or 3) anomalous and unrelated (UR). Fixation-related potentials (FRPs) to pretarget words showed that orthographic relatedness produced a facilitation effect (i.e., reduced pN400 effect), replicating findings from foveal RSVP studies. The OR pN400 effect onset was also delayed, demonstrating that facilitation from orthographic predictability precedes semantic facilitation and that orthographic predictions influence early parafoveal processing. Exploratory findings focusing on relationships with spelling skill and word skipping behavior will be discussed.

4:50-5:10 PM (258)

Evidence That Pseudoword Spelling Better Captures Individual Differences in Literacy Than Pseudoword Reading. JEREMY J. PURCELL, *University of Maryland*, MICHAELA BROOKS, *University of Maryland*, ROBERT WILEY, *University of North Carolina at Greensboro*, LUCIA Z-RIVERA, *University of Maryland, College Park*, CORY MCCABE, *Rutgers University*, WILLIAM W. GRAVES, *Rutgers University*, DONALD J. BOLGER, *University of Maryland* — Pseudoword reading is a cornerstone of literacy assessment, yet pseudoword spelling can sample a wider range of sublexical knowledge due to a greater diversity of sound-to-spelling mappings in English and thus may be more sensitive to individual differences in literacy. We tested this hypothesis by comparing the extent to which real-word reading and spelling predict pseudoword reading and spelling in 64 adults. Participants completed pseudoword and real-word reading and spelling tasks. Pseudoword accuracy was defined as the most common sample response. Trial-level logistic mixed-effects models revealed that pseudoword spelling showed stronger associations with both real-word reading and spelling than pseudoword reading, with real-word reading explaining nearly three times more variance in pseudoword spelling than reading (ΔR^2 = .052 vs. .018), and real-word spelling similarly explaining more variance in pseudoword spelling (ΔR^2 = .048 vs. .029). These findings demonstrate that pseudoword spelling is a more sensitive measure of individual differences in literacy than pseudoword reading. This suggests that pseudoword spelling may serve as a powerful diagnostic tool for capturing the integrity of lexical and sublexical knowledge.

5:10-5:30 PM (259)

Knowing your frenemies: Form-level expectation violations facilitate initial semantic access, but trigger downstream repair processes. ALLYSON COPELAND, *University of Utah*, SARA MILLIGAN, *University of South Florida*, JACK W. SILCOX, *University of Utah*, ELIZABETH R. SCHOTTER, *University of South Florida*, BRENNAN PAYNE, *University of Utah* — Prediction during reading supports fast, flexible semantic activation (e.g., reduced N400s for related anomalies). Such flexibility may warrant downstream revisions, such as regressive eye movements and late posterior brain potentials (LPC/P600). Participants read constraining sentences with expected (EX) or anomalous targets that were orthographic neighbors of the expected word (ON) or non-neighbors (NN). We used behavior-contingent fixation-related potentials

to assess the interface between neural processing and eye-movement behaviors. Readers showed initial facilitation for ONs vs NNs indexed by reduced parafoveal N400s and shorter first-pass fixations. Despite this, readers showed increased spillover regressions following ONs and NNs, and a larger LPC unique to ONs at a second-pass of the target. Taken together, readers rapidly use form-based predictions to facilitate word recognition, but upon re-reading, these same ONs increase downstream repair-related processes. This is inconsistent with the LPC solely reflecting domain-general anomaly detection or integration effort. Instead, our data can be explained by prolonged attempts to repair, yielding a temporally-distributed yoking between neural processing and saccadic planning.

Working Memory

Saturday, November 21, 2026, 3:30-5:30 PM PST

Chaired by Valerie Camos, *Université de Fribourg*

3:30-3:50 PM (260)

Prioritization in working memory: A matter of attentional sharing during maintenance. VALERIE CAMOS, *Université de Fribourg*, CHRISTOPHE FITAMEN, *Université de Fribourg*, MAXIMILIEN LABARONNE, *Université de Rouen* — Being constantly flooded by information calls for prioritizing the most valuable information to process. To reveal the mechanism supporting reward-based prioritization in verbal working memory, participants memorized letters with varying assigned reward values (low vs. high) while performing different concurrent tasks across three experiments. The attentional demand of the concurrent task was manipulated by varying either the duration of the task (Exp. 1) or its processing complexity (Exp. 2-3) to distract attention from maintenance. Replicating previous findings, recall was better under low concurrent attention demand and for the high- than low-value items. However, this latter effect was stronger under high concurrent attention demand, i.e., when attention had less opportunity to maintain information. Thus, our results evidence that value-based prioritization in working memory depends on attentional maintenance, providing a mechanistic account of the reward prioritization effect in working memory.

3:50-4:10 PM (261)

The Phenomenology of Forgetting Tones in Two Dimensions: Conjoint Pitch and Loudness Functions across Retention Intervals. LEONEL MILLAN-GOMEZ, *University of Missouri*, YU LI, *University of Missouri*, NELSON COWAN, *University of Missouri* — Previous studies of sensory forgetting across a silent retention interval of several seconds have focused on the forgetting of a single stimulus feature, such as an object's color or a tone's frequency. This kind of procedure runs the risk that we do not really capture the way that the subjective experience of the item has changed over time. To address this issue, we asked participants to reconstruct a single tone using a grid that allowed separate selection of frequency and amplitude, which should better allow us to find out what happens to the subjective impression of the tone over time. Indeed, there were some interesting and unanticipated changes in memory that involved interactions between presented frequency and amplitude (subjectively, remembered pitch and loudness) with changes over 12 seconds of a silent distracting task. We argue for experimental designs highlighting phenomenology and its change as a function of time and forgetting.

4:10-4:30 PM (262)

Discrete States or Continuous Activation? The Equivalence and Limits of MPT and M3 for Categorical Memory. GIDON T. FRISCHKORN, *University of Zurich* — Is memory a set of discrete all-or-none states or a system of continuous activation? Multinomial Processing Tree (MPT) models operationalize the first; the Memory Measurement Model (M3) the second. Comparing them for the same categorical data seems like a principled test of representational type. In this talk, I show that it usually is not. Under standard conditions, MPT and M3 make identical predictions: any result from one model can be exactly reproduced by the other. This holds even for complex-span tasks when an MPT is structured to mirror the M3. Two conditions genuinely

break equivalence: an alternative exponential choice rule allows the M3 to predict response patterns the MPT cannot; temporal dynamics require tracking memory over time in ways no static tree captures. The key implication: fitting MPT and M3 to the same response frequencies does not test whether memory is discrete or continuous. This requires experimental designs (e.g. temporal manipulations) or additional data (e.g. response times or richer response formats) that force the models apart.

4:30-4:50 PM (263)

A Neural-Cognitive Framework for Working Memory. JOHN T. WIXTED, *University of California, San Diego*, ANNE S. YILMAZ, *University of California, San Diego* — Atkinson and Shiffrin (1968) is widely misconstrued as a fixed boxes-and-arrows model, yet it offered a flexible framework for formal memory theories. We update that framework to bring greater conceptual clarity to today's fragmented working-memory field, first by linking it to Complementary Learning Systems (CLS) theory. Durable long-term storage initially depends on hippocampal, pattern-separated codes, whereas transient short-term storage reflects cortical, overlapping codes that support rapid abstraction. Second, like long-term memory, working memory involves cue-dependent retrieval. Capacity limits arise because multiple representations are encoded into a shared medium, which can distort what is later recovered; when retrieval cues are insufficiently diagnostic, they can also activate competing candidates. This view links CLS to formal interference and distributed-coding accounts of working memory. Third, to address a long-recognized limitation of working-memory models (e.g., the ability to understand an extended conversation), we propose that background modeling processes, often approximating Bayesian inference, operate continuously without goal-directed retrieval, shaping perception, encoding, and retrieval.

4:50-5:10 PM (264)

Binding overlapping features in procedural and declarative working memory. ELENA BENINI, *University of Zurich*, VIOLA MOCKE, *University of Würzburg*, KLAUS OBERAUER, *University of Zurich* — Feature binding is studied in research on procedural and declarative working memory (WM) mostly independently. This project compares procedural and declarative binding by testing shared phenomena, focusing on partial overlap costs (POCs). POCs are consistently found in procedural WM: When two actions are planned, but not yet executed, overlap by some features slows down execution of the first action compared to no feature overlap and compared to full overlap. POCs have been argued to arise from occupation of feature codes or interference. We measured POCs in procedural and declarative WM in a closely matched paradigm. In the procedural experiment (N=60), participants performed an action while holding another action in WM, and we replicated POCs. In five declarative experiments (N=40, N=40, N=120, N=100, N=122), participants did a recognition test on one item while holding another item in WM. We observed declarative WM POCS only with a verbal, as opposed to a visual target and with encoding immediately following recognition. We tentatively conclude that POCs emerge in declarative WM when no time is allotted to deal with the partial overlap and that verbal stimuli increase the probability for POCs to emerge.

5:10-5:30 PM (265)

Is there a trade-off between processing and maintenance of information in working memory? CHENYU LI, *University of Chicago*, KLAUS OBERAUER, *University of Zurich* — Working memory maintains information for ongoing processing. Concurrent maintenance and processing often incur a cost: Processing can impair memory, and memory load can slow processing responses. Such costs in complex-span tasks are often interpreted as shared-resource competition. Alternatively, these costs may arise when processing requires additional information to be encoded into working memory. Across three experiments, we tested these accounts

with a complex-span paradigm separating processing demand from encoding additional information. Participants remembered novel objects while performing no processing, a constant response, a size judgment on each object against a constant reference, or a size judgment against a changing reference. Memory accuracy declined primarily when processing introduced a changing reference object, not when processing demand increased alone. Memory load did not progressively impair processing. These findings suggest that maintenance and processing are not generally constrained by a shared resource; memory costs instead depend on whether processing introduces additional representations.

Concepts and Categories

Saturday, November 21, 2026, 3:30-5:30 PM PST

Chaired by Sean Conway, *Purdue University*

3:30-3:50 PM (266)

Disentangling stochastic responding from perceptual discrimination in categorization. SEAN CONWAY, *Purdue University*, STEPHEN BROOMELL, *Purdue University* — Psychological modeling of categorization using the Generalized Context Model (GCM, Nosofsky, 1986) must account for the empirical variability of choice data, yet such discrete choice data are limited in the information they can provide to the model. The GCM has been widely successful in explaining categorization behavior. It is well known, however, that a free response-scaling parameter that accounts for the stochasticity of responses is highly correlated with the perceptual sensitivity parameter. This correlation is strong enough that some researchers suggest that response scaling effects several elements of the GCM. We report the results of an empirical study that experimentally manipulated stochastic responding behavior within-participants. We find that estimating parameters while allowing response-scaling to vary within-participants increases the fit of the GCM over a fully constrained model. Furthermore, this manipulation reduces the dependency between response-scaling and perceptual sensitivity parameters, improving the independent study of these two constructs. We argue that experimental approaches can enhance the study of response stochasticity.

3:50-4:10 PM (267)

Concept Learning Improves While Generalization Temporarily Narrows in Childhood. MENGCUN GAO, *University of Texas at Austin*, ALISON R. PRESTON, *University of Texas at Austin* — Generalization enables knowledge acquired in one context to guide decisions in novel situations. Although it has been assumed that generalization improves linearly with age, evidence remains limited as older children and adolescents are rarely studied. Here, we examined adults' and 7- to 15-year-olds' learning and generalization of hierarchically structured concepts. Despite age-related improvements in concept learning, 9- to 10-year-olds exhibited more constrained generalization than both younger and older participants. When novel items preserved concept-relevant features but changed along an irrelevant feature dimension, 9- to 10-year-olds were especially likely to treat those items as novel categories rather than as new instances of learned concepts. They were also less likely to generalize properties based on category membership. Computational models of attentional and associative learning suggest that age differences in learning mechanisms and learned representations alone cannot explain the pattern, which may instead reflect developmental changes in how learned representations guide generalization.

4:10-4:30 PM (268)

Predicting the Impact of Visual Brand Language on Attention, Object Recognition, and Memory Retrieval. RACHEL F. HEATON, *University of Illinois Urbana-Champaign*, JOHN E. HUMMEL, *University of Illinois Urbana-Champaign* — Visual brand language (VBL) is the set of visual properties, such as color, logo, typography, and texture, that convey brand identity for a product. We investigated the impact of VBL on a person's ability to recognize the functional identity of an object. Using an empirically grounded modeling framework based on the JIM model of object recognition (Hummel & Biederman, 1992) and the LISA model of analogical

inference (Hummel & Holyoak, 1997), we simulated how adding visual brand elements (color, typography, and logo) to functional objects (coffee makers) affects object recognition, attention allocation, and retrieval of functional information. Our simulations predict that brand information captures attention and can slow recognition of an object's functional category, with greater degrees of branding causing larger effects. In our simulations, subtle branding slowed recognition by 19%, while overt branding slowed recognition by 41%. These simulation-based predictions provide testable hypotheses for the usability and experience of designed objects.

4:30-4:50 PM (269)

Quantitative Comparison of Novice and Expert Knowledge Organization. PRIYA B. KALRA, *University of Western Ontario*, HEATHER PETCOVIC, *Western Michigan University*, JOHN PAUL MINDA, *University of Western Ontario* — Classic studies on expertise suggest that experts use deep features, such as taxonomic or causal information, to classify exemplars, while novices rely on surface features such as perceptual information. However, these studies used highly self-report driven methods. In the current study, we examine whether modern quantitative methods produce results that are consistent with or that conflict with these classic findings, especially as some aspects of expertise may be implicit; a second goal is to quantify expert-novice differences. Geology novices and experts provided pairwise similarity ratings for images of typical and atypical geological specimen images (i.e., rock pictures). These pairwise similarity ratings were used to construct multidimensional space representations, representational dissimilarity matrices, and network models. In addition, the correlation between typical pair and atypical pair ratings was correlated. The results of all analyses demonstrate quantitative and data-driven differences in expert and novice knowledge organization, consistent with expert use of deep features.

4:50-5:10 PM (270)

The Impact of Social Learning on Learning Traps. YANJUN LIU, *University of New South Wales,* MATTHEW YOUNG, *University of New South Wales,* ALISHA SHAIKH, *University of New South Wales,* BEN R. NEWELL, *University of New South Wales*, ANDREW PERFORS, *University of Melbourne*, BRETT K. HAYES, *University of New South Wales* — From classroom learning to everyday social interaction, learning through observation plays a fundamental role in daily life, enabling individuals to acquire knowledge about environmental contingencies without direct experience. In a series of experiments (N = 1342) using a multi-dimensional category learning task, we examined how social learning impacts the formation of learning traps, in which people under-explore rewarding options due to false beliefs about the environmental structure. Our results showed that, when participants fell into a learning trap during initial private learning, social observation of either optimal or suboptimal decision strategies facilitated their escape from the trap. In contrast, initial social observation of optimal or suboptimal rule use respectively reduced or increased trap prevalence in subsequent private learning, even when the feature–category mapping was altered. These findings offer a novel approach to remediating learning traps as well as shedding new light on the mechanisms by which social observation can alter private learning.

5:10-5:30 PM (271)

Interleaving supports category generalization by integrating exemplars and differentiating categories. SHARON M. NOH, *University of California, Irvine*, NEAL W. MORTON, *University of Wisconsin - Milwaukee*, AARON M. BORNSTEIN, *University of California, Irvine*, ALISON R. PRESTON, *University of Texas at Austin* — Interleaving category exemplars has been shown to improve category generalization relative to blocked study, but the mechanisms underlying this advantage remain unclear. We used fMRI to test how interleaving shapes neural representations over the course of learning. Participants learned paintings from six artists under

blocked and interleaved schedules and were tested on their ability to generalize to novel paintings. Item-level representations were measured before and after learning to examine how similarity among same- and different-category exemplars changed as a function of study schedule. Interleaving improved category generalization and produced greater neural category discriminability than blocking in dorsomedial prefrontal cortex and hippocampus. In particular, interleaving resulted in increased similarity among same-category exemplars and decreased similarity among different-category exemplars. Critically, schedule-related changes in category representations within dorsomedial prefrontal cortex predicted interleaving performance benefits. These findings suggest that interleaving improves naturalistic category learning by differentiating between categories while integrating related exemplars.

Decision Making II

Sunday, November 22, 2026, 8:00-10:00 AM PST

Chaired by Anthony S. Barnhart, *Carthage College*

8:00-8:20 AM (272)

A Meta-Analysis Synthesizing 20 Years of Evidence on the Balloon Analogue Risk Task (BART). RENATO FREY, *University of Zürich*, MAUÉ PANTOJA, *University of Zurich*, AARON LOB, *University of Zurich* — With over 3,000 citations since its publication approximately 20 years ago, the Balloon Analogue Risk Task BART has become one of the most widely used measurement instruments of the behavioral and clinical sciences. Yet, despite its widespread adoption still little is known regarding the task's psychometric properties in terms of meta-analytic evidence. We thus conducted a robust Bayesian meta-analysis synthesizing 1,665 effect sizes from 237 studies comprising the data of 51,932 participants, to (i) take stock of the psychometric properties of the BART and (ii) quantify measurement flexibility and its impact on the task's psychometric properties. The BART showed satisfactory levels of test–retest reliability (r=.53) yet no to low known--groups validity ($d=0.10$), convergent validity ($r=.00$ with other risk-taking measures and $r=.06$ with measures of impulsivity and sensation seeking), and external validity ($r=.04$). We observed substantial measurement flexibility in the meta-analyzed studies, and specific study characteristics had an impact on the estimates of the task's psychometric properties. We make recommendations for future research employing and revising the BART.

8:20-8:30 AM (273)

(Data Blitz Presentation) Debiasing Exponential Growth Bias With Visual and Informational Supports. CEYDA TUMEN, *Koç University*, AYŞECAN BODUROGLU, *Koç University* — Exponential growth bias—the systematic underestimation of exponentially increasing quantities—has important implications for public health, financial, and climate-related decisions. Through four experiments, we tested interventions targeting two key characteristics of exponential growth: accelerating slope and doubling. In Experiments 1 and 2, static and dynamic visual cues highlighting accelerating slopes did not substantially reduce bias. Forecasts remained largely linear-like and often stayed within the visible y-axis boundary. In Experiment 3, extending the y-axis increased forecasts, but underestimation persisted. These findings suggest that graph-based exponential growth bias cannot be reduced by perceptual annotations highlighting slope and may be due to linear visual extrapolation in the absence of a viable heuristic. Experiment 4 tested whether making the doubling structure explicit would improve forecasting. Doubling-based interventions significantly reduced bias, suggesting that effective debiasing may require support that promote numerical reasoning.

8:30-8:40 AM (274)

(Data Blitz Presentation) Framing the Correction: How Positive and Negative Debunking Messages Shape Belief Revision. YIWEN ZHONG, *Vanderbilt University*, LISA FAZIO, *Vanderbilt University* — People often attend more strongly to negative than positive information, a tendency known as negativity bias. Accordingly, negatively framed corrections may reduce belief in misinformation. Across

two pre-registered experiments, we tested whether debunks framed positively (emphasizing gains) or negatively (emphasizing losses) influence belief revision and policy support intentions. In Experiment 1, participants viewed true and false statistical statements followed by debunking or confirmation messages presented in either a positive or negative frame. Contrary to our hypothesis, positively framed debunks reduced the perceived truth of false claims more than negatively framed debunks, whereas negatively framed debunks produced greater policy support. These effects were strongest for high-severity claims. Experiment 2 tested only high-severity items describing widespread adverse outcomes and replicated this pattern. We hypothesize that people may expect severe negative outcomes not to affect most people, so positively framed debunks may be more effective as they restore judgments to that baseline. These findings show that correction effectiveness depends on how the correction is framed and on the severity of the context.

8:40-9:00 AM (275)

Magic vs. the Machine: Influencing Choice in Humans and Large Language Models. ANTHONY S. BARNHART, *Carthage College*, JAZZMYN GUZMAN, *Carthage College*, IDA MATHIASSEN, *Carthage College*, MAGDALEN KOLAR, *Carthage College*, JOE DIAMOND, *Joe Diamond Live* — Large language models adopt the biases that are present in the corpus on which they have been trained, making them susceptible to many of the techniques that magicians use to covertly influence choice. We exposed a sample of human participants and a sample of ChatGPT "participants" to ten verbal magic tricks that exploit various psychological tendencies, including priming, prototypes/heuristics, topological/positional selection biases, and obfuscated mathematics. Importantly, many of these tricks are probabilistic, and do not work 100% of the time. We also asked both groups to introspect on the factors that shaped their behaviors across tricks in order to understand the extent to which these groups could identify the "secrets" to the tricks. We found that magic tricks that exploit prototypes and heuristics were far more successful with AI agents than with humans whereas many other kinds of magic tricks had approximately equivalent success. Across all classes of magic tricks, AI was more successful at identifying the techniques that were being used to influence its behavior. AI is treated by many as an infallible tool. However, it has codified many of humanity's most readily exploited biases.

9:00-9:20 AM (276)

Advanced Reasoning LLM Prioritizes Gist Over Clinical Guidelines for Antibiotic Prescribing. DAVID BRONIATOWSKI, *George Washington University*, VALERIE F. REYNA, *Cornell University* — We evaluated whether a general-purpose Large Language Model uses gist- or verbatim-based reasoning when making antibiotic prescription decisions, per Fuzzy-Trace Theory. Eight scenarios described patients with upper respiratory tract infections. Design factors were 2 (physician gist: viral/bacterial) × 2 (CDC guidelines: viral/bacterial) × 2 (AI model: viral/bacterial). Human subjects were 129 emergency department physicians; chatbot responses were generated using the ChatGPT API (gpt-5.5). Scenarios were randomized and administered 200 times. ANOVAs analyzed signed choices (0 = don't prescribe; 1 = prescribe). Humans and chatbot were more likely to consider (53% and 43%) than recommend prescribing (42% and 30%), $p < 0.001$. Humans prescribed more overall. Both were most influenced by gist: bacterial vs. viral scenarios increased prescribing by 42% in humans (73% vs. 31%) and 63% in the chatbot (67% vs. 5%), $p < 0.001$. Both were less influenced by guidelines (63% and 47% vs. 41% and 25%) and model recommendations (58% and 43% vs. 38% and 28%), $p < 0.001$. The chatbot relied on guidelines and model inputs similarly, but more heavily on physician gist, than humans did, exhibiting an exaggerated gist processing preference.

9:20-9:40 AM (277)

Framing "biodiversity loss" with environmental organizations. WANDI BRUINE DE BRUIN, *University of Southern California* — A recent UN report warns that an estimated one million species of plants and animals may face extinction within decades, re-

flecting unprecedented biodiversity loss. While some environmental organizations use the technical term "biodiversity loss" in their public communications, others use concrete frames such as "nature loss" or "extinction of plants and animals." Yet others apply crisis framing by stating "biodiversity crisis," "nature crisis," or "extinction crisis." To assess the effectiveness of these terms for public communications, we collaborated with environmental organizations to design a survey experiment of 7,338 U.S. adults who were randomly assigned to one of the six terms, either alone or with an explanatory paragraph and photos of plants and animals. "Biodiversity loss" and "biodiversity crisis" received the lowest ratings of familiarity, concern, urgency, and policy support. "Extinction of plants and animals" performed best, though "nature loss" performed as well as this term when context was provided. Providing context improved ratings for all terms, but "extinction of plants and animals" needed it the least. Crisis framing had little to no effect. We discuss implications for biodiversity communications.

9:40-10:00 AM (278)

Ancillary Assumptions Can Make Core Qualitative Predictions: The Role of Truncation in Magnitude Sensitivity. NATHAN EVANS, *University of Liverpool*, BLAKE THOMPSON, *University of Liverpool*, ANGELO PIRRONE, *University of Liverpool* — When developing or testing cognitive models, researchers often explicitly or implicitly separate the assumptions of the model into "core" and "ancillary". Core assumptions form the theoretical foundations of the model and lead to its key qualitative predictions, whereas ancillary assumptions are specified out of necessity when formalizing the model. Here, we show that the inclusion or exclusion of certain ancillary assumptions can lead to fundamentally different qualitative predictions, through the example of the Leaky Competing Accumulator (LCA) model of decision-making. We focus on the predictions of the LCA regarding magnitude sensitivity, an effect where response time typically decreases with increasing overall stimulus intensity, though accuracy changes inconsistently between studies. Specifically, we find that truncating evidence at zero – that is, preventing negative evidence for any alternative – is crucial for the LCA to predict more complex patterns of accuracy change across magnitude, some of which are consistent with empirical data. We recommend that researchers carefully consider the potential impact of their ancillary model assumptions, and how they might alter seemingly general qualitative predictions of the model.

Speech Perception I

Sunday, November 22, 2026, 8:00-10:00 AM PST

Chaired by Ann R. Bradlow, *Northwestern University*

8:00-8:20 AM (279)

Encoding of Second-Language Talker Information in a Pre-Trained Self-Supervised Speech Model. SEUNG-EUN KIM, *Yonsei University*, MATT GOLDRICK, *Northwestern University*, JOSEPH KESHET, *Technion - Israel Institute of Technology*, ANN R. BRADLOW, *Northwestern University* — As listeners process the content of a talker's speech, they also encode indexical characteristics of the talker, such as their age, gender, or language background. This study examined whether a pre-trained self-supervised speech model is similarly sensitive to such information. We studied the structure of this model's embedding space by examining the distances between second-language (L2) English talkers. We obtained embeddings for sentence recordings produced by a large number of L2 English talkers and calculated pairwise distances between them. We found smaller average distances for pairs of talkers sharing the same L1 background or gender, suggesting indexical characteristics encoded by human listeners are also encoded by the self-supervised model. We also found that human listeners find 'central' L2 talkers (low average distance from other L2 talkers) more intelligible than 'peripheral' L2 talkers (high average distance from other talks), suggesting that distances reflect aspects of talker proficiency in the L2. Together, these findings suggest that representations derived from a self-supervised speech model encode multiple dimensions of talker information in ways that resemble human speech perception.

8:20-8:40 AM (280)

Do you speak Monster-ese? A community-based study of phonological and semantic networks across the lifespan. CANAAN BREISS, *University of Chicago*, LAUREL BREHM, *University of California, Santa Barbara* — The lexicon is a site of multiple feedback loops: the phonological statistics of known words affect judgements of novel words and the structure of semantic categories among known items affects how speakers interpret novel words without clear referents. We report a large-scale community-based experiment on how the phonological and semantic structure of the lexicon affects nonword acceptability and meaning judgements using a "Monster-ese" translation paradigm. Participants (n=148, aged 4-72) were asked to rate (non)words from 4 (very English-like) to 1 (very Monster-like/unacceptable), and categorize them ("translate from Monster-ese") as a thing, vehicle, person, or animal. Nonwords with higher statistical similarity to the phonological lexicon are rated more English-like, and this effect is larger in those with larger vocabularies. Similarly, larger semantic categories attract more nonwords, especially for adults. Phonotactic well-formedness and semantic category also interact, suggesting speakers use both lexical semantic structure (top-down) and phonological cues (bottom-up) to assess the meaning of a novel referent. Combined, this suggests that even young children make sophisticated judgments about patterns of means and sounds.

8:40-9:00 AM (281)

L1 speech is better understood by both L1 and L2 listeners in challenging phonetic contexts, but acoustic features differ systematically. SARAH C. CREEL, *University of California, San Diego*, ERIK T. GLESNE, *University of California, San Diego* — When first and second language (L1 and L2) speakers interact, who understands whom better? Prior work suggests L2 speakers understand L2 speech better than L1 listeners do, but they don't understand L2 speech better than they themselves understand L1 speech. In the current study, L1 and L2 speakers of English (L1 Mandarin; 48 per group) heard each other naming the same pictures (log, can, cart, lock, card, Ken…). Then each heard both self- and other recordings (different trial blocks) and tried to select which of four pictures was named (e.g. hear L2 speaker's "log"; see log, lock, can, Ken). Logistic mixed effects models on selection accuracy showed that L1 speech was better recognized, with a larger advantage for L1 listeners (speaker language x listener language, $p<.0001$; Fig1). Both L1 ($p<.0001$) and L2 listeners ($p=.0006$) understood L1 speech better than L2 speech. L2 listeners did not understand self L2 speech better than L1 speakers did. These outcomes differ from earlier findings, perhaps due to perceptual learning in the naming phase. Acoustic analyses suggest L1 and L2 speakers contrast coda voicing differently: both use vowel duration, but L1 speakers use closure duration more while L2 speakers use release duration more.

9:00-9:20 AM (282)

Learners show graded sensitivity to phonotactic patterns. TOMMY DENBY, *Independent Researcher*, MATT GOLDRICK, *Northwestern University* — Learners do not equally attend to all types of variation in their linguistic environment. Does this reflect a categorical distinction (variation is either attended to or ignored), or graded degrees of attention to various potential patterns? We examined listeners' sensitivity to constraints over sound sequences (phonotactics). Listeners were exposed to two talkers, each exhibiting a different phonotactic pattern (talker A doesn't end syllables in /s/; talker B doesn't end syllables in /p/). Across listeners, talker similarity varied: talker pairs were drawn from the same language background (e.g., 2 English or 2 French talkers) or different backgrounds (e.g., 1 English talker, 1 French talker). Critically, within and across these groups, talker pairs varied in their phonetic similarity; some pairs were highly similar to one another, whereas others were much less similar. Variation in listener recognition memory performance was better explained by a continuous measure of talker similarity (based on distance in a self-supervised model embedding space) than the categorical distinction of shared vs. different language background. This suggests learning involves graded sensitivity to potential patterns in the linguistic environment.

9:20-9:40 AM (283)

"Sub" competes with "bus": The neural basis of the phoneme transposition effect in spoken word recognition. DAVID W. GOW, JR., *Massachusetts General Hospital; Harvard Medical School*, ARNOLD FLEISHMAN, *Massachusetts General Hospital*, SEPPO P. AHLFORS, *Massachusetts General Hospital* — The temporal structure of the speech signal imposes fundamental constraints on spoken word recognition. At the same time, evidence for a phoneme transposition effect (PTE) in which words like "sub" prime words with reordered phonemes (anadromes) like "bus" suggests that the phoneme sequencing may be a processing challenge rather than a simple reflection of signal structure. Here we examine the neural basis of the PTE using partial searchlight representational similarity analyses of brain activity from MRI-constrained reconstructions of simultaneous MEG and EEG data collected during an auditory lexical decision task. We created ground truth representational dissimilarity matrices (RDMs) of lexical similarity based on either ordered or unordered representation phonemic features. RDMs of neural activity in bilateral temporal regions elicited by spoken words correlated with ordered but not unordered lexical similarity RDMs as the speech signal unfurled. However, this pattern reversed after the word was completed, with only unordered lexical representations correlating with a larger bilateral network that includes frontal regions implicated in lexical selection and more anterior temporal regions.

9:40-10:00 AM (284)

Dimensional reweighting in sound category learning as a function of prior dimension weight. YEOJIN JUNG, *University of Oregon*, CARINA AHRENS, *University of Oregon*, NADIA CLEMENT, *University of Oregon*, KAORI IDEMARU, *University of Oregon*, VSEVOLOD KAPATSINSKI, *University of Oregon* — We test whether listeners adapt to unfamiliar accents by reweighting perceptual dimensions that cue speech categories, and how this process is influenced by prior allocation of attention across the dimensions. Specifically, we examined dimensional reweighting in American English and Korean listeners when learning a stop contrast in which they needed to attend to F0 (the most important dimension for Korean stops) and ignore VOT (the most important dimension for English stops). We manipulated whether the F0 values used in training were close or far from each other. Training featured feedback about classification (beer vs. pier). Closer values provide stronger signal that F0 is important (a small change in F0 makes a big change to feedback), and so closer values were expected to lead to more upweighting. However, American English listeners showed stronger F0 upweighting in the Far F0 condition. Korean listeners showed stronger upweighting overall and were unaffected by distance between the trained F0 values. These findings are explained by lower F0 discrimination accuracy in American listeners: closer trained values only help upweight a dimension insofar as listeners attend to it enough to perceive the values as different.

Recall II

Sunday, November 22, 2026, 8:00-10:00 AM PST

Chaired by Kimele Persaud, *Rutgers University*

8:00-8:20 AM (285)

Re-exposure to AI-Generated Images During Misinformation Corrections Reduces False Beliefs and Improves Memory for Corrections. SEAN GUO, *Hong Kong University of Science and Technology*, SEN MU, *University of Hong Kong*, CHRISTOPHER N. WAHLHEIM, *University of North Carolina at Greensboro*, XIAOQING HU, *University of Hong Kong* — AI-generated images are increasingly used to spread false information online, but it remains unclear how repeating these images during corrections affects false beliefs. Re-exposing images could improve memory for corrections, but it could also make false information appear more realistic. Across three preregistered experiments (total N = 884), we examined how re-exposing people to AI-generated images during corrections affected their belief in false headlines and memory for corrections. Image re-exposure during corrections reduced false belief and improved memory for corrections compared with corrections without image re-expo-

sure. These effects persisted after a one-week delay and even when the AI origin of the images was not disclosed. Better memory for corrections was associated with lower false belief. These findings show that re-exposing people to AI-generated images during corrections improves memory for corrections and suggest that this method may lead to more durable encoding of corrections within fact-checks encountered in everyday online contexts.

8:20-8:40 AM (286)

Sleep Selectively Enhances Substitution-Induced Forgetting and Substitute Recall. JIYI ZHU, *Chinese University of Hong Kong, Shenzhen*, SERGE HOEFEIJZERS, *Chinese University of Hong Kong, Shenzhen* — Intentional forgetting allows adaptive memory control via direct suppression or thought substitution. We tested whether post-learning sleep selectively modulates these mechanisms. Participants completed a word-pair memory task (12 items each: baseline, suppression, substitution) and were assigned to Sleep (n = 23) or Wake (n = 21) groups. Suppression-induced forgetting (SIF) scores indexed proportional forgetting above baseline forgetting within each participant. Mixed-design ANOVA revealed a Paradigm x Retention Condition interaction, $F(1,42) = 8.07$, $p = .007$, $\eta p^2 = .161$: sleep selectively enhanced Thought Substitution SIF (M = .302 vs .154), $t(42) = 3.25$, $p = .002$, $d = 0.98$, but not Direct Suppression SIF (M = .036 vs .041), $t(42) = -0.13$, $p = .900$, $d = -0.04$. Sleep also increased substitute recall, scored as the proportion of substitute words recalled at the final test (M = .710 vs .504), $t(36.13) = 2.52$, $p = .016$, $d = 0.77$. Actigraphy showed Sleep Efficiency predicted substitute recall, $\beta = .494$, $p = .022$, whereas Wake After Sleep Onset (WASO) did not. These findings reveal a paradigm-specific role of sleep in intentional forgetting, supporting adaptive memory control by strengthening newly generated substitute memories.

9:00-9:20 AM (288)

What and Where…and Now How! Investigating the Influence of Naturalistic Encoding Tasks on Object-Feature Memory. KATHERINE ARCHER, *Rutgers University - Newark*, KIMELE PERSAUD, *Rutgers University - Newark* — Substantial research has examined how perceptual and semantic properties shape object-feature memory. Yet, in real-world scenarios, object properties often interact with the tasks in which objects are naturally encoded (e.g., visual search) to influence object-feature binding. However, the nature of these interactions are not well understood. Across two studies, we employed three unique encoding tasks and assessed memory for task-relevant and irrelevant objects features. Participants were presented with objects placed in congruent or incongruent locations in naturalistic scenes and were told to either memorize, search for, or search and make decisions to keep or toss objects. Study 1 revealed better recall of incongruent object locations (task-relevant) following search only compared to standard memorization. Study 2 revealed better object-state recognition (task-irrelevant) and incongruent location recall (task-relevant) following search plus keep-toss decision compared to search only. Together, this work highlights the substantive contribution and joint effects of encoding tasks and semantic properties on object-feature memory.

9:20-9:40 AM (289)

Memory consolidation of interacting memories during sleep. EITAN SCHECHTMAN, *University of California, Irvine* — Sleep is critical for the stabilization of memories. This process is thought to be supported by the reactivation of memories, thereby strengthening the neural infrastructure supporting them. Theoretical accounts of memory consolidation focus on how memories are independently strengthened, but in natural settings, individual memories never exist in a vacuum. In this talk, I will present a series of studies exploring the extent of memory reactivation during sleep in humans, how interactions between memories impact the consolidation process, and the role of encoding context in memory processing during sleep. The main technique used to explore

memory reactivation in these studies is targeted memory reactivation, a behavioral manipulation that can selectively bias consolidation during sleep. The results demonstrate that multiple semantically related memories can be consolidated simultaneously during sleep, but also reveal critical boundary conditions for this process. Taken together, these results inform our current understanding of sleep's role in memory consolidation in humans, especially as it pertains to naturalistic, contextually rich memories.

9:40-10:00 AM (290)

Is Ancestral Relevance the Key to Survival Processing? I-AN SU, *University of Washington Tacoma* — The survival processing paradigm, in which participants encode information by evaluating its relevance to an ancestral survival scenario, has consistently demonstrated a robust mnemonic advantage since its introduction (Nairne et al., 2007). However, the mechanisms underlying this survival processing advantage (SPA) remain unclear. The present research examines whether the effect is attributable to survival relevance per se or to the ancestral features. In Study 1 (N = 230), participants completed a replication of Nairne et al.'s (2007, Experiment 1) 32-word free-recall task across six scenarios varying in survival relevance (survival vs. non-survival) and ancestrality (ancestral, modern, or fictitious). The grasslands (36.9%), Ice Age (37.7%), and zombie (37.5%) scenarios yielded comparably high recall rates, whereas the dinosaur (34.1%), moving (32.2%), and warzone (34.4%) scenarios produced lower recall performance. These findings suggest that survival-oriented processing, particularly within ancestral or imaginatively constructed contexts, may contribute to the SPA. Study 2 extends this investigation to recognition memory. Implications for elaborative, evolutionary, and fuzzy-trace accounts of memory are discussed.

Psycholinguistics II

Sunday, November 22, 2026, 8:00-10:00 AM PST

Chaired by Wednesday Bushong, *Wellesley College*

8:00-8:20 AM (291)

Neural dynamics of concept representation in braille reading. DAISY LEI, *Smith-Kettlewell Eye Research Institute*, PUSHPITA BHATTACHARYYA, *Smith-Kettlewell Eye Research Institute*, RYAN TAM, *Smith-Kettlewell Eye Research Institute*, SANTANI TENG, *Smith-Kettlewell Eye Research Institute* — Anaphors—words or phrases that refer to previously mentioned concepts (i.e., referents), have been used to study the neural dynamics of concept maintenance in visual reading—a process that remains unexplored in tactile reading. Here, we captured dynamic neural representations of anaphor processing in the tactile domain by recording simultaneous electromagnetic finger-tracking and EEG data from blind braille readers while they read sentences with a referent (a proper noun) and an anaphor (a stereotypically matching or mismatching pronoun). The neural representation of the referent (e.g., 'Sarah') was expected to have a stronger similarity with the stereotypically matching pronoun (e.g., 'she') compared to that of the mismatched pronoun (e.g., 'he'). Preliminary ERP and decoding analyses revealed a mismatch effect ~1000 ms after anaphor onset, potentially analogous to a classic P600, typically peaking around 600 ms in prior work. The results suggest that referential concept retrieval may be influenced by modality-specific timing factors but is otherwise independent of sensory experience and modality.

8:20-8:30 AM (292)

(Data Blitz Presentation) Supportive Accommodation and Age Differences in Language Processing: Evidence From a Map-Based Eye Tracking Task. ROSE P. BAKER-IYORE, *East Carolina University*, MATTHEW WALENSKI, *East Carolina University*, KATHRIN ROTHERMICH, *East Carolina University* — Younger adults often modify their speech to accommodate older adults in inter-

generational conversation to improve comprehension and manage social relationships, but older adults often feel patronized by younger adults' speech. It is not yet clear which accommodative features support comprehension and how listener differences influence it. In this study, older and younger adults completed an eye tracking map task while listening to recorded directions presented in four conditions: casual, syntactically simple, repetitious, and slow-rate speech. Participants followed directions and selected a destination while gaze behavior and reaction time were recorded. Results demonstrated a robust age effect: older adults spent less time fixating on the target route and demonstrated lower overall accuracy than younger adults. Reaction time analyses suggest that repetitious speech may slow processing among older adults. Ongoing analysis will reveal how personality, anxiety, and empathy predict eye tracking behavior. These findings highlight the importance of distinguishing supportive accommodation from overaccommodation and demonstrate the value of eye tracking for investigating real-time language processing in intergenerational communication.

8:30-8:40 AM (293)

(Data Blitz Presentation) The role of prior semantic knowledge in novel word learning: Behavioral and ERP evidence. ADRIANA R. MILLER, *Pennsylvania State University*, JANET G. VAN HELL, *Pennsylvania State University* — EEG research finds that neural signatures of newly learned words become more 'word-like' after overnight consolidation. We examined the role of existing semantic knowledge in novel word consolidation. We compared learning novel words paired with unfamiliar meanings (i.e., a jabary is a car with two wheels that drives underwater) to novel words paired with familiar meanings (i.e., a kumsur is a vehicle used for transferring goods which maps to the familiar concept, truck). Participants learned sets of words from both conditions during Day 1 and Day 2, 24 hours later. At the end of Day 2, participants were tested on all learned words by judging the semantic relatedness of word pairs while ERPs were recorded. We predicted that neural signatures of words learned on Day 1 (which have undergone overnight consolidation) and novel words corresponding with familiar meanings will show most word-like N400 and LPC effects. Unfamiliar novel words learned on Day 1 yielded N400 and LPC effects, but only LPC effects when learned on Day 2, indicating consolidation-related changes. Familiar words yielded N400 and LPC effects when learned on Day 1 and Day 2, indicating that connecting word meaning to prior semantic knowledge facilitated learning.

8:40-9:00 AM (294)

How Detailed are Listeners' Representations of Past Speech? WEDNESDAY BUSHONG, *Wellesley College* — Spoken language is a continuously unfolding signal, pressuring listeners to rapidly process input and discard most of its details from memory. Precisely how much information about past speech listeners maintain has remained elusive. Can listeners maintain the perceptual details of a past speech sound, their certainty about its phonemic category, or only their phonemic category decision? Drawing on methods from the broader perceptual literature, I conduct two discrimination experiments (n = 120 each) to assess which of these levels of representation drive decision-making effects, using sounds embedded in words (Experiment 1) or nonwords (Experiment 2). In words, responses were driven by category identity and category certainty, not difference in acoustic space. For nonwords, acoustic information did drive discrimination judgments in addition to category variables. Listeners may be in principle capable of maintaining information about the acoustic details of past speech, but it may not be the norm in typical language contexts.

9:00-9:20 AM (295)

Free Flowing Thought in Bilinguals and Monolinguals: How Language Experience and Lexical Properties Influence Word Associations. MATIAS FERNANDEZ-DUQUE, *Northwestern University*, VIORICA MARIAN, *Northwestern University* — Lexical knowledge shapes the organization of semantic memory, affecting how individuals access and combine concepts. Because concept retrieval is often mediated by language, individual differences

in language experience—such as speaking multiple languages—can influence how people form associations between concepts. The present study examined how language experience shapes associative thinking using Forward Flow, a metric of semantic divergence from an initial concept. Sixty English monolinguals and 120 Spanish-English bilinguals completed a free association task in their respective languages. Greater vocabulary and language dominance predicted higher Forward Flow, indicating more semantically distant thought sequences. Among bilinguals, Forward Flow was higher in the dominant than in the non-dominant language, suggesting that the associations bilinguals make depend on the language of retrieval. The associations generated were also influenced by language-specific properties (e.g., compounding, ambiguity, phonology) and cultural norms. Our findings suggest that language experience and language structure jointly shape associative thinking, demonstrating how the languages people speak guide the conceptual associations they make.

9:20-9:40 AM (296)

The Effect of Semantic Network Structure on Lexical Prediction during Language Comprehension. RAUL HERNANDEZ, *California State University, Fullerton*, HOSSEIN KARIMI, *California State University, Fullerton* — Spreading activation theory proposes that predictive processing during reading depends on the rapid transfer of information within semantic memory. Since information transfer depends on network structure, individual differences in semantic memory organization may influence lexical prediction strength—the RT facilitation advantage for highly predictable over unpredictable words. 104 Participants completed a self-paced reading task and an animal verbal fluency task. Prediction strength scores were derived from mean RT(predictable) - RT(unpredictable) across the critical words and the spillover region, and participants were classified as strong or weak predictors via median split. Verbal fluency sequences were reconstructed as semantic networks using the Naive Random Walk method and compared via bootstrap resampling. Strong predictors showed shorter average path length on full networks and lower modularity across bootstrap samples, with equivalent local clustering. Critically, strong predictors were not faster readers overall; their advantage was specific to high-constraint contexts, consistent with a more globally integrated semantic architecture that supports efficient predictive pre-activation.

9:40-10:00 AM (297)

Optimal vs natural rate of processing linguistic information. VICTOR KUPERMAN, *McMaster University*, LAURA SCHWALM, *University of Wuppertal*, RALPH RADACH, *University of Wuppertal* — What is the optimal rate for the brain to process linguistic information? The optimal listening or reading rate is the fastest rate (in words per minute) that does not compromise comprehension of the text. Relevant data come from studies of reading and listening that examine the trade-off between processing speed and comprehension quality. Several questions remain unresolved: (i) what is the optimal listening rate, (ii) what is the optimal reading rate, (iii) are these rates similar, and (iv) how does the trade-off between processing rate and comprehension manifest among non-native (L2) speakers and readers of a language? I present a series of three studies examining listening and reading rates among L1 and L2 speakers and readers of English). Average reading and listening rates observed in natural settings can be increased by 25–30% without harming comprehension. However, optimal reading rates is substantially faster than listening. We also find that L2 readers of English achieve reading comprehension levels closer to those of L1 readers but lag behind in processing speed. Implications for the cognitive science of language are discussed.

Attention: Cognitive Control II

Sunday, November 22, 2026,
8:00-10:00 AM PST

Chaired by Anthony P. Zanesco, *University of Kentucky*

8:00-8:20 AM (298)

The maintenance of attention over time influences the dynamics of EEG microstates. ANTHONY P. ZANESCO, *University of Kentucky*, ABIGAIL M. GROSS, *University of Kentucky*, DELANIE J. SPIVEY, *University of Kentucky*, BRAXTON M. STEVENSON, *University of Kentucky*, LEXI F. HORN, *University of Kentucky*, SOPHIA R. ZANELLI, *University of Kentucky* — Human attention is inherently transient and limited in span to only a few moments without lapsing. However, it remains unclear how the temporal dynamics of specific brain states result in the unavoidable fluctuations in attention that constrain its span. In the present study, we investigated whether the strength and dynamics of brain electric microstates differentiate states of focus from inattention and contribute to the endogenous maintenance of attention over short and long timescales. We recorded 128-channel EEG while participants maintained their attention during the wait time delay of trials in the Sustained Attention to Cue Task (SACT) and segmented the EEG into a categorized time series of microstates. The findings revealed that the prevalence of two specific microstates, C and E, differentiated correct from incorrect trials. These same microstates were also implicated in the maintenance of attention over short and long timescales, with their dynamics changing systematically during the wait time delay of trials and over the course of the task session. Together, these findings suggest that the millisecond dynamics of these brain states contribute to the maintenance of attention over time.

8:20-8:30 AM (299)

(Data Blitz Presentation) Adaptive recovery under reward: Motivational context shapes multimodal predictors of post-error adjustment. EVRIM BAYKAL, *University of Denver*, AMARA A. GUSS, *University of Denver*, SHAHKED LEVIN, *University of Denver*, SASHA M. WINTNER, *University of Denver*, KIMBERLY S. CHIEW, *University of Denver* — Post-error adjustment is central to adaptive control, yet how motivational context shapes recovery — the return to accurate performance after an error — remains unclear. In a preregistered study, participants (N=32, target N=55) completed a modified flanker task with adaptive noise calibration under reward and non-reward conditions with pupillometry and gaze tracking. Reward enhanced recovery (OR=1.43, $p<.001$) and reduced error-run length ($d=0.54$, $p<.01$). Pupil amplitude showed condition-dependent effects on recovery (amplitude × reward interaction, $\beta=0.22$, $p=.020$), positively predicting recovery under reward ($\beta=0.21$, $p=.005$) but negatively under non-reward ($\beta=-0.17$, $p<.001$). Gaze displacement predicted worse recovery under non-reward ($\beta=-0.09$, $p=.011$) but not reward. Post-error slowing was observed, but did not predict trial-level recovery ($p=.14$). Exploratory analyses showed that permutation entropy — linked to cognitive functioning — independently predicted recovery across error types ($\beta=0.13$, $p=.001$), beyond dilation amplitude. These findings suggest that post-error recovery may depend not on the magnitude of the error response but rather on how it unfolds, with motivational context shaping which signals support adjustment.

8:30-8:40 AM (300)

(Data Blitz Presentation) Leveraging the environment to maximize attentional performance. MOLLY R. MCKINNEY, *Texas A&M University*, VIRGINIA K. WINSTON, *Texas A&M University*, BRIAN A. ANDERSON, *Texas A&M University* — Individuals control their attention in vastly different and often inefficient ways. This ongoing study is designed to evaluate whether environmental conditions can motivate individuals to maximize their perfor-

mance. Broadly, experimental groups are exposed to an "inefficient" visual search environment with one target within large or small subsets of red and blue squares; the subset or color of the target is unpredictable, slowing search. Then, in a second phase, participants must find one of two targets, with each color subset containing one target; the "optimal," fastest strategy is to identify the smaller subset (e.g., fewer red items) and search for the target within that subset. Participants are not instructed about the distribution of color stimuli, so if participants differently engage the optimal strategy as a function of prior experience, it suggests they can make use of the environmental conditions to maximize performance. Compared to a naive group, participants in the experimental group showed a significantly higher proportion of optimal choices, suggesting they benefited from experience with inefficient search. The current experiment is designed to account for practice effects and baseline optimality.

8:40-9:00 AM (301)

Target Reconfiguration and Distractor Suppression Operate Through Separate Mechanisms During Visual Search. CHANGRUN HUANG, *Duke University*, TOBIAS EGNER, *Duke University* — Real-world visual search often imposes the dual challenge of rapidly updating an internal goal while simultaneously suppressing distractors. It remains debated whether these processes share a single underlying mechanism. Under the unified view, suppression is not considered an independent process but instead an epiphenomenon arising from target selection. Alternatively, these processes might operate via distinct, parallel mechanisms. To adjudicate between these models, we developed a novel cued singleton search paradigm that forced concurrent target reconfiguration and distractor filtering. Utilizing an orthogonal design, we introduced block-wise statistical regularities to independently manipulate the demands on target updating and distractor suppression. Results revealed a robust double dissociation. Adapting to high target volatility reduced switch costs without impairing suppression. Conversely, adapting to high distractor frequency attenuated interference without inflating switch costs. The absence of crossover interactions demonstrates that the visual system can concurrently optimize top-down target reconfiguration and distractor filtering by leveraging independent mechanisms.

9:00-9:20 AM (302)

Calibrating Attention to Graded Distraction: The Item-Specific Distraction Intensity Effect. MERVE ILERI-TAYAR, *Duke University*, JULIE M. BUGG, *Washington University in St. Louis* — Cognitive control research has long relied on a binary distinction between congruent and incongruent trials. However, distraction is inherently graded. Beyond its presence, its intensity can vary among trials. We introduce the Item-Specific Distraction Intensity effect, demonstrating that attentional control can be calibrated to an item's typical level of distraction when all items are incongruent at varying levels of intensity. Using a parametric flanker task, participants responded to a central arrow while ignoring flankers. Distraction was manipulated parametrically by varying the number of incongruent flankers. Critically, target arrows differed in their typical distraction level. The distraction-induced performance costs were reduced for targets typically encountered under high relative to low levels of distraction, indicating item-specific learning of graded control settings. Follow-up experiments using intermediate-distraction trials revealed transfer of these settings, consistent with flexible control adjustment. These findings extend the item-specific control literature beyond binary conflict manipulations and suggest that attentional control is continuously calibrated to the expected distraction intensity of items.

9:20-9:40 AM (303)

Neural Correlates of Asymmetric Switch Costs During Affective Task Switching. LEIF ERIK LANGSDORF, *Martin-Luther University Halle-Wittenberg*, TORSTEN SCHUBERT, *Martin-Luther University Halle-Wittenberg* — Task switching is commonly used to investigate cognitive control and typically reveals switch costs, reflected in slower responses on switch than repetition trials. Previous studies have shown larger switch costs when switch-

ing to an affective than a neutral task, suggesting that affective task-sets are inhibited to enable neutral-task performance. However, the neural basis of this asymmetry remains unclear. We conducted two EEG cued task-switching experiments in which participants judged the gender (neutral task) or emotional expression (affective task) of faces. Experiment 1 examined whether affective task content influences preparatory task-set reconfiguration, whereas Experiment 2 tested whether these effects extend to task-set maintenance, indexed by mixing costs (repetition–single-task performance). In Experiment 1, the switch positivity during the cue–stimulus interval was reduced for affective relative to neutral tasks and accompanied by larger switch costs. In Experiment 2, affective task content did not modulate the mixing positivity, consistent with symmetrical mixing costs. These findings indicate that affective task content selectively interferes with task-set reconfiguration but not task-set maintenance.

9:40-10:00 AM (304)

The influence of decision threshold on the alerting-congruency interaction. YAFIT OSCAR, *Achva Academic College; Ben-Gurion University of the Negev*, NOAM WEINBACH, *Haifa University*, AVISHAI HENIK, *Ben-Gurion University of the Negev* — Alertness, executive control and orienting are basic components of the human attention systems. Many studies showed an interaction between alertness (e.g., a tone that precedes the target stimulus) and executive control (measured by a congruency effect). Specifically, the alerting tone reduced the congruency effect. A study by Han & Proctor (2023) did not obtain the alertness-congruency interaction. We examine whether this lack of interaction was due to speed of responding. To this end we manipulated speed of responding by asking participants to focus on speed or accuracy. When participants focused on speed we replicated the alertness-congruency interaction in the local condition but not in the global condition. When participants focused on accuracy no such interaction was found, regardless of of global-local condition. Importantly, slowing down responding rathern than speeding it up eliminates the effect of alertness on congruency. It is possible that focusing on accuracy enhances caution, thus reducing the tone effect.

Discourse Processes

Sunday, November 22, 2026, 8:00-10:00 AM PST

Chaired by Julie E. Boland, *University of Michigan*

8:00-8:20 AM (305)

Speakers' gestures change the temporal dynamic of how listeners recognize pictures: evidence from listeners' mouse trajectories. HYOJI HA, *University of Iowa*, SUSAN W. COOK, *University of Iowa*, JIEFENG JIANG, *University of Iowa* — Hand gesture helps listeners recognize pictures. Here, we tested whether gesture speeds recognition dynamics or changes how recognition unfolds. Listeners (n=24) identified a target picture described by a speaker, who either spontaneously gestured or kept their hands still. Listeners' mouse coordinates were tracked, and target selection probability over time was estimated from movement direction. Logistic regression showed that with gesture, listeners committed to the target earlier (1.564 vs 2.103 s) and faster (β = 0.021 vs 0.016), and generalized additive mixed effects models showed distinct recognition trajectories. To test whether this depended on visual access to gestures, 24 new listeners heard only the audio. With gesture, visibility facilitated an earlier (2.04 vs 2.32 s) and faster unfolding (β = 0.021 vs 0.016) commitment. Without gesture, speaker visibility led to a later (2.10 vs 1.95 s) and slower unfolding (β = 0.017 vs 0.021) commitment. With gesture, visibility also led to different recognition trajectories. Without gesture, visibility shifted trajectory magnitude but not shape. Thus, distinct recognition dynamics emerge only when listeners have visual access to gestures. Gesture changes how recognition unfolds.

8:20-8:30 AM (306)

(Data Blitz Presentation) Hedges are collateral signals for interpreting referring expressions: Evidence from eye tracking. AMIE PAIGE, *Stony Brook University*, SUSAN E. BRENNAN, *Stony Brook University* — Listeners tend to interpret

fillers that precede referring expressions (e.g., "thee, uh, red funny squiggly shape") as indicators of the speaker's difficulty with or lack of commitment to the expression (Arnold et al., 2007). Do hedges (e.g., "kinda looks like") serve a similar discourse function (as suggested by Dahan, 2025)? In our study, listeners selected referents for prerecorded referring expressions from 6-object displays of line drawings and tangrams. Critical displays included 3 of each, where the target phrase could match both a tangram and a line drawing competitor. Listeners tended to choose tangram targets rather than line drawings after hedges (vs. after no hedges). Initial looks after the hedge "kinda looks like" were more likely to be toward the tangram side of the display than the line drawing side, suggesting that listeners interpreted hedges as collateral signals indicating an expression's provisional status or a speaker's difficulty.

8:30-8:40 AM (307)

(Data Blitz Presentation) Punching Up: The Impact of Humor Style and Political Leaning on Perceptions of Satirical News Headlines. TANISHA Y. BERRIOS VOELKER, *Texas A&M University*, JYOTSNA VAID, *Texas A&M University* — Satirical news outlets often challenge institutional authority and media norms. They have become an increasingly popular form of news consumption and a potential contributor to misinformation (especially if the satire is not recognized as such). Adapting a corpus of satirical headlines from Brugman et al. (2023), our study factorially compared the impact of two different forms of satire (figurative vs. non-figurative) and two different satirical sources (liberal vs. conservative), with participants' own political beliefs, measured using the Triplex Scale of Political Belief (Bohmann et al., 2024), as a covariate. Participants rated the headlines on humorousness, level of understanding, and level of agreement with the headlines' message. Thus designed, our study uncovers how participants' political beliefs impact their perceptions of politically aligned satirical humor while simultaneously testing how satirical clarity impacts perception.

8:40-9:00 AM (308)

Compensating for Cell Phone Lag. JULIE E. BOLAND, *University of Michigan* — Cell phone and video conferencing calls introduce a transmission lag that distorts perception of a partner's turn transition times, making them appear longer, while one's own transition times seem normal. How does this impact behavior? Speakers could align with their partner's apparently long turn transition times, thereby slowing the pace of conversation. Or they could compensate by speeding up, as if trying to restore an expected conversational rhythm. We investigated these alignment and compensation hypotheses by experimentally manipulating transmission lag while holding other variables constant. Pairs of participants completed two conversations: one with a transmission delay and one without; order was counterbalanced. Across several experiments, using both a symmetric map task and naturalistic conversation, transition times were shorter and more locally stable when a 300ms delay was present than when there was no delay. Some effects were also observed for 100ms delays. These patterns did not depend on whether the delay length was fixed or variable. Together, these findings support a compensation account in which speeding-up and stabilizing transition times is triggered by a strong deviation from expected conversational timing.

9:00-9:20 AM (309)

LLMs Are Not the Dialogue Partners They Pretend to Be. WEILING LI, *Stony Brook University*, AMIE PAIGE, *Stony Brook University*, JAMES C. MAY, *Stony Brook University*, PETER ZENG, *Stony Brook University*, SUSAN BRENNAN, *Stony Brook University* — Although LLMs (large language models) are startlingly fluent, how competent are they as dialogue partners? Much research in the psycholinguistics of dialogue shows that human partners ground meaning together and entrain on referring expressions during matching tasks (e.g., Brennan & Clark, 1996). Recently we showed that pairs achieve lower accuracy and efficiency when there is an AI partner (Zeng et al., 2026). We analyzed the transcripts from Zeng's four conditions (Human-Hu-

man, Human-AI, AI-Human, and AI-AI) in which director-matcher pairs matched pictures of baskets (not associated with conventional lexicalized labels). Over 4 rounds, human pairs used distinctive expressions and entrained on concise labels with distinctive content words ratified by the partner and reduced closed-class words. In contrast, AI partners (in both mixed and AI-AI pairs) continued to produce verbose descriptions and showed limited evidence of incorporating feedback about accuracy. LLM-based AI partners have far to go before reaching human-like pragmatic competence.

9:20-9:40 AM (310)

Rethinking Common Ground. RUHAN ÇOBAN, *University of Memphis*, ROGER J. KREUZ, *University of Memphis* — The common ground construct (Clark, 1996) is a cornerstone of experimental pragmatics and has considerable explanatory value. In empirical studies, however, this construct has typically been operationalized in a binary way, comparing comprehension when common ground is low (e.g., between strangers) versus high (e.g., between friends or intimates). We review prior work that manipulated common ground and propose that the construct be reconceptualized. Specifically, we argue that the key distinction is between personal common ground (PCG) and informational common ground (IGC). PCG refers to the relationship between two people (e.g., close relationships versus strangers), whereas ICG is the availability of specific contextual information (shared versus unshared). When pitted against one another experimentally, reading times suggest that high PCG facilitates irony processing when ICG is low. Ratings of irony primarily reflected a recognition of ironic contrast. We conclude that ICG is a stronger predictor than PCG when making inferences involving the mental states of others.

9:40-10:00 AM (311)

Visual Information during Conversation: The Effects of Mask-Wearing, Conversation Medium, and Conversation Type on Interpersonal Movement Coordination. ALEXANDRA PAXTON, *University of Connecticut*, VERONICA ROMERO, *Colby College* — Research on the quantitative differences between in-person and videoconference-mediated communication grew dramatically with the surge of remote communication in response to the COVID-19 pandemic. In a Registered Report (Romero & Paxton, 2021, 2023), we found systematic differences in interpersonal body movement coordination during different kinds of conversation (friendly, argumentative, and task-based) across different kinds of communication media (masked and face-to-face versus unmasked and videoconferencing). Surprisingly, and in direct contrast to prior findings, we found greater amounts of interpersonal coordination during videoconference conversations, compared with face-to-face conversations. One possible contributor to this discrepancy was that participants in the face-to-face conversations were required to wear face masks, in keeping with COVID-19 abatement procedures. In the current work, we present a follow-up study that randomizes mask-wearing across both face-to-face and videoconference-mediated conversations to investigate the differences of conversation medium and visual occlusion on interpersonal body movement coordination during argumentative and affiliative conversations.

Decision Making III

Sunday, November 22, 2026,
10:00 AM-12:00 PM PST

Chaired by Dora Matzke, *University of Amsterdam*

10:00-10:20 AM (312)

Adapting to Complexity in Dynamic Decision Making. JARED HOTALING, *University of Illinois*, TRUNG LE, *University of Illinois* — We examine how strategies change in multi-stage decision tasks with varying levels of complexity. In a behavioral experiment (N = 103), participants chose between a two-stage gamble and an alternative option that var-

ied in complexity. Those who selected the two-stage gamble proceeded to a second stage, where they chose between two gambles. The alternative option was either a sure reward (low complexity), a simple gamble (medium complexity), or another two-stage gamble (high complexity). Decision complexity was manipulated within subjects, and condition order was manipulated between subjects. Using backward induction to identify the optimal strategy, we show that higher complexity reduces people's ability to maximize rewards. We also find that condition order affects choices: participants behave more optimally later in the experiment. To explain these effects, we use decision field theory to test hypotheses about attention to outcomes, uncertainty processing, and planning for future decisions. Overall, the findings clarify the cognitive basis of complex decision making while highlighting substantial individual differences.

10:20-10:40 AM (313)

Making sense of weak cases: the role of mental simulation in juror decision making. ALEXANDRIA B. ROGERS, *University of Colorado Boulder*, QUAN NGUYEN, *University of Colorado Boulder*, DAVID E. HUBER, *University of Colorado Boulder* — Prior work suggests that jurors interpret inconclusive evidence by mentally simulating the events described in a case. However, it is unclear how mental simulation affects case evaluation and perceived realism, a predictor of prosecutorial case strength. To address this question, we asked jury-eligible subjects to read 10 mock cases of different crime scenarios that contained either strong or weak evidence against the accused. After reading each case, different groups of subjects either imagined the events of the case or completed a distractor task in a control condition. Finally, subjects rated case strength and perceived realism of the case. For weak cases, there was a positive correlation between realism and case strength after mental simulation, but not in the control condition. However, this might have reflected improved memory for weak cases. A follow-up experiment used verbatim recall of case evidence in the control condition, which produced better memory for the case than mental simulation. Nevertheless, the same pattern of correlations emerged. Overall, these findings suggest that inviting jurors to imagine crime scenarios and evidence may bias their opinions of cases, especially when evidence is open to interpretation.

10:40-11:00 AM (314)

Rejection, Attention, and Negative Evidence in Decision Making. PETER D. KVAM, *Ohio State University*, BINGSONG ZHAO, *Ohio State University*, MURRAY BENNETT, *Ohio State University*, YIMING WANG, *Ohio State University* — Most theories of choice deal primarily with situations where decision-makers must choose the best or favorite option out of a set of alternatives. Citing properties of neurons, models of multi-alternative choice typically have a single ("best") choice boundary, and even restrict accumulators (describing support for each option) to positive values. Using a perceptual decision-making paradigm, we explicitly tested and falsified this assumption. Decision-makers who made sequences of choices where they had to switch goals (e.g., identify the best then the worst) were able to easily switch goals and maintain performance relative to sequences of choices among consistent goals (e.g., identify best then next-best). Furthermore, they allocated attention based primarily on their goal rather than on the value of the choice options, fixating on low-value options when the goal was to identify the worst out of a set. Put together, these results suggest that participants maintain a relative evidence value for each option, which can be negative – allowing them to reject options when prompted. We present a joint model of gaze, choice, and response time that uses Bayesian (distributional) evidence representations to account for these phenomena.

11:00-11:20 AM (315)

Risky Choice is Shaped by Structured Memories despite Partial Forgetting. XIAOMU GUO, *University of Warwick*, NICK SIMONSEN, *Aarhus University*, CHRISTOPHER R. MADAN, *University of Nottingham*, MARCIA SPETCH, *University of Alberta*, ELLIOT A. LUDVIG, *University of Warwick* — When making risky decisions from experience,

people rely on memories of past outcomes. Real-world consequential decisions, however, are often delayed, requiring long-term memory. In two experiments (N = 277 and 68), people learned about risky and safe options, and were queried about their risk preferences at multiple time points after learning. Their memories about experienced options were also examined to characterize the structure of retained representations. People were more risk-seeking for gains than losses after learning, contrary to the standard reflection effect. This pattern was long-lasting, appearing a week after initial learning. Additionally, people preferentially recalled the relational structure of the outcomes for specific options over time. Across individuals, risky choices correlated with the distribution of first-recalled memories, even after partial forgetting. These findings suggest that risky decisions from experience are shaped by partial forgetting, which leaves the most relevant outcomes more available in a structured memory.

11:20-11:40 AM (316)

Building Cognitive Architectures. NIEK STEVENSON, *University of Amsterdam*, ANDREW HEATHCOTE, *University of Amsterdam*, DORA MATZKE, *University of Amsterdam* — Evidence-accumulation models (EAMs) are widely used in cognitive psychology because they link choices and response times (RT) to latent cognitive processes. By modeling decisions as the gradual accumulation of evidence toward response boundaries, they allow researchers to separate effects on processing speed, response caution, and response bias rather than treating accuracy and RT as separate outcomes. Yet many experimental paradigms involve richer cognitive architectures that standard EAMs cannot express. We introduce a general independent race framework, with accompanying software, that makes these richer cognitive hypotheses easier to formalize and test. Researchers can define multiple accumulators racing toward thresholds and combine them using explicit logical rules, so that responses can depend on first-finishing processes, joint threshold crossings, or intermediate gating stages. This allows the framework to represent multi-stage, multi-attribute, and multi-outcome processes, conditional response activation, feedforward inhibition, and other complex cognitive architectures. We illustrate the framework's flexibility and inferential value using cognitive control, perceptual decision-making, and complex stopping paradigms.

11:40 AM-12:00 PM (317)

Logical But Not Rational: Developmental Reversals in AI Models. VALERIE F. REYNA, *Cornell University*, ALAN LIU, *Cornell University*, SARAH M. EDELSON, *Cornell University*, SIXINYANG TIAN, *Cornell University*, AADYA SINGH, *Cornell University* — Fuzzy-trace theory predicts increasing reliance on gist-based intuition with development that can produce paradoxical increases in cognitive biases from childhood to adulthood, despite simultaneous increases in System 2 analytics and metacognition. Thus, biases such as gain-loss framing are not observed in children but gradually emerge in adolescence and are ubiquitous in adulthood. We extend these developmental predictions to artificial intelligence (AI). We compared seven AI models (50 runs each) to: 214 students, who answered 144 gain-loss problems orthogonally varying outcome magnitudes and probabilities for lives and money and 648 students and 259 certified accountants who answered gain-loss dread-disease and tax problems (Reyna, Roue et al., 2025). Generative AI models (GPT 3.5) initially failed to demonstrate framing effects, but these irrational choices emerged in later models (GPT 4 Turbo, 4o; DeepseekV3), ultimately coming to dominate even conditions in which humans chose rationally (GPT 5). Earlier models also displayed conjunction fallacies, but these dropped out partially and then completely for recent reasoning models (ChatGPT 5) that emphasize System 2 processes. Implications for trustworthy AI are discussed.

Speech Perception II

Sunday, November 22, 2026, 10:00 AM-12:00 PM PST

Chaired by Sven Mattys, *University of York*

10:00-10:20 AM (318)

Visual induction of spatial release from masking. SVEN MATTYS, *University of York*, SARAH KNIGHT, *University of Newcastle*, CHARLOTTE LEVY, *University of York* — Spatially separating target and masker talkers improves target talker perception, an effect known as spatial release from masking (SRM). Independently, the perceived location of a sound can erroneously shift towards a spatially displaced visual stimulus, a phenomenon known as the Ventriloquist Effect. This study investigated whether SRM can be induced by spatially separating the visual representations (static images) of target and masker talkers without separating the sound sources themselves. Results showed that SRM was not induced by spatially separating the visual stimuli, but that collocated visual stimuli reduced the benefit of SRM. The reduction of SRM was replicated when the supposed collocation of the talkers was described verbally ("will come from the middle") rather than being represented visually. We conclude that the energetic masking created by a masker cannot be attenuated by a strategic deployment of attentional resources. However, misleading attentional allocation can disrupt the listener's ability to stream the target from the masker.

10:20-10:40 AM (319)

Emotion-Phoneme Theory (EPT) is not Inept and Complements Onomatopoetic Sound Symbolism. MICHAEL K. MCBEATH, *Arizona State University*, VIRIDIANA L. BENITEZ, *Arizona State University*, YE LI, *Hong Kong Polytechnic University*, CHRISTINE S.-P. YU, *Exponent, Inc.*, K. JAKOB PATTON, *Arizona State University* — Sound symbolism, cases in which phonemes carry some meaning, has been found to occur with respect to several physical characteristics. Often framed as onomatopoeias, characteristics include shape (Kiki-Bouba: spiky vs smooth), size (Mal-Mil: large vs small), and associatively learned (phonestheme gl- associated with light and reflectance). We also found similar types of onomatopoetic sound symbolism for fuzziness, motion, brightness, and color saturation. Yet, all of these characteristics typically have only small to medium effect sizes and none generalize to most words. We confirm a more robust type of sound symbolism that occurs with the emotional dimensions of valence (Gleam-Glum Effect with [i]>[ʌ]) and arousal (Wham-Womb Effect with [æ]>[u]). We found these emotion-phoneme dichotomies reliably have very large effect sizes, apply to most words, and robustly generalize to children and Mandarin Chinese speakers. The findings support our emotion-phoneme theory (EPT) that facial musculature associated with emotions also constrains sounds to favor specific phonemes. This type of sound symbolism accounts for much more variance, applies to many more words, and augments and complements the onomatopoetic physical forms.

10:40-11:00 AM (320)

Enhanced cortical speech tracking in clear versus conversational speech among older listeners. SARAH WOODS, *University of Utah*, BRENNAN PAYNE, *University of Utah* — Clear (hyper-articulated) speech improves comprehension and memory in adverse listening conditions, yet the mechanisms underlying this benefit remain unclear. We tested whether clear speech enhances understanding by strengthening neural tracking of acoustic features. Electroencephalography (EEG) was recorded while older adults listened to 340 sentences presented in background noise using either clearly articulated or conversational speech. Speech envelopes were extracted, cochlea-compressed, normalized, and related to EEG signals using multivariate temporal response function modeling. Cluster-based permutation testing revealed that envelope-based models reliably predicted neural responses and that clear speech elicited stronger neural tracking than conversational speech in early time windows, particularly over fronto-central scalp regions. These neural enhancements paralleled behavioral findings of improved sentence recognition memory for clear speech. Additionally, differences in later time windows suggest facilitated

lexical access as a potential mechanism supporting memory benefits. Together, these results indicate that enhanced neural tracking may underlie the communicative advantage of clear speech.

11:00-11:20 AM (321)

Total Recal: Multiple Days of Exposure to "Odd" Pronunciations Produces Stronger Recalibration. DAPHNE WEISS, *Basque Center on Cognition, Brain and Language*, EFTHYMIA C. KAPNOULA, *Basque Center on Cognition, Brain and Language*, ARTHUR G. SAMUEL, *Stony Brook University; Basque Center on Cognition, Brain and Language* — In the dozens of lexically-driven phonetic recalibration studies conducted in the last two decades, listeners typically are exposed to one short (5-10 minutes) block of stimuli that have the critical ambiguous sounds. These studies have found recalibration effects that last up to one week, with the effects usually generalizing to same-gender other talkers (e.g., female-female), but not to different-gender talkers (e.g., female-male). Here, listeners had three exposure sessions over the course of a week; half had the same female voice in all three, and half had different female voices in each session. After a two-week delay, testing was done on a voice heard during exposure, on a new female voice, and on a new male voice. We report on the extent to which the greater learning opportunities of the current study produce longer-lasting recalibration, and stronger generalization effects. The multiple-day exposure procedure is more like the real-world experience of meeting a new person, someone for whom perceptual adjustments could be useful. The single-shot procedures of the typical recalibration study may be underestimating the strength and durability of perceptual adjustments.

11:20-11:40 AM (322)

Top-down effects on early speech perception: Evidence from event-related potentials. JOSEPH C. TOSCANO, *Villanova University*, LAURA M. GETZ, *University of San Diego*, OLIVER G. JUAIRE, *Gonzaga University*, MCCALL E. SARRETT, *Duolingo* — A long-standing debate in speech perception concerns the mechanism by which contextual information influences perceptual judgments. Under an interactive model, higher-level linguistic information feeds back to lower-level representations, modifying them as a result of context. Under a feedforward model, contextual information is taken into account at later decision-level stages. These mechanisms have been difficult to disentangle on the basis of behavioral data alone. We present experiments using the event-related potential (ERP) technique, specifically looking at changes in the auditory N1 component, an early cortical response that indexes perceptual encoding of acoustic information. We examined encoding of phonetic information relative to expectations established by semantically-associated word pairs (e.g., "amusement b/park"), cloze probability ("The state fruit of Georgia is the… b/peach."), and syntactic context (noun-verb agreement; "The girl(s)… eat(s) ice cream."). Overall, the results demonstrate that context modulates early perceptual encoding of speech sounds, providing evidence in favor of an interactive model that incorporates top-down feedback to early perceptual representations.

Human Learning & Instruction III

Sunday, November 22, 2026, 10:00 AM-12:00 PM PST

Chaired by Celeste Pilegard, *University of California, San Diego*

10:00-10:20 AM (323)

What Should Be Spaced? Variability Constrains Spacing Effects in Classroom Learning. MENG CAO, *Carnegie Mellon University*, JOSHUA LING, *Podsie*, PHILIP PAVLIK, *University of Memphis*, PAULO F. CARVALHO, *Carnegie Mellon University* — The present study examined whether the effectiveness of spaced practice in authentic K–12 classrooms depends on the variability of instructional materials. Data were collected from 52 classrooms, including 1,050 middle and high school students across multiple subjects. Results showed that spaced practice improved long-term retention when practice

repeatedly targeted the same item, even when questions varied in format. In contrast, spacing benefits were attenuated when practice involved different items aligned with the same instructional standard. Spaced practice also produced a modest benefit for transfer to novel items regardless of variability. These findings suggest an important boundary condition of spacing effects: the benefits of spacing depend on the extent to which practice opportunities preserve overlap that supports retrieval of prior learning. More broadly, the results refine theoretical accounts of spacing by highlighting potentially distinct mechanisms underlying retention and transfer and provide practical guidance for implementing spaced practice in educational settings.

10:20-10:40 AM (324)

The More the Merrier? Examining the Role of Example Types and Quantity on Learning. FELIPE A. CRUZ-HERNANDEZ, *University of California, Riverside*, JARED ONGSING, *University of California, Riverside*, ANNIE S. DITTA, *University of California, Riverside* — Instructors use examples to help their students learn; however, different types of examples may impact learning and transfer differently. Providing consistent examples may support comprehension, while multiple varied examples may promote greater transfer and application. In two studies, we compared students' learning, transfer, and application from an instructional video that either contained no examples (i.e., control), a repeated example, thematic examples, or varied examples. There was a significant effect of transfer, such that being provided with any examples led to greater transfer than no examples. There was also a significant effect of application, such that receiving a repeated example (Study 1 & 2), thematic examples (Study 1), or varied examples (Study 1 & 2) led to greater generation of appropriate ideas compared to receiving no examples. In Study 2, we additionally explored learning experience and revealed a significant effect, such that participants who received multiple examples self-reported having a better learning experience compared to those who received no examples. Together, these results provide insight on the role of examples in supporting transfer, application, and fostering a positive learning experience.

10:40-11:00 AM (325)

Why Does Retrieval Practice Enhance Subsequent Learning? A Causal Mediation Analysis in an Online College Course. HANNAH HAUSMAN, *University of California, Santa Cruz*, HANNA KIM, *University of California, Santa Cruz*, LIONEL MENG, *University of Wisconsin - Madison*, JEE-SEON KIM, *University of Wisconsin - Madison*, VEIT KUBIK, *Freie Universität Berlin* — Compared to restudying, retrieval practice enhances subsequent learning (the forward testing effect; FTE). We tested the encoding effort hypothesis (EEH), which posits that retrieval sustains cognitive effort across a study session, promoting later learning. Undergraduates (N = 308) read 3 texts. After Texts 1 and 2, they recalled or reread the prior text; all completed free recall after Text 3. Text 3 recall was greater after retrieval than restudy. Consistent with the EEH, retrieval attenuated declines in cognitive effort across texts, and conventional mediation analyses suggested that sustained effort partially explained the FTE. However, causal mediation analyses revealed that effort predicted Text 3 recall more strongly following restudy than retrieval, suggesting that retrieval provides benefits less dependent on effort alone. Although sustained effort emerged as a viable mechanism in isolation, we found no evidence that it contributed to the FTE beyond other, unmodeled pathways through which retrieval enhances learning. These findings have implications for motivational and retrieval-specific accounts of the FTE and illustrate how theory-driven mediation analyses can yield different conclusions about learning mechanisms.

11:00-11:20 AM (326)

Differences in Metacognitive Beliefs, Error Responses, and Fear of Failure in Neurodivergent Medical Students. EEVIN JENNINGS, *Texas Tech University Health Sciences Center*, MICHAEL J. SERRA, *Texas Tech University Health Sciences Center*, LISA B. LIMERI, *Texas Tech University*, NOLAN SEDILLO, *Texas Tech University*, STEPHANIE STROEVER, *Texas Tech University Health Sciences Center*, AHMAD JEZZINI, *Texas Tech University Health Sciences Center*, JILL WHITE,

Texas Tech University Health Sciences Center — Academic performance may not fully reflect the learning experiences and self-regulatory challenges that students encounter. We examined whether self-reported neurodivergence was associated with academic performance, metacognitive beliefs about intelligence, responses to errors, fear of failure, and self-handicapping in medical students. First- and second-year medical students (N = 223) completed measures of beliefs about intelligence, error responses, fear of failure, and academic self-handicapping. They also consented to the release of course grades and scores on a cumulative basic science examination. Overall, 54% reported one or more neurodivergent conditions. Course grades differed only marginally by neurotype, but neurotypical students scored higher on the cumulative examination. Neurodivergent students reported more fixed beliefs about intelligence, greater fear of failure, stronger emotional disruption after errors, and fewer adaptive responses to mistakes. No differences emerged for self-handicapping. These findings suggest that comparable academic performance may mask important differences in error responses, fear of failure, and metacognitive beliefs among neurodivergent medical students.

11:20-11:40 AM (327)

Instructor Fluency and Student Attention in Online Video Lectures: Influences on Metacognition and Memory Performance. KELLY A. KANE, *Boston College*, JASON GELLER, *Boston College* — Instructors' fluency is known to influence their students' judgments of learning (JOLs), but has little effect on actual memory performance. Thus, the apparent benefit of fluency is a metacognitive illusion. However, one study found that participants performed worse on a memory test after watching a disfluent instructor in an online video (Wilford et al., 2020). Reanalysis of their data suggests the difference is driven by participants who were at floor on the test after watching a disfluent instructor, suggesting memory differences may arise due to disengagement. Therefore, our study examined whether disfluent instructors produce poorer memory performance due to lack of attention. Our participants (N = 79) watched a 45-minute video lecture which was identical except for the speaking style (fluent or disfluent) of the instructor. Each video contained six prompts asking participants to press a key. Participants watching the disfluent video responded to fewer prompts than those who saw a fluent instructor, and performed significantly worse on a memory test about the video, as well as reporting lower JOLs. Thus, we have some evidence that reduced attention to disfluent instructors' lectures can attenuate learning from those videos.

11:40 AM-12:00 PM (328)

Seeing the Structures of Science: Training and Explicit Cues for Recognizing Nature of Science Themes Across Domains. RIAN E. DREXLER, *University of California, San Diego*, IGNACIO ESPINOZA, *University of California, San Diego*, CELESTE PILEGARD, *University of California, San Diego* — Reasoning effectively about scientific information requires recognizing the Nature of Science (NoS) ideas underlying the content. Domain experts organize information by structural features while novices rely on surface features. Using a novel categorization task, we tested the effects of NoS training and explicit cues on how novices sort 9 paragraphs about science: by NoS theme (structure feature) or science topic (surface feature). 284 undergraduate psychology students were randomly assigned to NoS-training or control conditions. Participants completed an unguided categorization task with non-specific instructions, followed by a cued task with NoS-specific instructions. As predicted, controls predominantly sorted by science topic during the unguided task, while trained participants predominantly sorted by NoS themes, suggesting the training enhanced participants' attention to NoS ideas. Both groups improved their NoS-based sorting from the unguided to cued tasks, but improvement was larger for controls, indicating explicit cues can help students reason with NoS themes even without specific training. A second experiment will investigate sorting behavior in science domain experts.

Language III

Sunday, November 22, 2026,
10:00 AM-12:00 PM PST

Chaired by Eyal Sagi, *University of St. Francis*

10:00-10:20 AM (329)

Perceived Social Marginalization: Modeling Perceptions of Self Relative to Dominant Culture. ALAYO TRIPP, *University of Florida*, SHANNON BARRIOS, *University of Utah*, RACHEL HAYES-HARB, *University of Utah* — This study examined whether reported accent preferences for "native-speaking" teachers predict a measure of perceived social marginalization (Bollwerk, et al., 2021). Participants (n=112) completed survey items assessing beliefs about "people like me" (LM_A-LM_E) and the "dominant culture" (DC_A-DC_E). Exploratory factor analysis supported a two-factor structure with strong loadings (Std.all = 0.724–0.968). A confirmatory two-factor structural equation model fit well (CFI=0.97, TLI=0.96, RMSEA=0.07, SRMR=0.04). Factors were moderately correlated (r=0.471, p< 0.001). Gender, age, and accent-related attitudes did not significantly predict either factor. "Perceived difference in status" (PDS) is constructed as the difference between LM and DC responses. CFA supported a single factor (PDS_A–PDS_E) with strong loadings (0.649–0.932) and good fit (CFI=0.98, TLI=0.97, RMSEA=0.06, SRMR=0.03). Reported preference for "native-speaking" teachers positively predicted PDS (β≈0.22, p=0.039), while desire for a native accent showed a marginal negative effect (β≈-0.20, p=0.065). Findings suggest PDS captures variance in relative perception of in-group and dominant culture status, supporting a constructivist model of social impacts on cognition.

10:20-10:40 AM (330)

ERP Signatures of Semantic Integration Across Language Modalities. ERIN E. CAMPBELL, *University of Rochester*, ZED SEHYR, *Chapman University* — The N400 is an event-related potential (ERP) component linked to semantic processing, typically larger for semantically unrelated than related words and interpreted as indexing semantic integration. Most N400 research, however, is based on hearing individuals using spoken or written language, raising questions about whether similar neural signatures characterize semantic processing in sign language. We examined N400 responses to written English words and ASL signs in deaf adult ASL signers using word- and sign-pair relatedness tasks. Deaf signers showed robust word-evoked N400 effects comparable to hearing controls, with the size of the N400 effect scaling with language and reading skill. Deaf signers also showed a clear, delayed N400-like response to sign pairs that did not correlate with English reading measures. Notably, N400 effect sizes for words and signs were positively correlated within deaf participants. These findings suggest modality-independent semantic integration mechanisms possibly shaped by language-specific proficiency.

10:40-11:00 AM (331)

Spelling Error Effects on Orthographic Processing of Words: Evidence from ERPs. GAISHA ORALOVA, *Georgia State University*, LIN CHEN, *University of Illinois Urbana-Champaign*, VICTOR KUPERMAN, *McMaster University*, CHARLES A. PERFETTI, *University of Pittsburgh* — Recently, it has been proposed that spelling errors create competing orthographic representations in the mental lexicon, impairing the processing of correct word forms and increasing their reading times (Kuperman et al., 2021). Using a sentence-reading ERP experiment, this study examined the time course and neural correlates of such competition. Native English speakers (n = 48) read sentences containing frequently misspelled words presented in their correct forms. Orthographic uncertainty was quantified using spelling entropy, calculated from the probability distribution of the correct spelling and its misspelled variants. Results showed that higher-entropy words elicited reduced N170 amplitudes. Given that the N170 is associated with reading-related perceptual expertise (Maurer et al., 2005), this reduction may reflect weaker convergence onto a single orthographic representation and more diffusely distributed orthographic activation. Overall, the findings suggest that spelling variability influences early stages of visual word recognition.

11:00-11:20 AM (332)

Style, Sentiment, and Quality of Undergraduate Writing in the AI Era: A Cross-Sectional and Longitudinal Analysis of 4,820 Authentic Empirical Reports. MATTHEW MAK, *University of Warwick*, LUKASZ WALASEK, *University of Warwick* — As generative artificial intelligence (GenAI) becomes widespread in education, its influence on students' academic practice raises concern. We conducted pre-registered analyses of 4,820 empirical reports written by 2,000 psychology undergraduates (2016-2025). Following ChatGPT's 2022 release, prevalence of ChatGPT-associated lexical markers (e.g., delve) surged until 2024, then declined in 2025, possibly due to students masking GenAI traces. Writing style (indexed by lexical diversity/density/sophistication, nominalisation, readability) became increasingly formal post-ChatGPT, diverging from predicted/historical trends. Consistent with GenAI's positivity bias, sentiment also became more positive, independent of topic or result's statistical significance, raising questions about its potential impact on students' critical engagement. Despite the stylistic changes, writing quality (indexed by grades and feedback) showed no discernible shifts. Exploratory analysis asked GPT models to rewrite pre-ChatGPT reports, and these GPT-rewritten texts resembled post-ChatGPT reports more in style and sentiment. Finally, no students disclosed AI use despite clear guidelines, highlighting the ineffectiveness of voluntary disclosure.

11:20-11:40 AM (333)

Bilingual Artificial Grammar Learning: The Role of Indexical Cues in the Simultaneous Acquisition of Multiple Rule Structures. AARON D. MITCHEL, *Bucknell University*, KYLA KELLY, *Bucknell University* — Given that the majority of the world is multilingual, how do statistical learning mechanisms track multiple structures simultaneously? The limited evidence from grammar learning tasks suggests that adults are unsuccessful in tracking multiple grammars when composed of speech stimuli. In contrast, research in the domain of word segmentation has found it is possible to segment multiple speech streams simultaneously, but to do so may require some form of indexical cue (e.g. the speaker's face) to facilitate the encapsulation of separate statistical representations. In the present study, we extended this logic to the domain of rule learning. In a series of AGL tasks with speech stimuli, we tested adults' ability to learn two artificial grammars simultaneously, both with and without an indexical cue of the speaker's face. In contrast to previous AGL studies, we found that adults learned both grammars successfully, even when there was partial overlap in the syllable inventory of the two grammars. Moreover, consistent with segmentation studies, indexical information appears to facilitate the acquisition of multiple structures.

11:40 AM-12:00 PM (334)

Language Alignment in Adversarial Contexts. EYAL SAGI, *University of St. Francis* — There is ample evidence that language-based interactions frequently involve the alignment of language use at multiple levels of representation. Most studies on this subject have focused on collaborative contexts, such as problem solving and dialogue, where the goal of the interaction is shared among the interlocutors. However, there are also many cases where language is used to communicate by individuals with conflicting goals, such as negotiations and interrogations. In the current paper, I analyze language alignment in an existing corpus representing such an adversarial context – the game of Diplomacy, which broadly simulates the battlefield of World War I. In this game, players interacted with each other primarily via language to form alliances and advance their position in the game. Deception and betrayal are common occurrences in this context, and players are therefore incentivized to interact while maintaining vigilance. The analysis reveals that speakers show increased language alignment when attempting to deceive and are more likely to get caught lying when overly aligning their language. This demonstrates a likely strategic use of language alignment in adversarial contexts.

Technology & Cognition

Sunday, November 22, 2026,
10:00 AM-12:00 PM PST

Chaired by Victoria Bridgland, *Flinders University*

10:00-10:20 AM (335)

Artificial Empathy: The Promise and Peril of AI Mediated Coping Strategies for Mental Health. VICTORIA BRIDGLAND, *Flinders University*, ALI VIRGO, *Flinders University*, MELANIE TAKA-RANGI, *Flinders University* — Preliminary research and anecdotal reports indicate that AI chatbot use may have mixed mental health consequences: some individuals report benefits whereas others report harms. One explanation for these differences in outcomes, is that it likely matters how the chatbot is used and who uses it. Here, we examined if the types of coping strategies that participants sought from chatbots were related to psychopathological characteristics as well as other vulnerability factors. Overall, we found that using chatbots for any form of coping (e.g., approach or avoidance based strategies) was associated with elevated psychopathological risk markers (e.g., symptoms of depression; r = .26, anxiety; r = .31, and stress r = .35), and vulnerability markers (e.g., intolerance to uncertainty; r = .36 , trait loneliness; r = .19). Together, these findings suggest that AI chatbot use for coping is disproportionately concentrated among individuals already experiencing elevated psychological distress and vulnerability.

10:20-10:40 AM (336)

Do people trust AI assistants even when they are consistently wrong? CAMERON JONES, *Stony Brook University*, BENJAMIN BERGEN, *University of California, San Diego*, JULIA WONG, *University of California, San Diego*, JAMES WOOLEY, *University of California, San Diego*, AARON COHEN, *University of California, San Diego* — People are increasingly using AI conversational assistants in high-stakes contexts despite concerns around their reliability. How well calibrated are people to AI systems' effectiveness in rich multi-turn conversations? Across 4 experiments, participants answered 5 intuitive reasoning questions with advice from an AI system that was either helpful (100% accurate), unhelpful (0%), or mixed (50%). With trial-level feedback, participants learned to trust helpful models more than unhelpful ones (63% vs 16%). However, without feedback, people continued to be persuaded toward false answers by unhelpful models 44% of the time (vs 39% for helpful models), even after 4 inaccurate trials. Participants trusted LLMs more than static hints (Experiment 3) or human advisors (Experiment 4), suggesting that LLMs' persuasive influence could be uniquely problematic. In contrast with previous work, we found limited evidence of an advantage for arguing for the truth versus a falsehood. Collectively, the results suggest that people may be swayed by LLM advice, even when it is consistently false, unless they have access to external feedback. Unfortunately, in many domains, such feedback may not be available which could lead to an overreliance on AI.

10:40-11:00 AM (337)

Chatbot Goal Orientation and Personality and the Perception of Social Intelligence. DEREK KOEHL, *University of Alabama in Huntsville*, ISABELLA BROOKS, *University of Alabama in Huntsville*, ALEXANDRIA HARRIS, *University of Alabama in Huntsville*, TATUM KELLY, *University of Alabama in Huntsville*, MASON SHANK, *University of Alabama in Huntsville*, ISANIRIS CAVO-FERRER, *University of Alabama in Huntsville*, SIEANNA HART, *University of Alabama in Huntsville*, WILLIAM MANGOLD, *University of Alabama in Huntsville*, JODI PRICE, *University of Alabama in Huntsville* — People readily infer social and cognitive traits from language, yet it remains unclear whether these inferences extend similarly to conversational AI. As chatbots increasingly mediate socially sensitive interactions, how their generation of language shapes perceived social intelligence and trust remains poorly understood. Using a 2 (goal-oriented, control) × 3 (agreeableness: low, high, control) within-subjects design, participants (N = 20) completed socially-sensitive, text-based advisory scenarios with GPT-4o-08-06. System prompts manipulated chatbot behavior. Bayesian mixed-effects modeling revealed

that disagreeable language produced large, credible reductions in perceived social intelligence and trustworthiness (Cohen's d ranged from 1.64 – 2.10). Goal orientation showed no credible main effect on overall perceptions of social intelligence or trust, but attenuated the negative effect of disagreeable language, especially for trust (d = 0.71). These findings suggest that people rapidly attribute social-cognitive qualities to AI chatbots from minimal linguistic cues, with implications for how AI chatbots are designed, evaluated, and entrusted to act in socially-sensitive situations.

11:00-11:20 AM (338)

Do Data Mean the Same Thing Everywhere? A Cognitive Framework for Studying Data Migration. ANU MASSO, *Tallinn University of Technology*, MERGIME IBRAHIMI, *Tallinn University of Technology*, AHTI-VEIKKO PIETARINEN, *Tallinn University of Technology* — The movement of data across countries, institutions, and technological systems is fundamental to the development of artificial intelligence. Yet as data move across contexts, their meaning and legitimacy may change. Existing research has primarily focused on infrastructures and governance, while paying less attention to how people perceive, evaluate, and make sense of data. This paper introduces a novel methodological framework that conceptualises data migration as a cognitive and socio-technical process. Combining migration and mobility theories with data studies and perception research, it examines how data are interpreted, trusted, and re-evaluated across contexts. The framework integrates crowdsourced surveys, online eye-tracking, and qualitative methods to investigate how people attend to and evaluate data migration. It enables comparative analysis of universal and context-specific data migration mechanisms and examines three dimensions of social transformation: socio-technical conditions, socio-cultural interactions, and outcomes. By linking perception, evaluation, and data mobility, the framework provides a foundation for studying the cognitive dimensions of data migration in AI-driven societies.

11:20-11:40 AM (339)

Using Technology to Rate Creativity. MERCEDES OLIVA, *University of Portland* — When rating creativity, we typically use human judges to rate the ideas. However, advances in technology have introduced other options that may increase efficiency for research teams. ChatGPT, OCSAI, and SemDis have all been proposed as substitutes for human raters for the Alternate Uses Task (AUT). This study examined correlations between different strategies – human raters, ChatGPT (GPT-4o and GPT-5.5), OCSAI, and SemDis – in rating the creativity of 30 alternate uses for four objects. Spearman correlations showed the GPT-5.5 version of ChatGPT correlated most strongly with human ratings (r = .86), followed by GPT-4o (r = .79), OCSAI (r = .62) and SemDis (r = .24), although all were significant. Note the improvement between ChatGPT versions, suggesting that ChatGPT models may be becoming more human-like in their ratings over time. As another benefit to GPT-5.5, the 50 instances that were run showed almost perfect ICC (ICC = .999), helping to alleviate concerns of results being instance-specific. Together, these results can help guide researchers toward making the most informed decisions about rating the creativity of ideas in the AUT.

11:40 AM-12:00 PM (340)

(A)I Wrote This for You: Does Assumed AI Authorship Influence Memory Recall? MARIA FALIKMAN, *Sewanee: University of the South*, LOUISE FERGUSON, *Sewanee: University of the South*, HIEU PHAN, *Sewanee: University of the South*, KARISSA ALLMON, *Sewanee: University of the South*, ALLISON CRAFT, *Sewanee: University of the South*, AIDAN GANCHAN, *Sewanee: University of the South*, ANNIE HOFFMAN, *Sewanee: University of the South*, TIANNING LYU, *Sewanee: University of the South*, ABDULDAYAM MAFLAHI, *Sewanee: University of the South*, MARLIN PRICE, *Sewanee: University of the South*, GRACE STEVENS, *Sewanee: University of the South* — The exponential rise of artificial intelligence-generated content in recent years has raised questions about how humans process and recall information based on

its perceived source. Our study examined whether assumed authorship affects memory recall by testing the hypothesis that memory for human-authored text would be different from memory for text believed to be generated by a large language model (LLM). 120 undergraduate students were randomly assigned to read an identical piece of prose labeled as either human-authored or AI-generated, then completed a surprise memory test along with measures of recall confidence, text readability, likability, and engagement. Memory recall was significantly higher in participants who believed they were reading a passage written by a human author, while participants who thought the story was written by an LLM recalled significantly fewer details. Participants also reported significantly higher engagement with a human-attributed text, though engagement did not correlate with memory performance. These findings suggest that perceived authorship influences memory recall independently of subjective engagement, with implications for understanding human-AI interactions in educational contexts.

Statistics & Methodology II

Sunday, November 22, 2026,
10:00 AM-12:00 PM PST

Chaired by Mark Himmelstein, *Georgia Institute of Technology*

10:00-10:20 AM (341)

More Credit, More Blame: Receivers Discriminate Performance More Finely for Human than for AI Forecasters. ROBERT N. COLLINS, *Defence Research & Development Canada*, DAVID R. MANDEL, *Defence Research & Development Canada* — Decision-makers increasingly weigh probabilistic forecasts from human experts alongside artificial intelligence (AI) systems. But do they interpret and evaluate the two sources similarly? In two experiments (N = 667; N = 1,170), participants: (1) translated verbal probability expressions attributed to either a human or AI forecaster, and (2) rated the forecaster's credibility after reviewing a performance record. Interpretation was largely source-invariant: participants produced similar numeric estimates for both sources, with one small domain-specific exception. Conversely, credibility was source dependent: at high accuracy (≥ 90% correct), humans were rated as more credible; at low accuracy (10% correct), AI were rated as more credible. The human advantage at high accuracy was roughly twice the AI advantage at low accuracy. Decision-makers discriminate credibility more finely for humans, crediting them more for success than they blame them for failure relative to AI. We discuss implications for decision makers and human-AI forecasting teams.

10:20-10:40 AM (342)

Combatting Measurement Reactivity in Experimental Design and Inference. MARK HIMMELSTEIN, *Georgia Institute of Technology*, JESSICA HELMER, *Georgia Institute of Technology*, DAVID V. BUDESCU, *Fordham University* — Many psychological studies seek to quantify how treatments modify beliefs, attitudes, or behaviors. The optimal conditions for estimating such treatment effects are pretest-posttest designs. These designs not only maximize statistical power, but allow for tests of interactions between participants' baseline measurements and the treatment like floor and ceiling effects. But how do we know that the act of collecting a baseline measurement doesn't have unintended confounding effects in itself? This is referred to as measurement reactivity. We use a simulation study to demonstrate the consequences that arise due to measurement reactivity and propose a research design to test for and solve the resulting problems. When measurement reactivity is present, effect sizes in pretest-posttest designs show large amounts of bias. In between-subjects design, which omit the pretest, effect sizes remain biased in the presence of floor or ceiling effects. However, planned missing data designs that use auxiliary variables to impute missing baseline values successfully recover unbiased effect sizes. We compare three different imputation approaches and provide practical recommendations for their implementation in future empirical research.

11:00-11:20 AM (344)

Measurement Precision Constrains Brain-Based Prediction of Executive Function. HYEJIN J. LEE, *University of Illinois Urbana-Champaign*, CLIFFORD E. HAUENSTEIN, *Johns Hopkins University*, MACKENZIE MITCHELL, *University of Illinois Urbana-Champaign*, YOUNGEUN PARK, *University of Illinois Urbana-Champaign*, JOAQUIN GONI, *Purdue University*, MONICA ROSENBERG, *University of Chicago*, CATERINA GRATTON, *University of Illinois Urbana-Champaign* — Individual differences in executive function are a major target of brain-wide association studies (BWAS), yet robust brain-behavior associations remain difficult to identify. A key limitation is that executive function tasks often exhibit substantial measurement noise and limited between-person variability, attenuating observable brain-behavior relationships. This is pronounced in large-scale consortium datasets, where broad phenotyping often comes at the expense of task trial density. To demonstrate the importance of measurement precision in BWAS, we examined prediction of 10 executive function tasks from resting-state fMRI in 136 individuals. Results showed that the precision of both neural and behavioral measures constrained predictive performance. In particular, a signal-to-noise ratio (Rouder & Mehrvarz, 2024) quantifying the magnitude of individual differences relative to measurement noise closely tracked prediction accuracy across tasks, suggesting a practical criterion for identifying tasks that are better suited for brain-behavior prediction. Together, our findings identify measurement quality as a fundamental bottleneck in BWAS and highlight the importance of measurement precision for robust brain-behavior associations.

11:20-11:40 AM (345)

Moderation of Multivariate Idiographic Time Series in Cognition and Behavior Using a Novel Penalized Estimation Approach. HOLLY O'ROURKE, *University of California, Riverside*, GENE BREWER, *University of California, Riverside*, JOSE SÁNCHEZ GÓMEZ, *University of California, Riverside*, PHIL PEPER, *University of California, Riverside* — Cognitive research has increasingly focused on quantifying both nomothetic and idiographic patterns of behavioral variation. This need is especially pronounced in the study of intensive longitudinal data from multiple participants, where the goal is to understand both inter-individual and intra-individual variability among time-varying variables. Researchers also often measure a set of additional time-invariant descriptive variables (e.g., sex, employment status) which have the potential to moderate the multivariate time series. The recently developed moderated vector autoregressive (MOD-VAR) model (Sánchez Gómez, O'Rourke, & Brewer, in preparation) combines the strength of the superior performance of similar multivariate time series analyses with the important ability to examine group differences of the effects. In this study, we used the MOD-VAR approach to examine whether multivariate autoregressive relations among sets of cognitive, mood, and behavioral outcomes were moderated by gender and employment. We found that there were group differences in patterns of autoregressive associations among the variables for both moderators. Implications are discussed.

Poster Abstracts

NOTE: Beginning in 2025, we implemented a new numbering system for poster presenters.

The first letter (I - V) denotes the poster session, and the following three digits are the poster number in that session.

Poster Session I

Thursday, November 19, 2026
6:00-7:30 PM PST

6:00-7:30 PM (I-001)

Omission Contingencies as Reinforcers of Spatial Variability: Unconditional Versus Learned Variability in Pigeons. MEGAN CADY, *University of California, Los Angeles*, AARON P. BLAISDELL, *University of California, Los Angeles* — This study examined how reward probability and response-reward contingency can affect the spatial variability of pecking in pigeons. Pigeons experienced Instrumental (INS), Omission (OMS), and Pavlovian (PAV) contingencies across random ratio schedules (RR2, RR5, and RR20 for INS and OMS). On INS trials, food was delivered for meeting a peck-count criterion, while on OMS trials meeting that criterion caused food to be withheld, and on PAV trials food was delivered regardless of behavior. The ratio value determined the average pecks required for criterion. All INS conditions and lower-ratio OMS conditions showed significant negative correlations (all ps < .05). However, RR20 OMS showed a significant positive correlation ($p < .001$), with higher reinforcement associated with higher variability. For this contingency, reinforced OMS trials showed more variability than non-reinforced trials, while the reverse was shown for INS trials. This suggests that omission contingencies inadvertently reinforced variability by rewarding pigeons for pecking below the criterion. These findings point to two distinct types of variability: unconditional variability driven by reward expectation, and learned variability sustained by contingency structure.

6:00-7:30 PM (I-002)

Tone-cued Anticipatory Locomotion in Head-fixed Mice Following Air-stream Induced Running. TAHOURA MOHAMMADI GHOHAKI, *University of Nevada, Las Vegas*, PRATIK S. PARANJAPE, *University of Nevada, Las Vegas*, MARYAM LALEKA, *University of Nevada, Las Vegas*, JULIETTE BRINKMAN, *University of Nevada, Las Vegas*, SAMSOON INAYAT, *University of Nevada, Las Vegas* — Anticipatory locomotion, the initiation of movement in advance of a biologically significant event, reflects the nervous system's capacity to use predictive cues to reorganize motor timing. Whether aversive conditioning can drive a temporal shift in whole-body locomotor responses remains poorly understood. We investigated whether pairing a neutral tone with an aversive air-puff stimulus could produce a transition from reactive to anticipatory locomotion in head-fixed mice via wheel running. Animals underwent a multi-phase protocol including wheel exposure, air-stream–induced running, and tone-paired air-stream training. Locomotor metrics were analyzed relative to tone and air-stream delivery across phases. Repeated wheel exposure increased forward movement and speed across sessions. During air-induced running, locomotion was organized across air-on/air-off periods, with greater speeds during air-on. Forward movement shifted earlier relative to air-stream delivery and followed tone onset, consistent with a tone-cued anticipatory motor response. These findings extend the notion that learned motor responses can shift toward predictive cues, previously demonstrated in eyeblink conditioning, to continuous whole-body locomotion in mice.

6:00-7:30 PM (I-003)

Emergence of Choice by Exclusion and Fast Mapping in Pigeons as a Function of Training Set Size. KAYLEY M. OZIMAC, *University of California, Los Angeles*, AARON P. BLAISDELL, *University of California, Los Angeles* — Fast mapping (FM), the rapid acquisition of a novel association through choice by exclusion of familiar alternatives, is well documented in children but has historically failed to emerge in pigeons. We tested whether this failure reflects insufficient training set size rather than an absence of the capacity. Seven pigeons were trained in a paired-associate matching-to-sample task across expanding stimulus sets (3-48 pairs). Choice by exclusion (CBE) was assessed by comparing performance on novel-sample trials containing either a familiar foil with an established associative history or a novel foil. A linear mixed model revealed a significant foil type × phase interaction, $F(3, 21) =$

15.68, $p < .0001$: familiar-foil trials reached criterion substantially faster than novel-foil trials beginning at 24 pairs, with the effect increasing at 48 pairs. Fast object association mapping emerged alongside CBE, as correct exclusion choices became increasingly predictive of subsequent FM performance from 24 pairs onward ($z = 5.49$, $p < .001$). Complementary mini studies identified reinforcement history and prior associative pairings as independent contributors to exclusion-like choice behavior.

6:00-7:30 PM (I-004)

Auditory and visual attentional control in rhesus monkeys. PANKHURI SINGHAL, *Emory University*, ROBERT HAMPTON, *Emory University* — Rhesus monkeys are an important model of human cognition, but research has largely focused on vision. We compared attentional control in visual and auditory modalities. Monkeys attended to a target while ignoring flankers that were either congruent, neutral or incongruent. In Experiment 1, visual accuracy was lowest on incongruent trials, suggesting that perceptual and response conflict combine additively. In audition, any different sound lowered accuracy, regardless of response conflict. However, error analysis revealed frequent flanker responses on incongruent trials, suggesting the presence of response conflict. In Experiment 2, removing the flanker response image on some incongruent trials revealed that perceptual conflict was present on these trials. Hence, the additive effects of both conflict types were observed across modalities. Experiment 3 reproduced the procedure of Experiment 1, but not the results. Thus, our results indicate similar attentional processes across visual and auditory modalities in monkeys. Monkeys inhibit bottom-up influences in both modalities.

6:00-7:30 PM (I-005)

The Influence of Prior Reinforcement in Familiarization on Choice by Exclusion in Pigeons. HANNAH WESTERHOLD, *University of California, Los Angeles*, KAYLEY OZIMAC, *University of California, Los Angeles*, AARON P. BLAISDELL, *University of California, Los Angeles* — In a broader study investigating fast mapping via choice by exclusion, pigeons increasingly chose a novel comparison over a familiar comparison when presented with a novel sample as training set size increased. This pattern raises a critical question: is exclusion driven by direct reference to prior associations, or does familiarity alone guide choice? To address this, we conducted coordinated experiments using 20 novel sample-comparison pairs, manipulating how familiarity and associative histories were established prior to acquisition. Before serving in a symbolic matching-to-sample task, half of the comparisons were familiarized via instrumental reinforcement, associative pairing with a distractor, or by serving as start keys to an unrelated discrimination task. Pigeons were consistently biased toward comparisons with prior reinforcement or associative histories, while familiarity training alone did not reliably influence choice behavior. Together, these results demonstrate that different forms of pre-exposure to comparison stimuli have distinct effects on acquisition in exclusion-like choice behavior.

6:00-7:30 PM (I-006)

Stairway to Inhibition: Estimating the Crossover and Peak of Inhibition of Return. DANIEL LOUGEN, *University of Toronto*, JAY PRATT, *University of Toronto* — Inhibition of return (IOR) is a robust attentional phenomenon in which responses to targets are slower at previously attended locations than for targets are novel (unattended) locations. Despite decades of research, the onset of IOR (when attentional facilitation crosses over into inhibition) and its peak magnitude remain largely inferred from fixed stimulus onset asynchrony (SOAs). To more accurately determine these important temporal landmarks of IOR, we utilized an adaptive staircasing method. Specifically, we conducted two experiments using a typical attentional cueing paradigm but with psychometric staircasing. Experiment 1 estimated the crossover SOA, while Experiment 2 estimated the peak IOR. Thresholds were derived from the mean SOA of the last 8 reversals. The results showed that the crossover to IOR occurred 230 ms after the onset of the cue and the peak magnitude of IOR occurred 951 ms after the cue. Moreover, there was no correlation between the crossover time and peak time.

This study highlights the efficacy of staircasing for preciously determining the timecourse of attentional effects.

6:00-7:30 PM (I-007)

To what extent does mind-wandering impact the implicit facilitation of cognitive procedures? CHRISTOPHER A. WAS, *Kent State University*, KAYA PARKER, *Kent State University*, VINAYA PATEL, *Kent State University* — The current study aimed to investigate if mind wandering would hinder the facilitation of procedural memory (FPM). Previous research has demonstrated that cognitive operations being performed during experimental tasks are facilitated for later use. Extant research suggests that implicit learning can occur when one is mind wandering, but this has not been experimentally tested with the FPM. The current task presented a memory load of five exemplars from two different categories. Following instructions to identify the category with more exemplars, random memory loads were followed by a mind wandering probe. Next, facilitation was assessed with a category comparison of exemplar pairs from the memory load and an unpresented category. Both memory set categories were facilitated compared to the unpresented category. A Bayesian analysis indicated there was no difference in the FPM when participants reported mind wandering and when they did not.

6:00-7:30 PM (I-008)

Examining Ensemble Size Perception Using an Attentional Blink Paradigm. MENGZHU FU, *Shippensburg University*, EMMANUELLA ASABERE, *University of Nebraska - Lincoln*, MICHAEL D. DODD, *University of Nebraska - Lincoln* — Previous research on the attentional blink has demonstrated that people often fail to detect a second target (T2) appearing shortly after a first target (T1), reflecting attentional limitations. Another line of research on ensemble perception suggests that individuals can rapidly extract summary statistics from groups of objects, though the extent to which attention is required remains debated (e.g., McNair et al., 2017). In the current study, we examined whether attentional engagement is necessary for ensemble perception using an attentional blink paradigm with an ensemble size judgment task. Two target ensembles containing circles of varying sizes were embedded in a rapid serial visual presentation (RSVP) stream, and participants estimated either the average size of T1 (E1) or that across all circles (E2). Estimation was influenced by T2 and its temporal relationship with T1, with effects differing across conditions. The results provide insights into the role of attention in ensemble size perception.

6:00-7:30 PM (I-009)

The Cost of Intermixing Trials in the Measurement of Phasic Alertness. TIANFANG HAN, *University of Idaho* — Phasic alertness, which refers to human's general readiness of responding, is a major component of human's attention system (Posner & Petersen, 1989). When measuring phasic alertness, researchers typically intermix trials with the presence of an alert signal (alert trials) and trials in which the alert signal is absent (no alert trials). This presentation will demonstrate that the alertness effect as well as its interaction with response congruency is modulated by the structure of the prior trial. Mixing no-alerting trials with alerting trials could produce additional inhibitory control in no-alert trials as participants might withhold response to the target stimulus after a preceding alerting trial due to the structural difference between the two types of trials. This additional inhibitory control caused by mixing different types of trials is also responsible for a decreased response congruency effect in no-alert trials compared to the alert trials in an arrow flanker task.

6:00-7:30 PM (I-010)

Altered functional connectivity of the locus coeruleus in individuals with attention deficit/hyperactivity disorder. JOSHUA NEAL, *Virginia Polytechnic Institute and State University*, BEN KATZ, *Virginia Polytechnic Institute and State University*, TAE-HO LEE, *Virginia Polytechnic Institute and State University* — Attention deficit/hyperactivity disorder (ADHD) is associated with deficits in attention, motor behaviors, and executive functioning. As prior imaging studies of the disorder have

focused largely on cortical and midbrain regions, the present study examined functional connectivity (FC) of the locus coeruleus (LC), a key noradrenergic nucleus implicated in attention and arousal. Using the ADHD-200 dataset, seed-based FC analyses were conducted using a consensus LC atlas. ANCOVA analyses compared FC differences between typically developing (TD) and ADHD participants while controlling for relevant covariates, and GLM analyses examined associations between LC FC and ADHD symptom severity. Individuals with ADHD showed significant hypoconnectivity between the LC and left anterior insula, a central node of the salience network. This effect was preserved in inattentive and combined presentations. Symptom severity analyses additionally identified significant associations between ADHD symptoms and increased LC FC in somatosensory regions of the parietal lobe. These findings suggest altered LC connectivity across intrinsic networks may contribute to executive and motor symptoms in ADHD, supporting a noradrenergic-based model of the disorder.

6:00-7:30 PM (I-011)

Prioritizing Meaning: Working Memory Load Limits Visual Exploration but Not Scene Gist Extraction. KAITO SAKUMA, *Hokkaido University*, SHUMA TSURUMI, *Shizuoka University*, JUN KAWAHARA, *Hokkaido University* — Maintaining information in working memory (WM) leads to fixation centralization during free viewing (Cronin et al., 2020). However, it is unclear whether this targets the physical screen center or a meaningful scene's center. We dissociated these by presenting a composite display of a meaningful scene and a control image. If centralization is driven by physical coordinates, the scene's lateral position would have no impact. If driven by meaning, fixations should shift toward the scene. Participants (N=48) viewed a letter string, then free-viewed the composite image while eye movements were recorded. Under load, participants performed a letter-matching task. Under no-load, no probe was presented. We measured fixation count, scan path length, saccade amplitudes, percentage of scene fixated, and dispersion. WM load significantly reduced fixation distribution. Crucially, fixations were not centered on the screen's physical center but skewed toward the meaningful image's center. These findings suggest the visual system prioritizes extracting scene gist even when WM load limits processing resources.

6:00-7:30 PM (I-012)

Temporal Alignment as a Determinant of Encoding for Task-Irrelevant Visual Stimuli. THU VO, *University of Hawaii at Manoa*, SCOTT SINNETT, *University of Hawaii at Manoa* — Selective attention constrains information processing, yet task-irrelevant stimuli can still be incidentally encoded, influencing what individuals later recognize and remember. The present study examined whether temporal alignment with task-relevant events enhances incidental encoding of task-irrelevant stimuli, even under inattention. Participants completed a rapid serial visual presentation task in which they detected immediate picture repetitions while ignoring superimposed words. Critically, a subset of task-irrelevant words consistently co-occurred with target events, and occurrence probabilities were manipulated to introduce differential exposure frequencies. A surprise recognition test assessing recognition for ignored words demonstrated facilitation for target-aligned items, which extended to non-aligned items when exposure rates were controlled for. These findings will be discussed within the framework of task-irrelevant perceptual learning and carry broader implications for understanding how repeated co-occurrence and attentional capture may drive the unintentional encoding of information in everyday environments.

6:00-7:30 PM (I-013)

Examining the Role of Conscious Awareness for the Elicitation of the P300. AARON KARST, *University of Wisconsin - River Falls*, SLOAN BOZOSI, *University of Wisconsin - River Falls*, JOHN HANSEN, *University of Wisconsin - River Falls*, GRIFFIN KEELER, *University of Wisconsin - River Falls* — The P300 event-related potential (ERP) is believed to be evoked by infrequent and/or unpredictable stimuli (Squires et al., 1975). Although much is known about this ERP, there is debate regarding

whether conscious awareness is required for its elicitation (Koelsch et al., 2006; Koivisto & Revonsuo, 2003; Turatto, 2002). To investigate whether consciousness is required for the observation of the P300 a study was conducted that utilized a modified change blindness paradigm. This paradigm allowed for the examination of the presence or absence of the P300 both with and without conscious awareness. As expected, the results indicate that the P300 is evoked when the participants are consciously aware of the change. Further, no P300 was observed in the absence of conscious awareness, suggesting that conscious awareness is a necessary component for elicitation of the P300.

6:00-7:30 PM (I-014)

Moral significance does not receive privileged access to visual awareness in change blindness. KRISTINA KRASICH, *Elon University*, MARY K. STALLARD, *Elon University*, DELANEY TONKIN, *Elon University*, PAUL C. MCKEE, *Duke University*, WALTER SINNOTT-ARMSTRONG, *Duke University* — People frequently navigate visually crowded, dynamically changing social environments, yet important changes often go unnoticed due to limitations in visual-cognitive processing. We tested whether immoral changes are more likely to reach visual awareness and reduce change blindness during scene viewing (N = 375). Three scenes contained an alternative version involving either an immoral change (a colleague yelling at a coworker), a negative-but-not-immoral change (a person tripping and spilling papers), or a neutral change (a person sitting at a desk). After scene viewing, participants completed a memory test containing both studied and foil items and reported whether they had noticed the changes. Both immoral and negative-but-not-immoral changes were detected more frequently than neutral changes. Critically, immoral changes did not exhibit greater signal detection sensitivity than negative-but-not-immoral changes but instead elicited a more conservative response criterion. These findings suggest that enhanced detection of immoral events may be driven primarily by negative affective properties rather than moral significance, challenging the idea that morally significant information receives privileged access to visual awareness.

6:00-7:30 PM (I-015)

No influence of task demands on the ability to strategically mind wander. MATTHEW WELHAF, *North Carolina Agricultural and Technical State University*, MADELINE R. VALDEZ, *Washington University in St. Louis*, JONATHAN BANKS, *Nova Southeastern University*, JULIE M. BUGG, *Washington University in St. Louis* — Mind wandering is an everyday occurrence that is often associated with negative task consequences. Recent work demonstrated that people can strategically mind wander when the task context allows for it. The present study examined if task demands affect the ability to strategically mind wander. Across two samples (Total N = 238), participants completed one of two versions of a sequential sustained attention to response task where stimuli were presented in a predictable manner (sequentially from 1 thru 9). The low-demand version required infrequent responding to a target digit (3) and the high-demand version required responding on every trial except for the digit 3. Thought probes were randomly presented to assess mind wandering. The hypothesized pattern of strategic mind wandering occurred in the low-demand condition in both samples, but was not consistently found in the high-demand condition. Specifically, mind wandering rates were reduced prior to the target digit and then subsequently increased. However, the interaction between demand level and digit position was not significant in either sample. We tentatively conclude that task demands do not meaningfully impact the ability to strategically mind wander.

6:00-7:30 PM (I-016)

Attention, Emotion, and Awareness: Dissociable Effects on Mind Wandering. RAJASHREE BISWAS, *Monash University*, KHUSHI PRIYA, *Indian Institute of Technology, Bombay*, JENNIFER WINDT, *Monash University*, JEROEN VAN BOXTEL, *University of Canberra*, RASHMI GUPTA, *Indian Institute of Technology Bombay* — At-

tention and emotion shape both task performance and thoughts. The present study examined whether visible and subliminal emotional distractors differentially influence task-unrelated thought (TUT) under varying perceptual load. Across two experiments, participants completed a high- and low-load letter-search task with happy and angry facial distractors presented either visibly (200 ms; Experiment 1, N = 22) or as masked subliminal primes (17 ms; Experiment 2, N = 30). Participants responded to intermittent thought probes assessing TUT. In both experiments, high load slowed reaction times and reduced accuracy. In Experiment 1, happy and angry faces influenced behavioural task performance. In Experiment 2, angry subliminal primes were associated with greater TUT than happy faces under low-load conditions. Cross-experiment comparisons showed visible happy-face distractors produced greater TUT under low load but reduced TUT under high load, whereas subliminal happy-face distractors produced similar TUT across load conditions. This suggests that emotional awareness may influence the regulation of mind-wandering under varying attentional demands. Future studies should include neutral faces to isolate emotion-specific effects.

6:00-7:30 PM (I-017)

Mind-wandering and the suggestibility of visual memory. SHIVANG SHELAT, *University of California, Santa Barbara*, ELIZABETH F. LOFTUS, *University of California, Irvine*, JONATHAN W. SCHOOLER, *University of California, Santa Barbara* — Mind-wandering reduces visual memory encoding. Does it also influence the vulnerability of visual memories to distortion by misinformation? In this experiment, 208 participants studied 24 complex scenes depicting a man interacting with things in a cluttered house. Eight critical scenes were followed by a mind-wandering probe. After a distractor task, participants read a detective's narrative of the scenes that included either neutral information or object-specific misleading details. Participants then completed a memory test in which they chose between the original scene and a lure scene in which a critical object had been replaced with one aligned with the misleading detail. Results showed robust main effects where both mind-wandering ($p = .0005$) and misinformation ($p = .0030$) reduced memory accuracy. Post-hoc tests suggested a possible interaction where mind-wandering moderated misinformation's effects, although the overall interaction term did not reach statistical significance ($p = .16$). The findings indicate that the fidelity of visual memory is independently threatened by both internally generated attentional lapses and externally introduced misinformation.

6:00-7:30 PM (I-018)

Problems of Replicability, Awareness and Interpretation of Unconscious Semantic Processing. AURORA SLOMAN-MOLL, *Texas A&M University*, TAKASHI YAMAUCHI, *Texas A&M University* — Understanding semantic integration remains a central question in cognitive science. A key question is whether information from one stimulus category can influence processing in another without conscious awareness. Although various studies have reported subliminal priming effects and evidence of integration across stimulus categories, findings remain difficult to interpret due to concerns about replicability, awareness measurement, and alternative explanations. This review examines the literature on semantic integration, focusing on studies that test whether information from one stimulus category can influence processing in another. Masked priming tasks, masking techniques, awareness measures, and analyses that are used to study this phenomenon are reviewed. Special attention is given to methodological challenges in determining whether semantic integration occurs without conscious awareness. Across these areas, evidence suggests that priming effects are highly sensitive to methodological choices, making conclusions difficult to establish. Overall, the literature highlights important limitations in current approaches and the need for more rigorous and standardized methods for studying semantic integration.

6:00-7:30 PM (I-019)

Familiarity with Scene Contents Influences Attention and Memory. DEBORAH CRONIN, *Drake University* — We typically encounter the same limited set of visual environments each day, but scene perception and memory research is usually conducted without regard to participants' familiarity with the places depicted in the scene stimuli. How does familiarity with a depicted location influence attention and memory? In this study, we recorded eye movements while participants viewed images of familiar and unfamiliar places. After a delay, participants viewed the images again while their eyes were tracked and responded whether they had previously studied each image. Half of the studied images were presented at test, while half were replaced with images of the same locations taken from an alternate viewpoint to the studied image. Familiarity with depicted locations influenced eye movements at study and test. Familiarity also affected memory performance. Our results extend previous work and suggest past experiences with locations depicted in an image influence attentional guidance and long-term memory processes.

6:00-7:30 PM (I-020)

Tunnel Vision or General Interference? Visual Attention in Dynamic Environments. BIANCA BOICU, *University of British Columbia*, MARIANA MOTA, *University of British Columbia*, HEE YEON IM, *University of British Columbia* — Drivers must extract critical visual information in dynamic environments despite limited perceptual capacity. Competing demands, such as high-speed motion (optic flow) and multitasking (cognitive load), may differentially shape attention across the visual field, yet their effects on scene perception remain unclear. We tested whether these demands bias attention toward foveal or peripheral regions during first-person driving. An ensemble coding task embedded in driving videos assessed sensitivity to local and global scene information under varying speeds and cognitive load. Experiment 1 (n = 20) showed that cognitive interference, rather than optic flow, limited central scene processing: participants performing a secondary task relied more on peripheral information, while speed had no systematic effect. Experiment 2, using a stronger optic flow manipulation (10× vs. 3× playback speed; n = 20), replicated this pattern. Future work will examine how these attentional constraints contribute to safety-critical perceptual failures and motor outcomes.

6:00-7:30 PM (I-021)

Age differences in the effect of congruency in extrapolating beyond visual boundaries of scenes. MARIA S. ORLANDO, *York University*, R. SHAYNA ROSENBAUM, *York University* — Humans automatically extrapolate beyond the view of a presented scene, drawing from conceptual knowledge structures, or schemas, to form a continuous understanding of the visual world. This predictive process leads observers to remember more than what was originally seen. Boundary extension (BE) is an error in scene memory, such that individuals retrieve details beyond the border of a presented scene image. Because typical aging increases reliance on schemas to support memory, this study examined age differences in BE between young and older adults. Participants viewed scene images where a focal object was either scene-congruent (matched the context) or scene-incongruent (mismatched the context). BE was measured through a recognition task where participants compared successive views of scene images to judge if the view of a test image matched a target image. The study explored whether scene-object incongruence disrupts the schema-based extrapolation processes that typically drive boundary extension.

6:00-7:30 PM (I-022)

Voice and semantic features both support early attentional filtering of irrelevant stimuli. ERIC PARKER, *Carnegie Mellon University*, SAHIL LUTHRA, *Stony Brook University*, MARYSIA BROWN, *University of Pittsburgh*, GIDEY GEZAE, *Pennsylvania State University*, HEE SO KIM, *Carnegie Mellon University*, WUSHENG LIANG, *Carnegie Mellon University*, ABIGAIL NOYCE, *Carnegie Mellon University*, BARBARA SHINN-CUNNINGHAM, *Carnegie Mellon University* — Real-world

communication requires paying attention to one conversation and ignoring simultaneous, competing ones. Both low-level voice cues and high-level semantic differences support selective attention. Electroencephalography (EEG) studies suggest that voice differences drive early attentional filtering, but it is unclear whether semantic cues have similar early influences. In this EEG study, listeners attended to a lateralized target stream while ignoring contralateral distractors, which were either spoken in the same or a different voice and either semantically similar or dissimilar. Targets and distractors were temporally offset, allowing us to test whether acoustically matched, always-attended targets are differentially encoded based on surrounding stimuli. Voice and semantic features had interactive effects on target recall; recall was poor only when streams matched in both voice and semantic content. However, voice and semantic features had independent, additive effects on neural encoding; the more similar target and distractor, the smaller the P1-to-N1 response elicited by the target. Results highlight that when targets and distractors are similar, attention is less effective, leading to suppressed brain responses.

6:00-7:30 PM (I-023)

What's on your mind? Effects of feature similarity on priming during hybrid search. CARLY J. LEONARD, *University of Colorado Denver* — At a given moment, any one of a multitude of potentially relevant objects might enter the visual field. Many factors account for which are noticed and how quickly, with the same holding true for explicit search tasks with many possible targets. Previous work shows high efficiency at such hybrid search, even with 100 potential targets. Memory systems are essential, with prior investigations particularly focused on the roles of working memory and activated long-term memory. Here two experiments are presented that muddy the waters by examining priming effects on hybrid search. The influence of the previous trial's target on current trial performance is examined through experimental manipulation of exemplar and category repeats, as well as convolutional neural network (CNN) measures of feature similarity. Results show intertrial priming is larger for higher display sizes and memory set sizes, with differing effects for exemplar and category repeats. CNN analyses revealed differences may relate to visual similarity between sequential targets rather than shared category membership. Further examination of similarity and priming may help better differentiate how memory contributes to guidance and decision processes during hybrid search.

6:00-7:30 PM (I-024)

Listening to background sound interferes with visual search, ignoring it does not. JAN PHILIPP RÖER, *Witten/Herdecke University*, IAN M. THORNTON, *University of Malta*, AVA MITRA, *Brown University*, JEREMY M. WOLFE, *Harvard Medical School; Brigham and Women's Hospital* — Four experiments investigated the effect of background sound on visual search using the Multi-Item LOcalization (MILO) task. Participants clicked through items labeled 1-8 in numerical order as quickly as possible while hearing auditory information varying in relevance and complexity. In Experiments 1 and 2, participants were informed that the background sound (sequences of random words) was irrelevant and asked to ignore it. For both static items and shuffled items that were randomly repositioned after each localizing response, MILO search performance was comparable under auditory distraction and in the quiet control condition. In Experiment 3, we used the most effective type of distractor sound (meaningful natural speech), but still found no effect on MILO search speed. In Experiment 4, we used the same distractor sound, but this time participants were instructed to actively listen to it and count how many times a specific number was mentioned. As a result, they were significantly slower compared to the quiet condition. The overall pattern of results suggests that visual search performance can be effectively shielded from auditory distraction, but only if we can choose to ignore the sound and not if we actively listen to it.

6:00-7:30 PM (I-025)

Serial Engagement of Dimensional Attentional Templates During Temporal Search for Conjunction Targets. BENJAMIN J. TAMBER-ROSENAU, *University of Houston*, KEITH RACIOPPO, *University of Houston* — We have recently investigated whether attention can be guided in multiple feature dimensions in parallel (complex attentional templates; CAT), or whether instead, searching through multiple dimensions requires serially applying distinct templates for each dimension (simple attentional templates; SAT). In single-location temporal search for disjunctive targets across orientation and spatial frequency, we previously observed switch costs for sequential targets from distinct feature dimensions, supporting SAT. However, disjunctive targets (orientation or spatial frequency; never both) could have incentivized an SAT strategy even if CAT is possible. Thus, the present experiment used conjunction targets defined based on combinations of orientation and spatial frequency and mixed with non-target lures that matched on a single dimension, incentivizing a CAT strategy. Nevertheless, we still observed switch costs consistent with serial engagement of distinct templates for each feature dimension--that is, greater switch costs when sequential targets changed in both feature dimensions than when they changed in just one. These results suggest that SAT best explains temporal attention even when task structure could have incentivized CAT.

6:00-7:30 PM (I-026)

Effects of Visual Contrast on Search for Whales in Satellite Imagery. CODY CARLYLE, *University of New Brunswick Saint John*, KIMBERLEY DAVIES, *University of New Brunswick Saint John*, JONATHAN WILBIKS, *University of New Brunswick Saint John* — While many visual search studies focus on stringent control of external factors to maximize internal validity, recent research has looked at visual search "in the wild". By considering factors that affect visual search in real-world contexts, we can get a better idea of how the human visual system deals with noisy environments in search. Recent research has examined the use of high-resolution satellite imagery in detecting whales and has found limitations to this approach in certain locales due to factors such as breaking waves. The current study presented participants with images extracted from satellite imagery, half of which had a whale present, with varying levels of contrast between whale and ocean. Participants identified the presence or absence of a whale by clicking on the whale (if one was present) or on a "no whale" button (if one was not). More whales were identified successfully (M = 98%) in chips with high contrast between whale and background than in chips with low contrast (M = 77%). There was no difference for correctly determining that no whale was present across contrast conditions. These results inform future applied research by assessing the amount and type of interference that can be overcome in visual search.

6:00-7:30 PM (I-027)

The Role of Interruption Complexity during Visual Search. EMILY SEELIGMÜLLER, *Witten/Herdecke University*, JEREMY M. WOLFE, *Harvard Medical School; Brigham and Women's Hospital*, JAN PHILIPP RÖER, *Witten/Herdecke University* — Visual search experiments are usually conducted without interruption so that participants can fully concentrate on the focal task. This is in stark contrast to the real world, which is usually riddled with distractions and interruptions. Many studies have looked into interruption costs using basic and applied visual search tasks and there is ample evidence that we take longer to find what we are looking for when we are interrupted. In a preregistered study to be completed before November, we systematically investigate the role of interruption complexity using a classic visual search task and an orthogonal manipulation of perceptual and cognitive load. During interruptions, participants perform a running memory span task, in which items are clearly visible (low perceptual load) or masked with Gaussian noise (high perceptual load). Participants must recall the last item (low cognitive load) or the last four items on the list (high cognitive load).

6:00-7:30 PM (I-028)

Robust Vertical Asymmetry in Pre-saccadic Fixation Duration Is Independent of Glare and Looming Conditions. TAYLOR-NICOLE KISSEL, *University of Detroit Mercy*, HAROLD GREENE, *University of Detroit Mercy*, JAMES M. BROWN, *University of Georgia*, VAIBHAV DIWADKAR, *Wayne State University* — There is an adaptive vertical asymmetry in pre-saccadic fixation durations (PSFDs), where significantly longer fixation durations prior to down-directed saccades prevent nuisance saccades towards the torso. The present study used data from two experiments that simulated the effects of glare and optic flow on visual search and scanning tasks to examine whether this asymmetry is moderated by environmental demands. Experiment 1 had participants complete 42 trials of a low contrast visual search task with randomized target locations in either optimal viewing or glare conditions. Experiment 2 had participants view 10 videos of moving down a hallway to simulate optic flow and 10 static images. Both experiments monitored fixations with eye tracking software. PSFDs increased with the glare ($p < .05$) and with looming presentations ($p < .05$). However, the vertical asymmetry did not significantly change ($p > .05$). Exclusion Bayes factors (BFexcl) provided moderate evidence for the null models, indicating a lack of difference between the conditions (i.e., Glare = No Glare, BFexcl = 3.12; Video = Static Image, BFexcl = 6.53). While the PSFDs increased with task demands, the extent of the vertical asymmetry remained stable across conditions.

6:00-7:30 PM (I-029)

Motor Responses Guide Attention in Time. SUNGHYUN KIM, *Texas A&M University*, BRIAN A. ANDERSON, *Texas A&M University* — Despite the close connection between action and perception, the motor dimension has been largely overlooked as a potential source of attentional guidance. This study investigated whether motor responses guide temporal attention. At the beginning of each trial, participants freely chose to press either the left or right key. Following this motor response, a rapid serial visual presentation stream appeared, in which a target letter was briefly presented early or late among non-target letters. Importantly, unbeknownst to participants, target timing was predicted by the response key. For example, targets were more likely to appear early following left-key responses and late following right-key responses. Results showed that targets were recognized more accurately at response-cued than response-uncued time points despite participants' lack of awareness of the associations. This finding suggests that motor responses implicitly guided temporal attention. Thus, specific motor responses can serve as context cues for the subsequent allocation of attention.

6:00-7:30 PM (I-030)

Effects of Decision Support System Errors on Quitting Threshold of Visual Search. COLLIN SCARINCE, *Texas A&M University - Corpus Christi* — Demanding search tasks can benefit from computer-vision based decision support systems (DSS). Such systems can screen many images to reduce demand on human searchers, but they are also susceptible to Type I and Type II errors. The type and rate of DSS errors can differentially affect the way the human operator uses the information from the system. The current study investigated how errors affect search termination of target-absent search arrays before and after a DSS error. Participants completed a difficult visual search task with a reliable DSS that flagged a search display as likely having a target or not. The DSS occasionally committed an error (~5% of trials), and participants were randomly assigned to a DSS that was prone to either Type I or Type II errors. In alignment with previous findings, there was a dissociation between Type I and Type II errors on search behavior. False positives had a relatively small effect on post-error rejection response times, but false negatives resulted in increased post-error response times that gradually approached pre-error levels. Regarding aid trust, compliance (rate of agreement with target-present DSS warnings) was lower than reliance (rate of agreement with target-absent warnings).

6:00-7:30 PM (I-031)

FoMo: A Flexible Bayesian Model for Visual Foraging Behaviour. MANJIRI BHAT, *University of Essex*, ANNA HUGHES, *University of Essex*, RUSSELL COHEN-HOFFING, *U.S. Army DEVCOM Army Research Laboratory*, DANIEL SMITH, *Durham University*, ALASDAIR D. F. CLARKE, *University of Essex* — When we search for familiar faces in a crowd or berries on a bush, we make rapid decisions about where to look next. Visual foraging captures these moment-by-moment decisions, allowing us to investigate the cognitive strategies that guide them. We present FoMo, a Bayesian generative foraging model that uses latent parameters such as distance and directional preferences to quantify and predict foraging behaviour. We demonstrate its use in two distinct contexts. In a military application, the model predicted behaviour with high accuracy (~75%) across participants and conditions, revealing how strategies shift depending on map availability and stamina constraints. In a clinical application, FoMo's parameter estimates could distinguish patients with Progressive Supranuclear Palsy (PSP), a condition frequently initially diagnosed as Parkinson's Disease (PD), from PD and age-matched controls with 89.3% sensitivity and specificity. Together, these applications show that FoMo is a flexible tool for understanding visual foraging behaviour across diverse real-world contexts.

6:00-7:30 PM (I-032)

Predicting Visual Search Outcomes and Errors from Cursor Trajectories. SARAH B. MALYKKE, *George Washington University*, AUDREY SIQI-LIU, *George Washington University*, DWIGHT J. KRAVITZ, *George Washington University*, STEPHEN R. MITROFF, *George Washington University* — Visual search performance is typically assessed via aggregate outcome measures (e.g., accuracy, response time), but such measures provide limited insight into behavioral changes within or before a search. Prior error-related research has shown that behavioral changes can emerge prior to errors, suggesting that errors reflect evolving behavioral states. The current study examined whether mouse cursor trajectories during search contain predictive signals of future performance. Participants (N=200) completed an online "T among Ls" search task with continuous cursor tracking. Response-locked cursor features, including trajectory length, speed, shape, and dwell times, were extracted in cumulative 100ms bins from 3000 to 100ms before the response. Random forest classifiers trained to predict trial outcomes using participant-level train-test splits with bootstrapping outperformed null models approximately 1100ms before the response, indicating that search outcomes became predictable well before a final decision was made. The findings suggest that cursor movements contain early behavioral signatures of search errors and support the idea that errors emerge gradually rather than as sudden lapses.

6:00-7:30 PM (I-033)

Exploring the Cognitive Mechanisms of Metalinguistic Awareness in Second/Additional Language Learning. MARINA RIDCHENKO, *University of Illinois Chicago*, KARA MORGAN-SHORT, *University of Illinois Chicago* — As international migration grows, understanding the cognitive mechanisms underlying second/additional language (L2/A) learning is essential to promote more effective instructional approaches. Yet, despite the established role of metalinguistic awareness (awareness of how the language works) in L2/A learning (e.g., Hidayatun et al., 2021), it is unclear what contributes to its development. This study investigates whether memory systems that are implicated in L2/A learning (e.g., Morgan-Short et al., 2022) facilitate the emergence of metalinguistic awareness. Participants (N = 108) learned and were tested on the morphophonology of an artificial L2 (Antoniou et al., 2016). They also completed a retrospective awareness survey and cognitive assessments of working (Oswald et al., 2015), declarative (Hedenius et al., 2013), and procedural (Nissen & Bullemer, 1987) memory. Preliminary regression analysis revealed no relationship between memory systems and metalinguistic awareness (ps > .05), and the only significant predictor was participant's performance on the L2/A test ($\beta = 4.06$, $p = .001$). Interpretation of updated findings based on ongoing data collection will be discussed.

6:00-7:30 PM (I-034)

A Consecutive Interpretation Task and Advanced L2 Learners: Roles of L2 Proficiency and Working Memory. KIRSTEN M. HUMMEL, *Laval University* — This study examined the roles played by L2 proficiency and working memory (WM) in L1 to L2 interpretation in advanced French L1 learners of English. Research (e.g., Zheng & Kuang, 2022) carried out on consecutive interpretation has provided evidence that this skill places considerable demands on the storage and processing functions of WM. Some studies have reported significant links between WM and interpretation carried out with students training to be interpreters (Dong et al., 2018). At the same time, L2 proficiency is a strong predictor of various L2-based tasks, such as reading skill and fluency measures, and has been found to outweigh WM as a contributor to the development of interpreting skill (Cai et al., 2015). Our study aims to provide further clarity on the roles of WM and L2 proficiency in a consecutive interpretation task: WM (EF) measures included composite complex and backward digit span tasks; PSTM measures consisted of nonword repetition and serial recognition tasks. A standardized L2 test measured L2 proficiency. Results (stepwise regression) from a subset of the cohort revealed that L2 reading was a significant predictor of the interpretation score, while a component of WM (symmetry task) showed a tendency.

6:00-7:30 PM (I-035)

A Reduced Self-Activation Account of the Foreign Language Effect. HARRISON A. PAFF, *University of Dundee*, ALISSA MELINGER, *University of Dundee*, SHEILA J. CUNNINGHAM, *Abertay University*, JOSEPHINE ROSS, *University of Dundee* — Bilingual speakers report feeling less themselves when conversing in a foreign (L2) relative to a native language (L1). This foreign language effect (FLE) has been attributed to reduced emotionality in L2. However, we argue that the FLE may instead result from weaker links between the self-system and L2. When the self-system is activated, stimuli are better remembered, known as the self-reference effect (SRE). We assessed the SRE in a bilingual context to explore activation strength between the self-system and L1 v. L2. During encoding, unbalanced bilinguals evaluated the self- and other-relevance of neutral valence (Exp 1) or positive, neutral and negative valence words (Exp 2) in German (L1) and English (L2). Exp 3 replicated Exp 2 but replaced self- with friend-evaluation. A subsequent one-step source memory test found a reduced SRE in L2 relative to L1 in Exp 1. The reduced SRE was replicated in Exp 2, but critically, valence and language did not interact. Exp 3 replicated no valence x language interaction, but showed a similar friend-memory benefit in L1 and L2. Thus, reduced memory in L2 was self-specific (Exp 2). These findings undermine FLE accounts based only on emotionality and support a reduced self-activation account.

6:00-7:30 PM (I-036)

Bilingual Co-Activation Shapes Memory Formation and Retrieval: Evidence from EEG and Eye-Tracking Co-Registration.. CONCEPCIÓN SOTO, *Northwestern University*, CRISTINA LÓPEZ-ROJAS, *University of Granada*, ASHLEY CHUNG-FAT-YIM, *University of Manitoba*, NIKOLAS SUNG, *Northwestern University*, GRACE JUAREZ, *Northwestern University*, VIORICA MARIAN, *Northwestern University* — Spoken word recognition in bilinguals involves the parallel activation of phonologically overlapping candidates from both languages. Emerging evidence suggests that language co-activation has downstream consequences on higher order cognition. The present study examined whether phonological co-activation influences memory encoding and subsequent retrieval. Thirty Spanish-English bilinguals and 30 English monolinguals completed a visual search task followed by a recognition memory test. We co-registered eye-tracking and EEG activity to simultaneously capture behavioral and neural processing. During encoding, eye-tracking results revealed that both groups demonstrated within-language competition, but only bilinguals showed between-language competition, indexed by increased fixations to competitors relative to control items. During recognition, bilinguals showed greater pupil dilation and a larger late positive potential for previously seen competi-

tors compared to control items, suggesting increased cognitive effort and stronger memory recollection, respectively. Our findings demonstrate that language co-activation influences how information is encoded and remembered later.

6:00-7:30 PM (I-037)

Holding it Together Over Time: Multilingual engagement, Working memory and Resting state brain activity. ANDERS GABRIELSEN, *UiT The Arctic University of Norway*, VINCENT DELUCA, *UiT The Arctic University of Norway*, TOMS VOITS, *University of Gothenburg*, JASON ROTHMAN, *Lancaster University* — Multilingual engagement (ME) has been found to mitigate symptoms of cognitive aging (CA), including in aspects of memory. However, the relationship between degree of multilingual engagement, cognitive outcomes, and their neural correlates across the adult lifespan remains poorly understood. This study examined the extent to which ME contributes to working memory (WM) performance across the adult lifespan, specifically through maintenance of its supporting functional neural architecture. 139 Norwegian-English multilinguals (mean age 52.9; range 30-82) underwent a resting-state EEG recording, completed a Corsi-Blocks Tapping test, and several demographic measures examining aspects of ME, and other lifestyle factors (e.g., diet, social networks). Generalized additive models showed degree of ME counteracted negative effects of age on WM performance, accounting for other lifestyle factors. Follow-up models showed significant three-way interactions between age, rs-EEG power in theta and beta bands, and ME on WM performance, suggesting increased ME contributes to the maintenance of neural capacity for WM with increasing age. The results indicate that multilingualism can act as an independent moderating factor against CA symptoms.

6:00-7:30 PM (I-038)

Memory for Contrastive-Pitch Accenting in Cantonese-English Bilinguals. BETHANY CLEMENTS, *New York University*, LU LIU, *Ohio State University*, LAUREL BREHM, *University of California, Santa Barbara*, SI ON YOON, *New York University* — Contrastive-pitch accenting has been shown to aid language processing and recognition memory in native speakers of various languages. Earlier work in the visual-world paradigm (VWP) demonstrated that effects of contrastive-pitch accenting are influenced by cognitive resource allocation: Participants exhibited the strongest memory benefit for contrastively-accented items that had been presented earlier in narratives. We examine how the effect on memory for contrastive prosody generalizes to Cantonese-English bilinguals– a language pair where contrastive focus is realized with overlapping but distinct sets of cues. Contrastive-pitch accenting facilitated recognition memory for both earlier- and later-presented information within narratives, indicating a small bilingual advantage in processing prosody. English proficiency also positively correlated with memory accuracy, while Cantonese proficiency negatively correlated with memory accuracy. Combined, these findings suggest that language background and proficiency appear to play a role in the manner in which contrastively-accented information is processed and remembered.

6:00-7:30 PM (I-039)

Presentation Rate, Word Frequency, and Language Proficiency Effects on Rehearsal and Free Recall. BING JIE WU, *University of Texas at El Paso*, WENDY S. FRANCIS, *University of Texas at El Paso*, DAVID SANCHEZ, *University of Texas at El Paso*, FERNANDA JUAREZ ORTEGA, *University of Texas at El Paso*, CAMILA RAYMOND, *University of Texas at El Paso* — Previous research shows that word frequency and language proficiency influence rehearsal rate, rehearsal patterns and free recall patterns, especially for words from the beginning of the sequence. Building upon these findings and a model in which rehearsals are treated as additional presentations, we varied the number of rehearsals by varying the presentation rate, word frequency, and language proficiency. Participants (N=64) with a wide range of English proficiency studied lists of 16 English words with a rehearse-aloud procedure and attempted to recall them. We measured several aspects of rehearsal and

recall patterns across serial positions, to better understand how presentation rate, word frequency, and language proficiency affect rehearsal patterns and subsequently influence recall accuracy and the order in which words are recalled. We hypothesized that with higher word frequency, higher language proficiency and slower presentation rate there would be more rehearsals, leading to more effective rehearsal patterns and higher recall accuracy, especially for words presented early in the sequence.

6:00-7:30 PM (I-040)

To Recall or to Create? How Ideas Emerge During Iterative Concept Combination. VISHEETA CHANDOLIA 🎗️, *Texas A&M University*, STEVEN M. SMITH, *Texas A&M University* — Concept combination research suggests emergent properties—unique features not attributable to their constituents—often rely on memory-based examples (Hampton, 1997). However, during iterative combination, later ideas are more creative and more likely to contain emergent features (Chandolia & Smith, 2025), highlighting creative processes in emergence. Consistent with the serial order effect, Gilhooly (2007) found that during idea-generation, early ideas are typically 'old' or known, while later ideas are 'new' or novel. Based on this, we hypothesized that early combinations will be recalled, whereas later combinations will be constructed, with constructed ideas yielding more emergent features. Participants interpreted five noun-noun pairs (e.g., OIL BAG) for two minutes each, reported whether interpretations were recalled or constructed, and listed features for each interpretation. We analyzed response times, serial position, novelty, subjective creativity, and the proportion of emergent features in recalled versus constructed ideas. Implications for creative idea generation and concept combination are discussed.

6:00-7:30 PM (I-041)

Breaking Bouba-Kiki: The Effect of Label Similarity on Labelling Perceptually Similar Referents. WESLEY LEONG, *University of Connecticut*, BODJ OLIVER ALNGOHURO, *University of Connecticut*, EILING YEE, *University of Connecticut* — When we encounter a novel label, what, if anything, do we assume about the appearance of its referent? Likewise, when encountering a new creature, what novel label might we generate for it? Here, we examine whether people have a bias to map labels that are similar in form onto perceptually similar concepts (and vice versa). Across three experiments, we show bidirectional evidence of this. In Experiment 1, adults were first introduced to a novel label–referent pairing (e.g., "This is a toku." written above an image of an alien species) and then selected which of two new species best fit a second, novel label. When the new label was similar to the initial one (e.g., "teki"), participants reliably mapped it onto the species that looked more similar to the first one. In Experiment 2, we show that this label similarity effect is robust enough to override pre-existing sound-shape preferences. And in Experiment 3, we demonstrate that the effect also operates in production: after being introduced to a novel creature, participants generated more similar labels when asked to label a perceptually similar, but distinct, creature.

6:00-7:30 PM (I-042)

Human creativity and one-shot generalization in abstract shape naming. NELU D. RADPOUR, *Florida State University*, MICHAEL P. KASCHAK, *Florida State University* — Humans can rapidly generate meaningful labels and associations for entirely novel objects, reflecting interactions among creativity, semantic memory, and one-shot generalization. This study examined how participants assign names and semantic associations to unfamiliar abstract shapes in order to better understand human creative cognition and compare it with emerging AI systems. Participants completed a divergent naming task involving both three-dimensional abstract forms and two-dimensional human-generated shapes. Because the stimuli lacked familiar category labels, participants were required to infer meaning from minimal perceptual information. The study investigates variability in naming strategies, semantic richness of associations, and convergence in conceptual interpretations after only a single exposure to each stimulus. Preliminary observations suggest substantial diversity in naming behavior alongside recurring semantic

themes across participants, offering insight into how humans construct meaning from novel perceptual input and generalize from limited information.

6:00-7:30 PM (I-043)

The Cognitive Consequences of Looking 'Prototypical': Stereotypes and Categorization. JIAHE YING, *Davidson College*, ALESHA BOND, *Davidson College* — Stereotyping occurs when a target is categorized into a relevant group and consequently, linked with the associated traits of that group. Individuals with more prototypical facial features of their ethnic group are more likely to be categorized as members of that group and, in turn, to activate the associated stereotypes. In two experiments, participants (N = 199 for Study 1; N = 200 for Study 2) viewed panels of Asian faces varying in prototypicality and paired with stereotype-consistent or inconsistent role labels, followed by a distractor task and a recognition test of face–label associations. We found that participants are more likely to correctly categorize and miscategorize highly prototypical Asian faces into Asian-consistent stereotypes compared to less prototypical Asian faces in a memory task. They are also more likely to correctly categorize and miscategorize East Asian faces into Asian-consistent stereotypes compared to South Asian faces in a memory task.

6:00-7:30 PM (I-044)

Attentional Allocation During Explanation-Based Category Learning. SETH CHIN-PARKER, *Denison University*, YIWEN WANG, *Cornell University*, ALYSON MARSHALL, *Denison University* — This study extends work on explanation-based category learning (Chin-Parker & Cantelon, 2016; Edwards et al., 2019) by examining attentional allocation during learning. Participants learned about two categories of fictional organisms under explanation, description, or classification learning conditions. Each trial a target item appeared on the screen. Attribute saliency, cue validity, and category validity were manipulated to assess how they impacted attentional allocation to the attributes across the learning tasks. During learning, the display also included exemplars from both the target and contrast categories. This allowed us to assess how participants used information about both the category the target item belonged to and the alternate category. Following learning, participants engaged in a classification task, categorizing items seen during learning as well as new items. Briefly, the learning condition systematically influenced attention to the attributes and categories during learning and subsequent classification performance during transfer. Results suggest explanation recruits comparison to items in both the target and contrast categories as participants develop a sense of the informativeness of the different attributes.

6:00-7:30 PM (I-045)

False memory induced by an abstracted prototype. ANETT RAGÓ, *UiT the Arctic University of Norway*, JULIA BAROSS, *Eotvos Lorand University*, HUNOR KIS, *Eotvos Lorand University*, ESZTER SZABO, *Eotvos Lorand University* — The butcher-on-the-bus phenomenon describes how an out-of-context item can cause a high intensity of familiarity and potentially trigger a recollection. To investigate whether a high level of false familiarity induced by manipulating similarity could induce false recognition in the case of never-seen items, we used a covert category-learning paradigm. We taught a new category in a go-nogo setting. The individually recognizable target items in the learning phase were twelve close-to-prototype exemplars following a complex non-verbalizable feature-combination rule. We tested the abstraction process with a categorization task for new, never-seen lure and foil items. The categorization performance followed the level of similarity defined by the family resemblance structure. We administered a surprise recognition memory test as well. The unseen prototype lures were highly similar to the learning items but less familiar than the close-to-prototype lures. However, the prototypes were more frequently judged as old, receiving higher false-alarm rates than the close-to-prototype lures. This suggests that the newly abstracted prototype representations, due to their similarity, can enhance false familiarity and false recognition experience.

6:00-7:30 PM (I-046)

The Role of Verbal, Visuospatial, and Nonverbal Auditory Working Memory in Category Learning. HEDIEH NEJATMAND MALARI, *University of New Hampshire*, CASEY L. ROARK, *University of New Hampshire* — Category learning relies on working memory, but it remains unclear how different forms of working memory (i.e., verbal, visuospatial, nonverbal auditory) support learning and whether the role of working memory differs across modalities. We examined auditory and visual category learning while selectively disrupting verbal, visuospatial, or nonverbal auditory working memory using a secondary task. Compared to control conditions, verbal interference disrupted training performance across modalities, but performance was no different from control after active working memory interference was removed. Nonverbal auditory interference selectively disrupted auditory performance even with no active working memory interference. Interestingly, we failed to replicate previous findings of disruption of visual learning with visuospatial interference using the same stimuli and task design. Overall, these findings suggest that verbal working memory may support performance rather than learning per se and that at least some aspects of the role of working memory in category learning are modality-specific.

6:00-7:30 PM (I-047)

Unequal contributions of training items to forming category structures. LEE-XIENG YANG, *National Chengchi University*, YUN-RU LI, *National Chengchi University* — In this study, the contributions of training items to learning the category structure were examined in the semi-supervised learning paradigm. The true category structure was defined as Category A being positioned in the central area surrounded by Category B in a 2-D space. In the consistent condition, the A exemplars on the descending diagonal in the central area and all surrounding B exemplars were labeled, leaving the rest A exemplars unlabeled, in the training phase. In the inconsistent condition, the labeled items were all A exemplars and those of the B exemplars above and below the A exemplars, leaving unlabeled the B exemplars to the left- and right-hand sides of the A exemplars. The participants' transfer response pattern aligned with the true category structure only in the consistent condition, not the inconsistent condition. A three-layered neural network model over fit these data. The GCM could accommodate the transfer data in the inconsistent condition by selectively attending to Y-dimension, but generalized less A responses for those unlabeled A exemplars in the consistent condition. A modified exemplar model based on single categories for categorization could account for all transfer data in this study.

6:00-7:30 PM (I-048)

Shared versus Sequential Associations Differentially Constrain Higher-Order Prediction. RICKY W.J. CHOI, *Carnegie Mellon University*, DAVID H. RAKISON, *Carnegie Mellon University* — Human learning extends beyond direct experience: we infer how things relate even when we have never encountered them together. How structured, generalizable knowledge arises from piecemeal associative experience — and whether the structure of that experience governs what can later be inferred — remains unclear. We presented adults two patterns of associations differing only in structure, a chain versus a common hub, at matched associative distance, then asked how they represented these links and extended them to pairs never experienced together. Learned associations were not symmetric but graded and partly directional, retaining the direction in which experience unfolded. Critically, structure reshaped inference even at matched distance (a structure-by-order interaction, $p = .0001$, $BF_{10} = 256$): a hub made nearer items more inferable, whereas a chain favored more distant ones. A model comparison spanning 500,000+ neural-network simulations identified the mechanism as a graded-directional, cue-to-target associative learner. Structured, generalizable knowledge can thus emerge from a simple directional learning rule, but the structure of experienced associations determines which never-encountered relationships the mind can bridge.

6:00-7:30 PM (I-049)

Is a prototype more than its parts? MERCURY MASON, *State University of New York at Binghamton*, KENNETH J. KURTZ, *State University of New York at Binghamton*— Studies of category learning often use an 'off-by-one' family resemblance structure where each category consists of a prototype plus items that contain all prototype-consistent features except one. A longstanding issue in the field is that learners often rely on an imperfect unidimensional rule rather than family resemblance. We tested a novel learning mode in which all training trials reveal only a single feature of each item – learners mastered the correspondences between each feature value and its category, i.e., they acquired the constituent information of each prototype. However, across variations in the single-feature training trial format, learners showed severely disrupted performance at test with full items. For purposes of illustration, this is like knowing that a big item, a red item, a striped item, and a circular item belonged to Category A, but they were unsure of items with most or all of those features. We discuss implications for accounts of human categorization.

6:00-7:30 PM (I-050)

General Trust in Conscious Experiences Predicts Reasoning and Decision Making. RAN R. HASSIN, *Hebrew University of Jerusalem*, OHAD LIVNAT, *Hebrew University of Jerusalem* — This research documents robust and stable variance in the degree to which people trust their conscious experiences. The described experiments used the newly developed Trust in Phenomenology Scale (TiPS) to measure the degree to which people trust their conscious experiences. TiP is comprised of two factors: TiP-OUT reflects trust in externally directed cognitions, i.e., conscious experiences that seem to be triggered by an external cause (e.g., perceptual experiences). TiP-IN reflects trust in internally directed cognitions, i.e., conscious experiences that seem to spring from within the person (e.g., intuitions and insights). We explore the behavioral consequences of TiP in key domains: perceptual decision making (measured via visual search and identification tasks), hypothesis testing (assessed via the Wason Selection Task), and cognitive reflection (assessed via the Cognitive Reflection Test). In the visual domain, TiP-OUT predicted one's accuracy and sensitivity to visual noise, implying TiP reflects knowledge of one's abilities. TiP-IN predicted reliance on intuitions, leading to more mistakes in misleading riddles to which the first intuitive answer that comes to mind is usually erroneous.

6:00-7:30 PM (I-051)

Dynamic Exploratory Extensions of Drift Diffusion Models with Bayesian and Simulation-Based Inference. CLIFFORD E. HAUENSTEIN, *Johns Hopkins University*, EUNBEE KIM, *Georgia Institute of Technology*, DEREK M. SMITH, *Johns Hopkins School of Medicine* — Dynamic extensions of evidence accumulation models for decision making tasks (e.g. drift diffusion models, DDM) have recently gained attention to account for learning/performance adjustments, variability in stimulus properties, and reward conditions. However, these extensions have primarily been confirmatory; with little attention given to exploratory approaches to capture dynamics in DDM parameters with minimal model constraints. We propose an exploratory approach to characterizing dynamics in the drift diffusion family of models, invoking traditional Bayesian methods for exploratory extensions of the traditional DDM; and likelihood-free Bayesian methods for exploratory extensions of evidence accumulation models for conflict-based tasks. We demonstrate the fidelity of our approach with a set of simulations, and provide several empirical applications to emphasize its utility for addressing substantive questions. In particular, we show improved psychometric properties for DDM based performance measures after using the proposed models to account for extraneous decision making dynamics. Additionally, we explore the extent to which the model estimated dynamics themselves reflect psychologically meaningful parameters.

6:00-7:30 PM (I-052)

Modeling Support and Opposition toward Local Hydrogen Storage: An Integrative Cognitive, Affective, and Normative Framework. THOMAS JACOBSEN, *Helmut Schmidt University; University of the Federal Armed Forces Hamburg*, SVANTJE KÄHLER, *Helmut Schmidt University; University of the Federal Armed Forces Hamburg*, MIRIAM TOMAT, *Helmut Schmidt University; University of the Federal Armed Forces Hamburg* — Behavioral intentions emerge from interacting cognitive, affective, and normative processes, yet integrative behavioral models remain limited. With structural equation models, the present study extends the comprehensive technology acceptance framework of Huijts et al. (2012, 2014) by incorporating knowledge and experience as upstream variables and additional pathways suggested in recent literature. Using large quota-based samples from a European harbor city, we separately modeled intentions to support or oppose local urban hydrogen storage plans. The structural equation models revealed proximal effects of personal norms and outcome efficacy, while trust, affect, fairness perceptions, perceived effects, and problem perception shaped behavioral intentions through multiple direct and indirect pathways. Knowledge and experience showed broad upstream effects on trust, affect, and efficacy beliefs, influencing behavioral intentions both directly and indirectly. Supporter and opponent models shared core mechanisms but differed particularly in affective processes. The findings highlight the value of integrative behavioral models for understanding how interacting psychological mechanisms shape intentions toward socio-technical innovations.

6:00-7:30 PM (I-053)

Explaining Normalcy Bias in a Real-World Search and Rescue Task: A Signal Detection Theory Approach. ROBIN DILLON, *Georgetown University*, KEVIN KAPADIA, *University of Southern California*, RICHARD S. JOHN, *University of Southern California* — Normalcy bias is the systematic tendency to interpret ambiguous or atypical warning signals as consistent with normal, non-threatening conditions, thereby reducing their perceived value and delaying protective action. Using signal detection theory as a normative framework, we conceptualize normalcy bias as a distortion in threshold setting and evidence aggregation under uncertainty. We report three behavioral experiments (combined n=1668 adults from Prolific.com) using a search-and-rescue (SAR) task that assessed the reasons for normalcy bias. Results indicate that participants exhibited base-rate neglect and an averaging tendency in which nondiagnostic signals improperly diluted diagnostic evidence. Results also indicate systematic deviations from normative signal processing, favoring conservative response thresholds. These findings show that normalcy bias is not simply a failure to notice or care about warning information, but a predictable consequence of how people interpret, combine, and update ambiguous and nondiagnostic signals in real time.

6:00-7:30 PM (I-054)

Loss framing establishes a lasting familiarity suppression policy in value-guided choice. ATA B. KARAGOZ, *University of Chicago*, AKRAM BAKKOUR, *University of Chicago* — Value-based choice recruits both explicit retrieval and familiarity-based heuristics, but how context arbitrates between them remains unclear. Affective context shifts the balance between these two sources. We tested whether this reflects altered encoding of value or deployment of stored information during evidence accumulation. Using hierarchical drift-diffusion modeling, we decomposed gain/loss-framed choices into value- and familiarity-driven accumulation and tested whether block order alters this integration. In pilot data, value drift was robust and frame-invariant, but familiarity's contribution was gated by frame. Further, gating depended on block order: participants who began under gain flexibly modulated familiarity by frame, whereas those who began under loss showed attenuated gating, suggesting initial context configures how flexibly participants deploy their heuristics. Recognition memory for items was intact across frames, indicating the effect reflects how value and familiarity are used, not how they are encoded. These results suggest valence framing guides

arbitration between a familiarity-based heuristic and retrieval of value during evidence accumulation, and that first impressions set the arbitration policy.

6:00-7:30 PM (I-055)

Impacts of an Everyday Scientific Reasoning Curriculum on Health-Related Decisions. AUDREY L. MICHAL, *University of Michigan - Flint*, MADISON FANSHER, *University of Michigan Medical School*, MELISA GERARD, *University of Michigan - Flint*, PRITI SHAH, *University of Michigan - Ann Arbor* — People are increasingly relying on evidence from scientific studies to make health-related decisions, even though evidence quality varies. Here we investigated whether we could teach high school students to make more appropriate evidence-based health decisions by bolstering their scientific reasoning skills to help them distinguish between high-and low-quality scientific evidence. Our everyday scientific reasoning curriculum focused on both internal and external validity issues (conflating correlation and causation; sampling bias; non-random assignment; source bias; and effect size). Preliminary findings (N=26) show that students were better able to distinguish between high- and low-quality evidence for health-related decisions immediately after completing our everyday scientific reasoning curriculum compared to their completion of a control curriculum focusing on reading comprehension for health information.

6:00-7:30 PM (I-056)

Adaptive Attention in Multialternative Multiattribute Decision-Making: Evidence from Mouse Tracking. HOSHMAND MALAIE, *University of California, Merced*, DAVID NOELLE, *University of California, Merced* — Everyday decisions often involve choosing one of several options described by multiple attributes, yet relatively little is known about how attention strategically shifts during these choices or changes with experience. In an exploratory mouse-tracking study, 97 participants chose among five apartments, with five features for each only revealed through cursor hovering. Early in a trial, participants more often compared features across apartments, but during deliberation they increasingly focused on evaluating one option at a time, with feature-based hovers decreasing from 64% to 44%. In contrast, experience with this choice task increased the proportion of feature-based hovers early in deliberation. Also, some trials included an asymmetrically dominated decoy option, and these decoys increased preference for the dominating target option. These findings suggest that attention in multialternative multiattribute decision-making is flexible, adaptive, and shaped by both experience and contextual structure.

6:00-7:30 PM (I-057)

The Noisy Comparison Model of Risky Choice. SEBASTIAN OLSCHEWSKI, *University of Basel*, MELVIN MARTI, *University of Fribourg*, JÖRG RIESKAMP, *University of Basel* — Standard theories of risky choice assume that people evaluate options independently. However, they struggle to explain how the decision context systematically affects choice. We propose the Noisy Comparison (NC) model, according to which people compare the outcomes of choice options with one another. These comparisons are noisy because people have limited sensitivity to both the probabilities of outcome pairs and their subjective value differences. We test the model rigorously against standard decision models in two preregistered experiments. The NC model predicts novel context dependencies across both dependent and independent outcome structures: Changes in joint outcome distributions and in the presentation format of outcomes, either coalesced or split, systematically shift choice proportions for skewed gambles that alternative models cannot capture. Re-analyses of two existing datasets further show that NC accounts for a broad range of classical choice anomalies and achieves higher predictive accuracy than standard decision models. In sum, the NC model explains context effects arising from joint outcome distributions by assuming noisy comparison processes that interact with outcome presentation format in risky choice.

6:00-7:30 PM (I-058)

"Bullshit" seems more meaningful when it aligns with one's identity. RAUNAK PILLAI, *New York University*, JAY VAN BAVEL, *New York University* — Why do people find meaningless "bullshit" sentences to be meaningful? All current accounts treat bullshit receptivity as an individual difference factor, linked with domain-general reasoning deficits. Yet decades of research show that sentence comprehension is an interactive, constructive process, influenced by top-down factors like a reader's goals and knowledge. Here, we hypothesized that a reader's social identity would selectively predict increased perceptions of meaning in identity-relevant items. Undergraduate participants (N = 81) rated the meaningfulness of nonsense statements from the domains of science ("Feedback sensitivity modulates stability across hierarchically organized biological networks"), humanities ("Meaning is produced through the tension between presence and mediated absence"), and astrology ("Solar-lunar interactions amplify latent shifts in motivational coherence patterns"), along with generic bullshit items from prior work. We find significant interactions between the item's domain and participant's identification with that domain for science ($p < .001$) and astrology ($p = .013$), but not humanities ($p = .469$). These results challenge the assumption that bullshit is bought due to domain-general gullibility.

6:00-7:30 PM (I-059)

Climate anxiety might not be necessary for action. ABA SZOLLOSI, *University of New South Wales* — While climate anxiety has considerable negative effects on people's psychological well-being, current research suggests that an optimal level – not too high but not too low – is necessary to motivate climate action. Yet in other domains of decision-making, risk perception seems to be able to drive action on its own – anxiety does not seem to be required for most people to purchase insurance or to take precautionary action. In this project, we develop and validate a new measure of climate risk perception and examine its relationship to climate anxiety and action. While we find positive relationships between climate risk perception, anxiety, and action, over a third of our participants report no climate anxiety; however, this group's risk estimates show the same positive relationship with climate action as those of the climate anxious group. Our findings suggest that climate action might be achieved without anxiety.

6:00-7:30 PM (I-060)

Repeated Exposure Increases Truth Judgments Similarly Across Testing and Restudying. JESSICA UDRY, *East Texas A&M University*, REYNOLDS J. BALLOTTI, *Coastal Carolina University* — The referential theory of truth proposes that the illusory truth effect occurs because increases in semantic network coherence when an item is first encountered result in increases in fluency that lead to increases in perceived truth. This theory predicts that manipulations which increase semantic memory strength should also be effective in increasing the magnitude of the illusory truth effect, unlike predictions made by the fluency account. Across three experiments, we examined if testing studied material results in larger illusory truth effects compared to simply restudying, like testing effects in memory. While results varied across the three experiments, a mini-meta-analysis showed that the illusory truth effect occurred in all conditions during both Session 1 and Session 2, but there were no differences in the effect between different conditions. These findings support a fluency account of the illusory truth effect but should be interpreted with caution due to differing results between experiments.

6:00-7:30 PM (I-061)

Dynamic attribute activation explains gaze biases in choice. XIAOZHI YANG, *University of Pennsylvania*, SUDEEP BHATIA, *University of Pennsylvania* — People tend to choose the options they look at more. Prior work explains this effect by assuming that visual attention increases preference for the attended option. However, it remains unclear why looking at an option increases its preference and when this relationship is weakened. Using an experimental paradigm that combines eye-tracking and a think-aloud protocol, we provide evidence that visual

attention shapes preference by activating attributes associated with the attended option. Critically, this mechanism can be modulated by contextual factors such as stimulus desirability and behavioral goals, and when these factors are incongruent, the influence of visual attention on choice is weakened. To account for these patterns, we propose a new computational model of gaze-driven attribute activation. Our model subsumes existing theories as special cases, and uniquely predicts which attributes are brought to mind by gaze and how they shape downstream decisions. Together, our work offers a mechanistic explanation of a fundamental driver of choice as well as its boundary conditions.

6:00-7:30 PM (I-062)

Assessing the Impact of Language on Visual Threat Detection: Behavioral and Neuromodulation Study. ADAM FAHMI, *Université Laval*, NICOLA THIBEAULT, *Université Laval*, PHILIPPE ALBOUY, *Université Laval*, ISABELLE BLANCHETTE, *Université Laval* — Grounded in Basic Emotion and Constructed Emotion theories, two studies investigated whether semantic processes contribute to rapid visual threat detection. Study 1 used semantic satiation (SS) via word repetition during a visual search task (N=35). While threatening targets were detected faster than neutral ones (threat superiority effect), satiating a threatening word before it reappeared as a target did not alter reaction times. This suggests a resistance of threat processing to semantic disruption under semantic-perceptual convergence. However, when the satiated word was absent from the display, SS slowed responses for both threatening and neutral targets. Study 2 explored the causal role of the ventrolateral anterior temporal lobe (vATL) in these processes using continuous theta burst stimulation (cTBS, N=16). Participants completed semantic, non-semantic, and visual search tasks under active and sham stimulation. Preliminary results show that disrupting vATL functioning modulates semantic processing but does not impact the threat superiority effect in visual search. Together, these findings suggest that while visual threat detection can be slowed, semantic access may not be the primary mechanism driving this effect.

6:00-7:30 PM (I-063)

Temporal Dynamics of the Uncanny Valley. MINA HATANAKA, *Senshu University*, MATIA OKUBO, *Senshu University* — The uncanny valley refers to the phenomenon whereby likability increases as a robot becomes more human-like, but the sharply decreases when it appears almost human. To examine whether this phenomenon is attributable to the subtraction of mind from androids (i.e., dehumanization hypothesis) or categorization difficulty (i.e., category uncertainty theory) Experiment 1 investigated the effect of face exposure time on the perceived eeriness of human, android, and mechanical-looking robot faces. Eeriness decreased as a function of exposure time only in android but not in human or mechanical-looking robot faces. Reaction times, used as an index of categorization difficulty, showed a similar pattern. A comparable pattern of results was also observed for nonliving stimuli that cannot be humanized or dehumanized (Experiment 2). These findings supports category uncertainty theory.

6:00-7:30 PM (I-064)

Investigating the Role of Survival Relevance on the Memorability of Emotional Words. AMBER HU, *Rutgers University - Newark*, KIMELE PERSAUD, *Rutgers University - Newark* — The motivational significance of affective information with regard to survival has been implicated in the enhancing effect of emotions on episodic memory. Few studies, however, have directly measured the perceived survival relevance of different affective information to evaluate its role in episodic memory. Here, we assessed participants' (N=100) recognition memory for negative, positive, and neutral words rated on usefulness and danger with regard to survival. Preliminary results revealed that words rated higher in danger tended to be recognized more accurately (OR = 1.06, 95% CI [0.996, 1.126], p = .067), when controlling for other lexical (e.g., word frequency), semantic (e.g., animacy), and affective properties (e.g., arousal). Contrary to our prediction, we did not find a positive association between usefulness and recognition accuracy (OR = 0.93, 95% CI [0.853, 1.016], p = .108). These findings emphasize the

importance of operationalizing theoretical constructs to further derive a comprehensive understanding of emotion memory effects. As a future direction, we plan to collect contextualized ratings of usefulness (e.g., avoid predators/contamination) to explore the more nuanced effects of survival relevance on memory.

6:00-7:30 PM (I-065)

How Mental Vividness and Reading Determine Empathy. HAYDN HUMPHREY, *Eastern Kentucky University*, CLAIRE BELIN, *Eastern Kentucky University*, EMILY AUD, *Eastern Kentucky University*, SARA INCERA, *Eastern Kentucky University* — The goal of this investigation was to determine whether the interaction between mental vividness and reading exposure predicts participants' levels of empathy. Participants were recruited from Eastern Kentucky University and were asked to complete an online survey. The survey measured their level of empathy (using the Empathy Quotient), their amount of mental vividness (using the Vividness of Visual Imagery Questionnaire), and their reading exposure (using the Author Recognition Test). We report the correlations between empathy, reading, and vividness, with special consideration for participants who read fiction for leisure. Investigating how mental vividness impacts the connection between reading and empathy has numerous practical applications. The potential for using reading interventions to enhance empathy might be constraint by the mental vividness of the readers. Keywords: Empathy, Mental Vividness, Reading Exposure, Author Recognition Test, Fiction

6:00-7:30 PM (I-066)

Emotional States Shape the Scope of Attention. CHIA-YING LIN, *National Tsing Hua University*, HSUAN-FU CHAO, *National Tsing Hua University* — Previous studies have demonstrated that emotions can influence attentional scope. However, attentional processing across space may not follow a simple linear pattern. Therefore, this study examined how induced emotions, including happiness, sadness, surprise, anger, and neutral, influence attentional scope by manipulating distractor–target distance in a flanker task at five distances: 0.5˚, 1.0˚, 1.5˚, 2.0˚, and 2.5˚ of visual angles. In the neutral condition, there was a significant flanker effect at 1.0˚ and 2.5˚. In the sadness and surprise conditions, there was a significant flanker effect at 0.5˚ and a trend toward a flanker effect at 2.5˚. The flanker effects in the happiness and anger conditions were unstable. The interference of distractor in the anger condition was absent. To sum up, the present findings suggest that emotional influences on attentional scope may be more dynamic and flexible than previously assumed.

6:00-7:30 PM (I-067)

Understanding Break-taking Behaviors: Patterns, Activities, Perceived Benefits, and Individual Differences. ANNIE S. LU, *University of Arizona*, YUHUA YU, *University of Arizona*, SEMETEI AZIMKULOV, *University of Arizona*, JESSICA R. ANDREWS-HANNA, *University of Arizona* — Taking breaks is considered broadly beneficial for well-being and cognitive performance, yet the extent to which these benefits depend on individual difference factors, activity type, and their interaction remains unclear. To address this gap, 359 young adults completed a comprehensive survey of their break patterns, revealing substantial variability in break activity choice, perceived benefits, and alignment between activity likelihood and ease of task resumption. Individuals who take less frequent breaks, plan their breaks, and are more aware of their break activities reported higher perceived benefits. Individuals with higher levels of adaptive traits reported higher perceived benefits from activities they were more likely to choose. Although digital breaks were rated most common (and least helpful) overall, mindful and extraverted individuals reported higher perceived benefits from digital breaks. Extraversion additionally predicted greater benefits from socially interactive breaks. Overall, these findings demonstrate the importance of considering individual differences when evaluating break activities and their effectiveness, as well as developing personalized recovery strategies.

6:00-7:30 PM (I-068)

The Impact of Environment and Regulation-Based Interventions on Well-Being and Long-Term Memory. SARAH MULHEARN, *Hendrix College*, EMMA MCGUIRE, *Washington University in St. Louis*, SARAH IRONS, *Austin College* — Chronic stress has negative implications for cognitive processes and increases vulnerability to mental illness, which are especially prevalent in younger populations (Marin et al. 2011). While it is demonstrated that nature, mindfulness, and movement positively impact affect, more work is needed to understand how type of regulation-based intervention and setting of intervention impact well-being and subsequently cognition. The present study addresses the limitations in the literature by exploring how intervention type, movement versus mindfulness, and setting, indoors versus outdoors, interact and impact well-being and long-term memory. We found that across affective measures, intervention type matters, but not setting. Movement improves ratings of pleasantness while mindfulness resulted in calmer participants. We also found a significant interaction between intervention and setting on long-term memory with our outside movement intervention resulting in the greatest memory improvement.

6:00-7:30 PM (I-069)

Not All Positive and Negative Emotions Are Alike: Evidence for Emotion-Specific Effects on Attention. TEHILA NADAV, *Ben-Gurion University of the Negev*, AVISHAI HENIK, *Ben-Gurion University of the Negev* — Emotions can influence attentional processes, yet most research has focused on broad valence distinctions rather than discrete emotions. We conducted two experiments examining whether fear, sadness, happiness, and peacefulness differentially affect attention. Participants completed picture-based emotion inductions followed by the Attentional Networks Test-Interactions (ANT-I). In Study 1 (N = 160), emotional categories produced distinct patterns across the alerting, orienting, and executive control networks. Because emotional intensity differed between positive and negative stimuli, Study 2 (N = 78) replicated the paradigm using stimuli matched for emotional intensity across categories. A similar pattern of emotion-specific attentional modulation emerged across both studies. Together, these findings indicate that discrete emotions differentially influence attentional performance beyond broad valence distinctions. These effects persisted even when emotional intensity was matched across categories, pointing to category-specific emotional processes as a key driver of attentional modulation.

6:00-7:30 PM (I-070)

Disgusted Decision Making: Subjective Report's Relationship to Risk Taking Behavior. ISABELLA M. PAPALEONTI, *Towson University*, INNA P. IONIN, *Towson University*, JARED J. MCGINLEY, *Towson University*, BLAIRE J. WEIDLER, *Towson University* — Emotions elicit physiological and subjective responses, which have been shown to shape cognition. Disgust, which is associated with withdrawal behavior (e.g., avoiding contraction of disease), is theorized to influence aspects of decision making. Although disgust sensitivity has been shown to relate to increased risk aversion, inducing disgust has yielded mixed results. No studies have specifically tested whether disgust-induced physiological and subjective changes are related to risk-taking. We recorded heart rate variability (HRV) while participants viewed a disgusting or neutral picture slideshow prior to self-reporting their disgust and completing a risky decision making task (the BART). While the conditions did not differ in risk-taking, within the disgust condition, the self-report, but not the HRV indices of disgust, was related to subsequent decision making (fewer average pumps and balloon explosions in the BART). This suggests that only selective components of emotion may contribute to individual differences in risk-taking following a disgust induction.

6:00-7:30 PM (I-071)

Everyday Thinking Correlates of Trait Mindfulness: An Ecological Momentary Assessment Study. MELISSA REICH-FUEHRER, *University of Arizona*, DELANEY FREVELETTI, *University of Arizona*, ERIC S. ANDREWS, *University of Arizona*, MATTHEW D. GRILLI, *University of Arizona*, JESSICA R. ANDREWS-HANNA, *University of Arizona* — A substantial body of literature demonstrates that trait mindfulness is associated with greater psychological wellbeing and reduced distress. One proposed mechanism underlying these associations is decentering, the ability to experience thoughts as transient mental events rather than reflections of the self. Here, we used ecological momentary assessment to assess everyday thinking patterns and mood correlates of trait mindfulness. In 1,204 undergraduates (ages 18-35), greater trait mindfulness was associated with higher wellbeing, lower distress and more positive momentary mood, as well as daily thoughts rated as more positive, intentional, present-oriented, on-task, and experienced with increased awareness. Additionally, trait mindfulness significantly moderated the relationship between momentary thought valence and mood, such that greater mindfulness was associated with weaker coupling between the affective content of everyday thoughts and momentary mood, supporting a more decentered mode of thinking. These results suggest that trait mindfulness may influence everyday thought and psychological wellbeing, providing ecologically valid insight into how contemplative practices may support mental health interventions.

6:00-7:30 PM (I-072)

Machine-Learning Topic Model Captured Emotional Signals from Millions of Social Media Posts During the COVID-19 Pandemic. AADYA SINGH, *Cornell University*, OLIVER ANDERSON, *Cornell University*, VALERIE F. REYNA, *Cornell University*, SARAH M. EDELSON, *Cornell University*, ANH NGO, *Cornell University*, NATALIA COLLINS, *Cornell University*, DAVID BRONIATOWSKI, *George Washington University* — According to fuzzy-trace theory, emotions are based on gist representations that reflect meaning in context. We used topic models to summarize millions of social media posts from two COVID-19 timepoints into 200 sets of 10 words each (topics). Humans (Time 1 N=235; Time 2 N=236) rated the degree to which each topic elicited 20 emotions/feelings (e.g., hope, distress, joy). Bing, AFINN, and NRC sentiment lexicons were applied to determine whether emotions were reliably communicated in these topics. Hence, we examined whether machine-learning models derived topics that meaningfully reflected the valence, arousal, and discrete emotions identified by humans during a pandemic. At the height of the pandemic, Bing valence correlated with 17/20 rated emotions (e.g., hope r=.65, distress r=−.57). Similarly, AFINN valence correlated with 17/20 rated emotions (e.g., hope r=.50, distress r=−.60). Surprisingly, among NRC discrete emotions, joy showed the strongest correlations. Findings show that lexicon metrics tracked human emotion ratings when applied to only 10-word topics, suggesting that the machine-learning topic model captured emotional signals from millions of social media posts during the COVID-19 pandemic.

6:00-7:30 PM (I-073)

Are Memorable Graphs Easy to Understand? JUN SAIKI, *Kyoto University*, HIROYUKI TSUDA, *Shizuoka Institute of Science and Technology*, YUKA OMAE, *Kyoto University*, ASUTO SHIOTA, *Kyoto University*, STEVEN FRANCONERI, *Northwestern University* — Graphs are essential tools to visualize data. Previous studies have shown that graph styles affect different aspects of data comprehension. It is also known that graphs have intrinsic image memorability. Are memorable graphs also easy to understand? To address this issue, we first conducted an online memory-game experiment using a set of real-life data matrices with 12 different graph styles, including heat maps, bar, line and dot graphs. The results revealed that memory score differs significantly across styles, highest with bar graph, followed by heatmap, line graph and dot graph. Focusing on these 4 graph styles, a laboratory experiment conducted three different comprehension tasks (two-value comparison, mean value estimation, and overall

similarity judgment) and a memory recall task to report missing values in the graph. The comprehension tasks revealed that errors were highest with heat maps, followed by bar, dot and line graphs, which are radically different from the memorability scores. The recall task performance showed a pattern more similar to the comprehension tasks than the memorability task, but correlation was weak. Taken together, there is no clear relationships between memorability and comprehension of graphs.

6:00-7:30 PM (I-074)

Effects of Virtual Cues and Individual Differences on Wayfinding Behavior in Safety-Critical Environments. ASHLEY BUZARD, *University of Utah*, EMILY TIGHE, *University of Utah*, YU ZHAO, *Kennesaw State University*, MONIKA LOHANI, *University of Utah*, BOBBY BODENHEIMER, *Vanderbilt University*, SARAH H. CREEM-REGEHR, *University of Utah*, JEANINE STEFANUCCI, *University of Utah* — Participants (N = 60) navigated a virtual urban environment during a simulated safety-critical scenario, using either a world-fixed ground area (GA) cue or a screen-fixed mini-map (MM) cue that indicated dangerous areas. Participants were instructed to navigate 12 routes as safely and efficiently as possible. Trajectory analyses were conducted to understand how virtual cue type and individual differences shaped navigation behavior and decision-making. Participants completed routes 10.03 seconds faster with the MM cue than with the GA cue. The MM cue also significantly reduced the duration of pauses during the routes, but did not have an effect on total number of pauses, suggesting that participants made the same number of navigational decisions while pausing but spent less time deliberating at decision points. Higher harm avoidance was associated with greater directional persistence, indicating straighter movement trajectories, and females diffused more than males with the MM cue. Together, the results suggest that analyses of individual navigation paths provide insight into cue-use during wayfinding.

6:00-7:30 PM (I-075)

Individual Differences in Human Navigation Ability: Representations, Predictors, and Strategies. MITCHELL E. MUNNS, *University of California, Santa Barbara*, ALINA S. TU, *University of California, Irvine*, CAROL HE, *META*, MARJAN RASHIDI, *University of California, Irvine*, MABLE ZHOU, *University of California, Santa Barbara*, NIKKI HATAMIAN, *University of California, Irvine*, MICHAEL STARRETT, *University of Nevada, Reno*, CRAIG STARK, *University of California, Irvine*, JEFFREY KRICHMAR, *University of California, Irvine*, ELIZABETH R. CHRASTIL, *University of California, Irvine*, MARY HEGARTY, *University of California, Santa Barbara* — Navigation is instrumental for survival, yet there is wide variability in our navigation ability. What contributes to this variability, and is it a matter of strategy or skill? To investigate these issues, we address three questions: 1) Is the ability to acquire spatial knowledge a unitary construct? 2) How do different aspects of cognition contribute to our navigation abilities? 3) How do spatial ability and personality contribute to navigation strategies? 260 participants completed a battery of 25 navigational (both ambulatory immersive VR and desktop), spatial, cognitive, and personality measures. Using Structural Equation Modeling, we found that spatial knowledge acquisition is largely a unitary construct in that measures of route, graph, and survey knowledge defined a single factor. Measures of spatial visualization/cognitive ability, path integration, and episodic memory are separable and independently predict spatial knowledge acquisition ability. Wayfinding strategy (e.g., taking shortcuts rather than learned routes) was predicted by spatial knowledge acquisition, but not by personality. These results provide novel insights into the nature of how navigation ability and strategy are related to other cognitive abilities.

6:00-7:30 PM (I-076)

Functional and structural neural correlates of spatial navigation strategy in aging. ADAM J. BARNAS, *Ball State University*, ELIANY PEREZ, *University of Florida*, JEFFREY KUNATH, *University of Illinois Chicago*, ZACHARY BOOGAART, *University of Miami*, DAWN BOWERS, *University of Florida*, NATALIE C. EBNER, *University of Florida*, STEVEN M. WEISBERG, *University of Texas at Arlington* — Spatial navigation behavior changes across the adult lifespan and is often associated with a shift from place- to response-based strategies. The neural mechanisms of this shift remain unclear. We combined behavioral testing with functional and structural MRI to determine the neural correlates of navigation strategy in younger and older adults. Participants learned a virtual maze during MRI scanning and later completed a wayfinding task outside the scanner. Navigation strategy was measured using a place-response index, reflecting preference for shortcuts (place-based) versus familiar routes (response-based). Older adults showed greater reliance on response-based strategies, while younger adults primarily used place-based strategies. Hippocampal and caudate activation were not significantly associated with strategy, and no group differences in activation emerged. However, exploratory analyses indicated greater prefrontal activation with increased place-based navigation. Compared to older adults, younger adults had larger hippocampal and caudate volumes, with stronger structure-function relationships. These results suggest age-related navigation strategy shifts are more closely linked to structural than functional brain differences.

6:00-7:30 PM (I-077)

How Collaborating First Helps You Navigate Alone Later: Early Collaboration Builds Reusable Spatial Strategies That Transfer to Solo Survey Knowledge. SOUMYAJIT CHAKRABORTY, *Vanderbilt University*, TIMOTHY P. MCNAMARA, *Vanderbilt University*, BOBBY BODENHEIMER, *Vanderbilt University* — Collaboration improves spatial learning in virtual environments, but how early collaboration benefits later solo navigation in a changed environment remains unclear. In a 2 (Learning: Individual vs. Collaborative; between-subjects) x 2 (Testing: Individual vs. Collaborative; within-subjects, order counterbalanced) study (N=64), participants formed survey knowledge of virtual mazes and estimated directions and distances to remembered objects, while we recorded dyadic dialogue and solo think-aloud speech. The two components dissociated: collaborative learning yielded more accurate later solo distance judgments, whereas collaborative testing first preserved later solo directional accuracy, even though the solo phase used a different maze, ruling out simple practice. Thematic analysis indicated that early collaboration externalized strategies (shared landmark hierarchies, verification and timing heuristics, joint troubleshooting) that participants later reused as solo self-talk. Recall-time patterns converged with these accounts. Findings suggest collaboration seeds transferable wayfinding strategies for navigating new environments alone, and that navigation aids should offer coach-like prompts rather than turn-by-turn guidance.

6:00-7:30 PM (I-078)

Deixis of Mind: How Grammatical Alignment May Influence Proprioceptive Cognition. ZIAN W. ALDRICH, SR., *University of California, San Diego* — This study investigates whether grammatical alignment systems (nominative–accusative vs. ergative–absolutive) influence how speakers physically and cognitively orient themselves within spatial narratives. I propose that differences in argument structure correspond to differences in how speakers position themselves in contexts involving motion and third-object interaction. The hypothesis is that nominative–accusative (NA) language speakers may embody motion and physically align themselves with a moving object during narrative construction different from ergative–absolutive (EA) language speakers may. This distinction reflects a difference in how motion is cognitively framed during agent-centered versus event-centered cognitive alignment. By completing a narrated story-task of describing and demonstrating the movement of a vehicle (e.g., a toy plane or car) across a defined spatial field, we can see how internalized deixis stemming from grammat-

ical alignment affects neurocognitive processes involving perceiving stimuli. Through this research we can potentially examine to what extent our perceived environment is affected by language as a medium of communicating the senses.

6:00-7:30 PM (I-079)

The Influence of Instructional Format on Cognition and Task Performance During Model Assembly. ZOE B. KOTHARI, *University of California, San Diego*, DAVID KIRSH, *University of California, San Diego*, AMY R. FOX, *University of California, San Diego* — Assembly instructions are interactive tools that distribute cognition between mental operations and external representations. In this study we investigate how representational format and affordances for interaction influence performance on a physical LEGO construction task. Sixteen undergraduate participants completed assembly tasks using both a traditional printed instruction booklet and an interactive digital application in a within-subjects design. Completion time, accuracy, visuospatial reasoning, and visuospatial working memory were recorded, alongside quantitative content analysis of task video recordings. We found that instruction format did not affect overall performance time or accuracy, despite the scaffolding provided by the interactive application through rotation, zooming, and animated diagrams. However, the two formats produced distinct distributions of error types and elicited different spatial organization strategies within participants' workspaces. These findings suggest that increased representational scaffolding and affordances for interaction do not necessarily improve task outcomes, but instead reshape problem-solving processes, and how cognitive work is distributed across people, tools, and physical space.

6:00-7:30 PM (I-080)

The Influence of Calibration and Virtual Reality (VR) Gaming Experience on Perceived Travel Distance Through Visually Simulated Self-Motion. CONNOR KUTZLER, *Oregon State University*, KRISTEN MACUGA, *Oregon State University* — Spatial navigation in immersive VR requires accurate perception of how far users have traveled. However, travel distances are misestimated when self-motion is visually simulated. We examined how calibration via error-corrective feedback and different types of gaming experience affect travel distance estimation. Participants (N = 120) completed three blocks of trials. In the first block, they were randomly assigned an initial self-motion velocity (0.8 or 6.4 m/s). The next block switched to an altered velocity, and the final block repeated the initial velocity. Each block included baseline, calibration, and test phases. Based on the baseline-test comparisons, we found that feedback during the calibration phase improved travel distance estimates. Altering the self-motion velocity reduced the accuracy of travel distance estimates. Yet, estimation accuracy was retained when the initial velocities were presented again in the last block. Participants with VR gaming experience had more accurate travel distance estimates than those without. Our results highlight predictable, context-specific biases in travel distance perception and show that calibration through error-corrective feedback and prior VR gaming experience can mitigate them.

6:00-7:30 PM (I-081)

Bayesian Causal Inference Modeling of Spatial Cue Integration in Navigation After Mild Traumatic Brain Injury. MAGGIE K. MCCRACKEN, *University of Utah*, SAM BEECH, *University of Utah*, CHRISTINA GEISLER, *University of Utah*, LEE DIBBLE, *University of Utah*, COLBY HANSEN, *University of Utah*, PETER C. FINO, *University of Utah*, SARAH H. CREEM-REGEHR, *University of Utah* — Landmarks and body-based self-motion cues provide complementary information about spatial updating. When these cues conflict, the brain must determine whether their discrepancy reflects a true difference in source or sensory noise. Bayesian causal inference (BCI) modeling characterizes how navigators integrate or segregate cues based on the posterior probability of a common source. Here, we apply BCI modeling to individuals with mild traumatic brain injury (mTBI) and healthy controls (22 mTBI, 23 controls) who completed a homing task in VR across four conditions. Three BCI decision strategies were fit to individual response

distributions and compared between groups. Despite no group differences in accuracy, preliminary results suggest controls alternate between integration and segregation trial-by-trial (probability matching), while participants with mTBI blend estimates within each trial (model averaging). These findings suggest mTBI alters the cognitive strategy used to resolve spatial cue conflict, even without detectable differences in navigation accuracy.

6:00-7:30 PM (I-082)

Hear Me Out: Assessing Auditory Spatial Attention Using the A-ANT. KATHRYN NASON, *University of New Brunswick Saint John*, AYA SHAMMOUT, *University of New Brunswick Saint John*, JONATHAN WILBIKS, *University of New Brunswick Saint John* — The Attention Network Test is an assessment that measures the cognitive influence of alerting, orienting, and cognitive control, to understand how we process and allocate our attention across our environment. Although the auditory version of the Attention Network Test (A-ANT) measures the three networks, existing versions typically present sounds from only two fixed locations, which limits their ability to capture exactly how spatial properties influence attention. Each participant completed the A-ANT, with speakers positioned 15, 45, and 75 degrees around their head. Scores for the three attentional networks were calculated for each participant at each of the three widths. Results indicated that alerting, orienting, and executive control performance remained consistent across spatial widths. Overall, varying the width of auditory stimuli did not significantly affect attentional network performance, suggesting that within the tested spatial range, there was no influence on auditory attentional processing. The present study enhances our understanding of attentional networks and spatial location as well as using the A-ANT for future research.

6:00-7:30 PM (I-083)

Mind The SPoARC: Testing the SPoARC Effect in Musicians. AXELLE PORRET, *Université Rennes 2*, FABIEN MATHY, *Université Côte d'Azur*, ALESSANDRO GUIDA, *Université Rennes 2* — The SPoARC (Spatial Positional Associated Response Codes) effect refers to the mental spatial organization of sequences along a horizontal axis. Previous research by Guida and Porret (2022) has shown that musicians can spatialize musical sequences, suggesting reliance on a mental stave supported by visuospatial processes. This extends Baddeley's working memory model, which mainly attributes musical processing to the phonological loop. The experiment included 72 professional musicians who completed a single-task (baseline) and a dual-task involving tapping or vocal tasks. Participants indicated whether a probe note belonged to sequences of four piano notes from a limited pitch range. Reaction times for left- and right-hand responses were analyzed using a repeated-measures regression model. A SPoARC effect appeared only when the single-task was performed first. No SPoARC effect emerged during dual-task conditions, suggesting interference from both spatial and verbal tasks. These findings suggest that musical spatialization may rely on visuospatial and phonological processes.

6:00-7:30 PM (I-084)

What Lies Beyond the Frame: Can Close-Up Views Evoke Shared Expectations About Surrounding Space? BANJIT SINGH, *University of Delaware*, HELENE INTRAUB, *University of Delaware* — Can a close-up view evoke the expectation of a new object in a specific location just outside the frame that is shared across observers, or is what a view evokes too schematic and idiosyncratic to support such a representation? Candidate "sister-pair" close-ups were created, matched in layout and scope, but only one of which would potentially evoke representation of a unique object located just out of frame. A spatially-constrained prediction task was implemented to determine participants' (n=180) anticipated scene representation just out of frame. Of 115

candidate views, 18 successful sister-pairs emerged – similar scene properties but different out-of-frame expectations. Although rare, results show that views can evoke shared representations, in specific out-of-frame locations. Ongoing research uses these sister-pairs to test the effect of out-of-frame content on boundary extension and to compare AI-generated (ChatGPT) predictions (when outpainting a view) to human expectations about the surrounding world.

6:00-7:30 PM (I-085)

What People Remember and How They Navigate: Evidence from the Minecraft Memory and Navigation Task. ROBERT WILBUR, *University of California, Riverside*, KINNARI ATIT, *University of California, Riverside*, KATHARINE SIMON, *University of California, Irvine*, NICOLE COLCHETE, *University of California, Riverside* — The Minecraft Memory and Navigation Task was designed in part to disentangle what people remember from how they navigate. Building on prior work separating spatial memory from navigation in Minecraft, we examined three facets of memory: object identity, sequential order, and object-location association. Participants (n = 120) assigned to one of three audio conditions watched an avatar navigating a prescribed route through an open-field Minecraft environment while tasked with memorizing 12 canonical object-locations. After learning, participants were asked to recognize the objects encountered, their order of presentation, and to recreate the route taken. Differences between conditions in memory and navigation were not apparent ($p > .05$). Despite the absence of condition effects, regression analyses revealed that route accuracy was predicted by memory for object-identity ($\beta = 0.29$, $p = .002$) and object-location association ($\beta = 0.53$, $p < .001$) but not sequential order ($\beta = -0.12$, $p = .20$). These findings suggest that memory for what was encountered and where it was encountered may contribute more strongly to successful navigation than memory for the temporal sequence of events.

6:00-7:30 PM (I-086)

Navigation under uncertainty: Influence of map accuracy on search behavior. MABLE ZHOU, *University of California, Santa Barbara*, TOM BULLOCK, *University of California, Santa Barbara*, HANNAH STONE, *University of California, Santa Barbara*, LILY TURKSTRA, *University of California, Santa Barbara*, BARRY GIESBRECHT, *University of California, Santa Barbara*, MICHAEL BEYELER, *University of California, Santa Barbara*, MARY HEGARTY, *University of California, Santa Barbara* — Navigation aids can help us locate objects but are not always reliable. Here we examined how an aid's reliability shapes search behavior. Participants viewed maps of maze-like environments that cued the location of a fire extinguisher among four possible locations, then searched for it in an immersive virtual environment. Map reliability was manipulated across two blocks: in one block, the cue was valid on 75% of trials; in the other, it was valid on only 25% of trials. When the map was more reliable, participants searched more efficiently on cue-valid trials but performed worse on cue-invalid trials, relative to the unreliable condition. Clustering revealed three search strategies: high cue-reliance, low cue-reliance, and switching based on cue reliability. Overall, cue reliance dropped when the map became unreliable; however, high cue-reliance participants performed worse on cue-invalid trials than the other groups, with no advantage on cue-valid trials. In conclusion, over reliance on navigation aids can impair search efficiency, especially when they are unreliable.

6:00-7:30 PM (I-087)

Examining the Influence of Phonological Working Memory on Cascading Activation in Nonword Repetitions. JOELLE FAHOUM, *University of Texas at Austin*, ZENZI GRIFFIN, *University of Texas at Austin* — Speech production research supports cascading activation theory, the idea that processing at one level of speech production is not yet complete before processing at the next level begins. Phonetic distortions, which reflect cascading interactions between phonological planning and articulation, have

been found in tongue-twister and spontaneous speech error paradigms. However, these designs are unable to eliminate lexical activation and manipulate phonological working memory (PWM), two key factors in novel word learning. The current study uses nonword repetition tasks to examine how PWM modulates cascading activation. Forty adult participants completed a nonword repetition task across three memory delay conditions: zero, five and ten seconds between stimulus presentation and production. Productions are acoustically analyzed (vowels via Euclidean distance in F1/F2 space; consonants via voice onset time), to detect sub-perceptual phonetic distortions. We additionally examine whether distortion magnitude scales with memory delay, testing whether PWM plays a central role in phonological planning.

6:00-7:30 PM (I-088)

CLAP: a Battery of Measures to Estimate Language Proficiency in Native Chinese Speakers. ANNA HS HENG, *National University of Singapore*, MELVIN J. YAP, *National University of Singapore* — Due to growing interest in studying individual differences in word recognition, there is a need for objective language proficiency tests for adult native speakers. Few relevant tests are available for simplified Chinese, hindering rigorous study of the topic. We developed Chinese Language Assessments of Proficiency (CLAP), a 30-minute battery comprising dictation, vocabulary knowledge and reading comprehension tests. In Phase 1, items were generated and tested among 50 native Chinese speakers. Item response theory analyses were used to select items for Phase 2. In Phase 2, the tests were validated among 200 participants and showed good reliability (McDonald's ω, Cronbach's $\alpha > .8$), test homogeneity (average Interitem Correlations: .17–.29) and convergent validity, evidenced by significant positive correlations with two validation tests: LEXTALE-CH, a lexical test (Chan & Chang, 2018), and Hanyu Shuiping Kaoshi, which assesses reading skill (HSK official website). Exploratory Factor Analyses showed all CLAP and validation tests loaded onto one factor. CLAP offers a psychometrically sound tool for quantifying and screening for proficiency, enabling more precise investigation into individual differences in Chinese word recognition.

6:00-7:30 PM (I-089)

Late Bilinguals Do Not Reconstruct Syntactic Representations of Missing-Verb Anomalous Utterances: Evidence from Structural Priming. LU SUN, *University of Michigan*, KESHU XIANG, *Guangxi Medical University*, ZHENGHUI LI, *University of Michigan*, JULIE E. BOLAND, *University of Michigan* — This study investigated whether late Mandarin-English bilinguals reconstruct full syntactic representations of missing-verb anomalous utterances (e.g., "The librarian the teacher the pen"; "The librarian the pen to the teacher"), with native English speakers as a reference group. Participants produced dative sentences following six types of dative primes in a 2 Construction (prepositional object vs. double object) × 3 Verb (same, different, missing) design. Late bilinguals showed significantly weaker structural priming following missing-verb anomalous primes than following different-verb full-form primes, supporting a syntactic non-reconstruction account. In contrast, native speakers replicated the syntactic reconstruction pattern observed in previous native-speaker missing-verb studies. A between-group comparison in the missing-verb condition showed significantly weaker structural priming in late bilinguals than in native English speakers, suggesting that late bilinguals may not reconstruct syntactic representations in the same way as native English speakers. These findings suggest that more efficient native-language syntactic processing may free cognitive resources for reconstructing missing syntactic information.

6:00-7:30 PM (I-090)

The Effect of Personal Relevance on Picture Naming. YUCHEN WANG, *University at Buffalo, State University of New York*, NICHOL CASTRO, *University at Buffalo, State University of New York* — Most people with aphasia experience anomia, or word retrieval impairments. Personally relevant words have been proposed as ideal targets for anomia treatment, in part to support learning and

memory of target words through mechanisms of motivation and attention. However, there have not been systematic investigations of this verbal account. This study examined three recently defined dimensions of personal relevance within the context of anomia treatment: meaningful words, functional words, and frequently encountered words. Healthy participants named pictures and rated the pictured words on the three dimensions. Results indicate that the speed of correct picture naming is generally faster for words rated high on personal relevance than low on personal relevance. Differences across personal relevance dimensions are notable, with the most robust effect of personal relevance on picture naming speed for the frequency and functional dimensions. These results have implications for selecting personally relevant words as anomia treatment targets.

6:00-7:30 PM (I-091)

Context Effects on Skilled Word Recognition: Individual Differences in Homophone Processing. ASHLEY ABRAHAM, *Southern Illinois University Edwardsville*, NATHANIEL PERRY, *Southern Illinois University Edwardsville*, ABIGAIL NEEDHAM, *Southern Illinois University Edwardsville* — Individual differences in lexical expertise are associated with qualitative differences in homophone processing (Burt & Jared, 2016). Heterographic homophones which have shared sound but differ in spelling and meaning allow for an investigation of how orthographic, phonological, and semantic word knowledge may interact during skilled adult word recognition. The current study examined how reader skill and sentence context influence homophone processing during a natural reading task. Participants read target homophones in sentences that were semantically plausible with respect to both meanings but established a lexical-semantic relationship with the seen homophone (target), the unseen homophone, or had no relationship with either meaning. Results show an effect of context on early target reading times however whether this facilitated reading depended on reader skill. Furthermore, these early effects were associated with differences in late reading times and post-target reading. Findings regarding how reader skill impacts reliance on lexical and semantic context during word recognition will be discussed.

6:00-7:30 PM (I-092)

Neural Indices of NPI Licensing: Semantic vs. Pragmatic Mechanisms and Extralinguistic Factors. GRACE DEMEURISSE, *University of Iceland*, EDITH KAAN, *University of Florida* — Negative polarity items (NPIs) are words such as “any/ever” in English and may be licensed semantically via negation (1a. “no men have ever…”) or pragmatically via implicature (1b. “only men [and no others] have ever…”), offering a means to investigate semantic/pragmatic language processing. Prior studies investigated the neural correlates of semantic/pragmatic processes underlying NPI licensing but did not directly compare licensors. We investigated 27 L1 English speakers’ ERP responses to semantically (1a) vs. pragmatically (1b) licensed vs. unlicensed ((1c) “most…ever”) NPIs. We predicted participants would exhibit larger (P600/N400) ERP amplitudes for ungrammatical (1c) vs. grammatical (1a, 1b) conditions, and larger amplitudes for pragmatic (1b) vs. semantic (1a) conditions (32 items/cond). No significant effects or differential amplitudes were observed for grammatical vs. ungrammatical or semantic vs. pragmatic conditions. No differential P600/N400 effects per participant were observed in individual waveforms. Our effects depart from prior literature; we suggest that, neurocognitively, NPI licensing may not be monolithically accounted for, and may depend on extralinguistic factors such as pragmatic ability in language use.

6:00-7:30 PM (I-093)

Sensitivity to uncertainty in incremental planning of speech and action. ARELLA E. GUSSOW, *University of Richmond* — Speaking, like other goal-directed actions, relies on hierarchical plans that sequence subgoals toward a larger goal. Yet production often must begin before all goal-relevant information is available, creating uncertainty about the correct plan. One strategy for managing uncertainty is incrementality: producers can begin responding with more certain components and defer planning

the rest until production is underway. This study asks if speakers adapt the extent of early planning to the degree of uncertainty. In a grid-navigation task, participants guide an agent to a reward target while avoiding a penalty target. Two targets are visible at trial onset; their reward or penalty status is revealed only later. The required route always includes an initial segment shared by both options and a final target-specific segment. We manipulate the probability that a target becomes the penalty, and measure initiation times and durations as participants either speak directions or execute them via keypress. If planning is sensitive to uncertainty levels, participants should increasingly limit early planning as uncertainty rises. Comparing spoken and motor results will further reveal which planning aspects are language-specific vs domain-general.

6:00-7:30 PM (I-094)

Exploring Cascading Activation in Correct Productions Using Picture-Word Interference. SARAH IRONS, *Austin College*, SIMON FISCHER-BAUM, *Rice University*, LAMIS VATTOTH, *Hendrix College* — In spoken language production, there is phonetic distortion evidence for cascading activation from phonological planning to articulatory implementation at word-onset both in tongue twister errors (e.g. Goldrick & Blumstein, 2006) and naturalistic speech errors (Alderete et al., 2021). Additional phonetic distortion evidence for a cascade can be observed at word-middle in tongue twisters (Fahoum, Irons, & Fischer-Baum 2024). However, there is no evidence for cascading activation in studies looking at correct productions in reading aloud (Irons & Fischer-Baum, 2020) as such, additional work is needed to understand if cascading activation is phenomenon that can only be observed in errorful speech. The present study uses picture-word interference to establish phonological competition between lexical items at word-onset (e.g. a picture of a ghost with the word COAST superimposed) and word-middle (e.g. a picture of a cat with the word CUT superimposed). Picture-word interference allows for the systematic study of cascading activation in correct productions because in both the word-onset and word-middle conditions, phonetic distortion evidence for cascading activation is traces of the ignored word reflected in the produced picture name.

6:00-7:30 PM (I-095)

Abstract and concrete construals of intergroup relations: Implications for Stereotypes, emotions, and behavioral intentions. ELENI LIPOURLI, *Democritus University of Thrace*, ANTONIS GARDIKIOTIS, *Aristotle University of Thessaloniki* — This experimental study (N = 450) investigated whether cognitive construals of intergroup relations, that is framing the majority's relations with refugees in more abstract versus more concrete terms, differentially shape attitudinal and behavioral responses toward refugees. Participants were randomly assigned to one of three conditions: an abstract construal condition, in which they read a text emphasizing why harmonious relations with refugees are important; a concrete construal condition, in which they read a text describing how harmonious relations can be achieved in practice; and a control condition. Abstract and concrete (vs. control) construals led to more positive attitudes toward cultural diversity, higher intentions to help, and lower intentions to exclude refugees. Path analyses further showed that in the abstract condition multiculturalism predicted more positive stereotypes and emotions, which subsequently predicted stronger helping intentions (all paths positive). These findings underscore the role of how people mentally represent intergroup relations in shaping how they perceive and intend to behave toward refugees.

6:00-7:30 PM (I-096)

Language experience differentially affects grammatical preferences in L1 and L2 learners of English. MICHELLE PERDOMO, *Vanderbilt University*, DUANE G. WATSON, *Vanderbilt University* — Language users build their linguistic styles and preferences based, in part, on their individual experiences with language input. Many of these experiences come in the form of experience with text. In this study, we investigate the role of reading quantity and text diversity on preferences for alternating structures in first (L1; n = 289) and second-language (L2;

n = 282) Spanish learners of English. Dative verb grammatical preferences (e.g., she ships the buyer the shoes v. she ships the shoes to the buyer) depended on diverse text experiences in L1 users and on English language skill in L2 learners. Phrasal verb preferences (e.g., he clears out the fridge v. he clears the fridge out) were more marginally shaped by English language skill in the L1 group with no significant effects in the L2 group. These findings emphasize the importance of operationalizing language experience and the role it plays in grammatical choice.

6:00-7:30 PM (I-097)

Some Large Language Models (LLMs) Just Can't Help Using What They Know. AJ SCHWARTZ, *University of California, San Diego*, VICTOR S. FERREIRA, *University of California, San Diego* — Judgments of the confidence of people's answers are socially important. Such confidence judgments draw on cues the speaker produced and (when available) on knowledge of whether the answer is correct. Because LLMs always have access to correct answers, we can use human-LLM comparisons to isolate this correctness effect. Humans (audio, transcript; N = 58) and three frontier LLMs (GPT-4o, Claude Sonnet 4, Llama 3.3 70B Instruct) rated the confidence of 32 answers under identical instructions to disregard prior knowledge of correctness. Audio listeners showed a moderate correctness effect attributable to paralinguistic cues correlated with feeling of another's knowing; transcript readers showed none. The LLMs (which rated transcripts only) did not behave as a class. Claude Sonnet 4 tracked transcript humans nearly perfectly (r = .94, no significant correctness effect), restricting judgments to the speaker's productions. GPT-4o and Llama showed correctness effects larger than audio humans (both ps < .001) — a pattern impossible without using pretrained knowledge of correctness. Whether an LLM confines its judgments to what the speaker provided, or reaches beyond it to consult pretrained knowledge, varies across frontier systems.

6:00-7:30 PM (I-098)

Inanimate Subject-Verb Integration: Effects of Verb Intentionality and Sentence Structure. MATTHEW LOWDER, *University of Richmond* — Inanimate sentence subjects can often be combined with causative verbs (e.g., The bullet killed the politician); however, the sentence immediately becomes unacceptable when the causative verb conveys intentionality (e.g., The bullet murdered the politician). Although this phenomenon has been documented in the linguistics literature, we know very little about the real-time processing of these sentences. The current eye-tracking experiment was designed to test the hypothesis that an inanimate sentence subject combining with an intentional verb imposes an immediate processing cost relative to when the same subject combines with a neutral verb. In addition, the target verb could appear in either the main clause or embedded in a relative clause. Results showed immediate and sustained effects of intentionality at the verb and spillover regions, such that reading times were longer for intentional versus neutral verbs. Crucially, there was also an interaction such that the intentionality effect was larger for main verbs versus embedded verbs—a pattern that is consistent with previous demonstrations that the relative ease or difficulty of processing complex semantic expressions depends in large part on the structure of the sentence.

6:00-7:30 PM (I-099)

Phonological similarity judgment patterns by hearing screen performance. NICHOL CASTRO, *University at Buffalo, State University of New York* — Previous work demonstrated that phonological similarity judgments of word-pairs varying in phonological network distance capture information about how words are organized in the mental lexicon. Because these judgments are made in response to auditorily presented word-pairs, this study sought to examine if age-related hearing loss impacted patterns of phonological similarity judgments. This extended replication of Siew & Castro (2023) included 47 middle-aged and older adult participants who completed a hearing screen of 25 dB at 500, 1K, 2K, and 4K Hz. Our results indicated no difference in the

proportion of similar judgments at each phonological network distance value between those who passed the hearing screen in both ears and those who did not pass the hearing screen in at least one ear, while controlling for age. These preliminary data suggest no effect of peripheral hearing loss on phonological similarity judgments, aligning with prior studies indicating that these judgments reflect mental lexicon organization. However, inclusion of individuals with significant hearing loss and full audiometric evaluation is needed.

6:00-7:30 PM (I-100)

The Influence of a Foreign Language on Spatial Distance Judgments. CLAIRE GUANG, *University of Chicago*, ZEYNEP ASLAN, *Erasmus University*, GABRIEL A. RODRIGUEZ, *University of Chicago*, JANET GEIPEL, *University of Exeter*, BOAZ KEYSAR, *University of Chicago* — Foreign languages are proposed to reduce emotional responses by increasing psychological distance. Here, we examine whether the distancing effect extends to spatial perception, such that bilinguals perceive objects as farther away and are less sensitive to changes in distance in their foreign language. English-Spanish and Spanish-English bilinguals (N = 66) read stories in which sentences appeared on billboards at varying distances within a 3D virtual scene. After reading each billboard, participants judged whether it appeared "near" or "far." At objectively higher distances, participants indeed gave more distant responses in their foreign language. However, at objectively closer distances, participants gave more near responses in their foreign language. While the distance at which people switched between near and far did not differ between language conditions, the results suggest that participants were more sensitive to changes in distance in their foreign language than their native language. We discuss implications of the results for the effect of a foreign language on the spatial dimension of psychological distance.

6:00-7:30 PM (I-101)

Training with Orthographic Stress and Rhythm Markers Improves Adult Readers' Prosodic Sensitivity. JENNIFER GROSS, *Grand Valley State University*, MICHELLE ROLDAN, *Grand Valley State University*, TANNER KIESSEL, *Grand Valley State University*, MADISON ESSELINK, *Grand Valley State University*, LUCRETIA DUNLAP, *Grand Valley State University* — Across alphabetic writing systems, orthographies provide only partial cues to prosody, making prosodic sensitivity important for skilled reading. In English, readers must infer lexical stress and rhythm from opaque spelling patterns while silently constructing an inner voice. Two independent replications of a randomized active-control experiment (N = 528 undergraduates) evaluated an orthographic prosody training in which passages were annotated with stress and rhythm markers and practiced with feedback; cues were later reduced to assess transfer. Prosodic sensitivity was measured via a forced-choice meter judgment task, and some minimally marked posttest items included pseudowords to increase reliance on context-based judgments. Across both samples, the prosody group outperformed the spelling and word-usage control on adjusted posttest scores. This advantage held on minimally marked items, suggesting at least partial use of sentence-level prosodic knowledge rather than exclusive dependence on visible orthographic cues. Participants in the prosody condition also reported greater instructional satisfaction. Findings suggest that orthographic enhancements may strengthen prosodic sensitivity and transfer to minimally marked items.

6:00-7:30 PM (I-102)

Relationship between Orthographic Precision and Reading Comprehension in Deaf Native Signers vs. a Linguistically Diverse Deaf Population. ELIZABETH HIRSHORN, *State University of New York at New Paltz*, FRANCES G. COOLEY, *Rochester Institute of Technology* — The Lexical Quality Hypothesis (LQH) states that reading comprehension depends on precise lexical representations. Support for the LQH comes from both hearing and deaf

readers, although the nature of the precise representations differ such that skilled deaf readers may instead rely on orthographic precision compared to phonological precision in hearing readers. The current study compared the transpose letter (TL) effect in deaf native signers and non-native deaf signers that were matched for reading comprehension and overall spelling accuracy. The TL effect is the reaction time difference between words with transposed letters (aluod instead of aloud) compared to a word with substituted letters (aleid) and can be thought of as a correlate of orthographic precision. Better spellers are less "fooled" by the TL words and have a smaller TL effect. While deaf native signers' reading comprehension is predicted by a smaller TL effect (i.e., greater orthographic precision), non-native deaf signers' reading comprehension is correlated with a larger TL effect (greater orthographic flexibility). These findings add to the LQH literature and suggest that predictors of successful reading depend on early language experience for deaf adults.

6:00-7:30 PM (I-103)

Reading Motivation Across Bilingual Populations: Measurement Equivalence of the Adult Motivation for Reading Scale in Hispanic College Students. HITOMI KAMBARA, *University of Texas Rio Grande Valley*, PO-YI CHEN, *National Taiwan Normal University*, YU-CHENG LIN, *University of Texas Rio Grande Valley* — Self-report measures of reading motivation are routinely administered to bilingual college students despite being developed with monolingual populations, raising unresolved questions about cross-group validity. We examined the Adult Motivation for Reading Scale (AMRS) in Hispanic undergraduates (N = 262) at a Hispanic-Serving Institution on the U.S.–Mexico border, a population absent from the original AMRS validation. Multiple-group confirmatory factor analysis with the WLSMV estimator tested measurement invariance across first- and second-language English speakers and across gender. Full scalar invariance was supported for gender. Across language groups, twenty of twenty-one items were invariant; one reverse-scored efficacy item centered on vocabulary difficulty showed differential factor loading for second-language users, reflecting heightened lexical processing demands. All subscale scores correlated positively with reading amount, and reading efficacy additionally predicted standardized comprehension performance. These findings establish the AMRS as psychometrically sound for bilingual Hispanic college students and underscore that invariance testing is essential whenever motivation assessments span multiple language groups.

6:00-7:30 PM (I-104)

Critical Reading: Which academic factors determine undergraduate students' ability to read critically in their classes? EMILY AUD, *Eastern Kentucky University*, CLAIRE BELIN, *Eastern Kentucky University*, HAYDN HUMPHREY, *Eastern Kentucky University*, MARC BRYSBAERT, *Ghent University*, SARA INCERA, *Eastern Kentucky University* — Critical reading skills are essential for success; however, millions of adults in the United States have low literacy skills. Previous studies have shown a relationship between critical reading and academic performance, but it is unclear which factors lead to this relationship. The current study examines several variables (Major, Credit Hours, Tutoring Hours) that have the potential to impact critical reading skills in undergraduate students. Participants completed the Critical Reading Test (reading two texts and answering true/false questions) through an online survey. The questions aimed at testing three critical reading skills: questioning, application, and synthesis. We discuss the relationships that emerge between completed credits hours, tutoring hours, and the three critical reading subscales. We also explore how these relationships vary for different majors. By understanding the factors that influence students' ability to read critically, it is possible to determine interventions that have the potential to benefit college students (training opportunities, better course placement, early detection of at-risk students, etc.)

6:00-7:30 PM (I-105)

More than just guessing: Evidence for top-down activation in the sentence superiority effect. VENJA BECK, *Vrije Universiteit Amsterdam*, GEERTJE VAN BERGEN, *Vrije Universiteit Amsterdam*, JOSHUA SNELL, *Vrije Universiteit Amsterdam* — The sentence superiority effect(SSE) is a phenomenon where words briefly presented in a sentence string are better identified when this string is grammatical than when it is scrambled. Recent research failed to establish an SSE in a two-alternative forced choice task (2AFC), suggesting that the SSE is driven by post-hoc guessing rather than genuine top-down feedback. Here we reason that this is because targets and foils were of the same syntactic category, meaning they receive an equal amount of top-down activation, resulting in a null-effect. Providing a better test of top-down syntactic feedback, here subjects did a 2AFC task for words seen in intact versus scrambled sentences, with targets and foils being of different syntactic categories (e.g. "the first wife left" with target "wife" and foil "went"; the foil fits in the alternative sentence "the first went left"). As hypothesised, we found a boost in performance on trials where the stimulus was a grammatical sentence compared to a scrambled one. Our results are inconsistent with post-hoc guessing, indicating instead that syntactic structures are rapidly gleaned from text, with consequent top-down feedback constraining word identification to the appropriate syntactic category.

6:00-7:30 PM (I-106)

Dyslexia in the Spotlight: Is Visuo-Spatial Attention in Dyslexic Readers Really Different? MAŠA MLINARIČ, *Vrije Universiteit Amsterdam*, SANDER A. LOS, *Vrije Universiteit Amsterdam*, MARTIJN MEETER, *Vrije Universiteit Amsterdam*, JOSHUA SNELL, *Vrije Universiteit Amsterdam* — In two lexical decision flanker task experiments, we tested a new Diffuse Attention Theory of Dyslexia, which proposes increased peripheral interference in dyslexic readers. We recruited 320 dyslexic and non-dyslexic readers (Experiment 1: 100 dyslexics, Experiment 2: 60 dyslexics). In Experiment 1, we manipulated the orthographic relatedness of four flankers presented around a centrally viewed target word. In Experiment 2, targets were presented alone or with two orthographically related or unrelated flankers. As flanker relatedness effects have been shown to be driven by attention, we were able to reconstruct the distribution of visuo-spatial attention in reading with our tasks. While both groups showed flanker relatedness effects for adjacent flankers (Experiment 1 and 2) and a considerable cost when unrelated flankers were presented (Experiment 2), we found no significant differences in the patterns of flanker relatedness effects between the groups. Thus, our results do not provide support for the Diffuse Attention Theory of Dyslexia.

6:00-7:30 PM (I-107)

Reading Comprehension Difficulty in mTBI: Evidence for Divergent Human and AI Predictive Models. JUNO LAPAZ, *Arizona State University*, TAMIKO AZUMA, *Arizona State University*, ILEANA RATIU, *Arizona State University* — Reading comprehension is often impaired in individuals with mild traumatic brain injury (mTBI). However, not all reading comprehension tasks are created equal, varying in difficulty and inferential demands. The current study examined whether human- and AI-generated ratings of question difficulty and implicitness predicted reading comprehension accuracy in adults with and without mTBI. Thirty-two reading comprehension questions were rated for difficulty and implicitness by human raters (N = 15) and two AI tools. Regression analyses examined whether these ratings predicted accuracy on previously collected reading comprehension data from control (N = 34) and mTBI participants (N = 32). Human difficulty ratings significantly predicted accuracy in both the control and mTBI groups, whereas implicitness ratings did not. AI implicitness ratings did not predict control or mTBI accuracy, but one AI mode's difficulty ratings significantly predicted mTBI accuracy. These findings suggest that human raters may be more sensitive to reading comprehension performance in individuals with and without mTBI.

6:00-7:30 PM (I-108)

Eye Movements on Semantic and Orthographic Anomalies While Skimming versus Reading for Comprehension. FRANCESCA PECE, *University of South Florida*, LUIS MONTÁS ARISTY, *Stetson University*, MILCA JAIME BRUNET, *University of South Florida*, SARA MILLIGAN, *University of South Florida*, MICHAEL A. ESKENAZI, *Stetson University*, ELIZABETH R. SCHOTTER, *University of South Florida* — Readers may resort to strategies such as skimming to increase speed and efficiency when reading large amounts of text. Skimming is characterized by quickly moving one's eyes over the text, which can lead to superficial processing because the eyes are moved away before fully integrating a word. It is uncertain how different types of skimming (e.g. topic scanning or reading fast) change overall reading behavior and influence sensitivity to word properties like the presence of spelling errors or semantic anomalies. We manipulated the type of skimming, reading fast or topic scanning, and investigated the impact on readers' ability to detect orthographic neighbors (ON) and non-neighbors (NN) compared to the expected word. We found that overall, reading behaviors during skimming resulted in shorter total reading times, higher skipping rates, and fewer fixations compared to reading for comprehension. However, when comparing types of skimming based on eye movement measures, reading fast resulted in less sensitivity to word anomalies in skipping, regressions, and total reading time compared to topic scanning. These findings suggest readers extract less information from words when reading fast compared to topic scanning.

6:00-7:30 PM (I-109)

Lexical Word Processing is Unaffected by Rapid Invisible Frequency Tagging in Reading: Evidence from Eye Movements. VERONIKA PRIGORKINA, *Vrije Universiteit Amsterdam*, HEATHER SHERIDAN, *University at Albany, State University of New York*, STEVEN FRISSON, *University of Birmingham*, YALI PAN, *University of Birmingham* — We tested whether Rapid Invisible Frequency Tagging (RIFT) – a promising tool to measure covert attention allocated to parafoveal words – affects lexical processing during natural reading. RIFT involves flickering the background of the target word(s) at an imperceptible frequency (≥60Hz), but imperceptibility does not necessarily equate to the absence of a cognitive effect. Here we examined its potential impact on eye movements. Forty-eight participants read 474 high- and low-frequency target words that were embedded in one-line sentences and displayed randomly in three condition blocks: no tagging, RIFT at 60Hz, and visible tagging at 30Hz. Linear Mixed-Effects and Divergence Point Analyses revealed a robust effect of lexical frequency in fixation durations (high-frequency words processed faster than low-frequency words) of comparable magnitude and onset latency across the three tagging conditions. Overall fixation durations (irrespective of lexical frequency) also did not differ between the no tagging and RIFT conditions, but were significantly longer in the visible tagging condition. Altogether, this suggests that RIFT is a valid tool for measuring attention during reading that is unlikely to interfere with word processing.

6:00-7:30 PM (I-110)

Measuring Short-Term Memory with Spoken Stimuli: Does Accent Affect Capacity? BYONNE ATAMNA, *Washington University in St. Louis*, KRISTIN J. VAN ENGEN, *Washington University in St. Louis* — Modern models of speech perception propose a critical role of auditory short-term memory in first-language (L1) speech perception and comprehension, though how second-language (L2) speech affects such processes is understudied. In a pilot study conducted with undergraduate students in a linguistics research methods course at Washington University in St. Louis, we examine how L2 speech affects auditory short-term memory capacity. Using a gamified cognitive task (Sandwich Builder) that requires participants to take orders from in-game customers and build corresponding sandwiches, we compared task performance between participants who heard Mandarin-, Filipino-, Spanish-, or L1-English accented customers. Pilot data showed significant differences in auditory short-term memory capacity between participants who took orders from

L2 as opposed to L1 customers, possibly an effect of increased listening effort. In addition to the student-generated pilot data, we present results from the same cognitive task comparing auditory short-term memory capacity when listeners hear L1- versus Turkish-accented English speakers.

6:00-7:30 PM (I-111)

A Large-scale Test of Lexically Mediated Compensation for Coarticulation. YUZHE GU, *Ohio State University*, MARK PITT, *Ohio State University* — Listeners' lexical knowledge influences their perception of phonemes in words, but researchers have different explanations of the mechanism responsible for this process. The interactive account argues that the lexical knowledge directly alters phoneme perception through real-time feedback, whereas the autonomous account claims that speech perception is a strictly feedforward process, explaining the lexical effect as post-perceptual. The lexically mediated compensation for coarticulation (LCFC) paradigm is considered the gold standard for distinguishing these two accounts. Given the limited amount of robust LCFC data in the literature and the ongoing debate regarding the mechanism, LCFC was tested with a large number of continua and testing was repeated with the same participants to assess the reliability of the paradigm in tapping perception. Both approaches should contribute to the debate.

6:00-7:30 PM (I-112)

Beyond Participant N: A Large-Talker Corpus of Mandarin-Accented English. YUMENG SHEN, *University of California, San Diego*, SARAH C. CREEL, *University of California, San Diego* — Studies of second-language (L2) accented speech nowadays include large numbers of listeners, yet small numbers of speakers, limiting generalizability and potentially yielding misleading conclusions. Inspired by Bradlow and colleagues, we have collected a large initial corpus of high- and low-predictability sentences produced by 50 Mandarin-accented and 25 US-accented English (L1) speakers. Naïve L1 English listeners (N=75) transcribed sentences. Final-word transcription accuracy was strongly shaped by talker accent and semantic predictability: low-predictability words were harder to transcribe, especially for L2 speech, while high-predictability words reduced the L1–L2 gap. Sentence-stem accuracy stayed high across conditions, suggesting that semantic context primarily supported final-word recognition rather than improving transcription of the entire utterance. Importantly, while listeners' accentedness ratings cleanly separated L1 vs L2 groups, transcription accuracy was not categorically separated by accent group. Many L2 speakers achieved L1-like transcription accuracy, and a few L1 talkers showed reduced accuracy. This suggests that intelligibility is better characterized as a talker-level continuum than as an L1 vs L2 label.

6:00-7:30 PM (I-113)

A Systematic Review of Visual Competition Effects in the Visual World Paradigm. ISAAC M. SMALLEY, *University of Southern California* — The visual world paradigm (VWP) is a common method for studying speech processing. The VWP involves participants looking at an array of objects and tracking their eye movements as they listen to speech. Visual competition effects—a finding identified using the VWP—describe the tendency for participants to fixate on visually similar objects to those mentioned in the audio. Despite recent evidence that common differences in study design and analysis can greatly affect outcomes, there has been little meta-analytic work examining the methodology of VWP studies, and theoretical integration of visual competition effects within broader perception literature is limited. The current paper assessed visual similarity coding, preview time selection, and analysis time window selection in 18 studies. Findings revealed half of the studies did not properly validate their visual stimuli before data collection, and that preview time durations and analysis time windows varied so widely that results may be incomparable. Future VWP research on visual competitors should consider using validated visual stimuli, alternative methods of statistical analysis that don't require specific time windows, and provide justification for methodological decisions.

6:00-7:30 PM (I-114)

Looking to Learn: Does Gaze Location on the Face Influence Cross-Modal Phonetic Retuning? QING ZHAO, *University of Massachusetts Amherst*, ALEXANDRA JESSE, *University of Massachusetts Amherst* — Listeners benefit from having both auditory and visual speech information. Visual speech also helps listeners to adjust their phonetic categories to talker idiosyncrasies. For example, listeners learn to interpret a sound acoustically ambiguous between /p/ and /t/ as /p/ if they see the talker close their lips. While the mouth region carries the most relevant speech information, it remains unclear whether gaze behavior modulates audiovisual phonetic retuning. In two experiments, participants were exposed to an ambiguous auditory stimulus, disambiguated visually as either /apa/ or /ata/. Retuning shifted categorizations of steps from a subsequent auditory-only continuum in line with audiovisual exposure. Experiment 1 tested whether natural gaze differences predict retuning magnitude. We test for a correlation between mouth looking time and retuning aftereffect and differences between participants who prefer to fixate the mouth vs. upper-face fixation. Experiment 2 manipulates fixation: Participants fixate either the mouth or the eyes. If gaze matters, mouth fixations should yield larger retuning effects. Together, these experiments will clarify how overt gaze supports adjusting to a talker from audiovisual speech.

6:00-7:30 PM (I-115)

Statistical learning shifts fricative cue weights in speech perception and production. LIN ZHOU, *University of Texas at Austin*, NAZBANOU NOZARI, *Indiana University Bloomington*, LORI L. HOLT, *University of Texas at Austin* — Other talkers' speech reshapes how we perceive and produce speech in real time. When listeners encounter accented stop consonants or vowels carrying distributional regularities that depart from the norm, the perceptual weight of secondary acoustic dimensions decreases; this transfers to production, where speech is less differentiated along the down-weighted dimension. These effects have not been examined for fricatives, which present an especially interesting sensorimotor test case because they are highly multidimensional acoustically and listeners rely heavily on somatosensory feedback in fricative production. As predicted, when listeners encounter a reversal in the typical relationship of spectral center of gravity and duration across /s/ and /ʃ/ utterances in passive listening, reliance on duration as a secondary cue decreases. Statistical learning across fricatives is both rapid across passive exposure, with transfer to production dependent.

6:00-7:30 PM (I-116)

Visual Influences on Early Auditory Speech Processing Depend on Attention. YUN ZOU, *University of Massachusetts Amherst*, ALEXANDRA JESSE, *University of Massachusetts Amherst*, LISA D. SANDERS, *University of Massachusetts Amherst* — Seeing talkers' faces can enhance speech recognition, particularly when auditory signals are degraded. However, whether visual influences on auditory speech processing require attention to the speech remains unclear. Some theories posit that these effects are automatic; others allow that, minimally, listeners must attend to speech to observe visual effects on early auditory processing. Using event-related potentials (ERPs), we investigated the role of attention in visual speech effects and whether this influence is modulated by auditory signal ambiguity. Participants heard clear /p/ or /t/ sounds or sounds ambiguous between /p/ and /t/, accompanied by unrelated tone sequences. The talker's face was shown in some trials but not others. In half of the blocks, participants categorized the speech sounds as /p/ or /t/ while ignoring the tones. In the other half, they categorized the tones as high or low while ignoring the speech. For both clear and ambiguous sounds, seeing the talker's face reduced N1 responses relative to the auditory-only condition when participants attended to speech, but not when they ignored speech. Attention to speech is thus necessary for visual modulation of early auditory speech processing.

6:00-7:30 PM (I-117)

Illusory Conjunctions of Visual and Auditory Information in Memory for Events. SHIRLEEN M. GROVES, *Florida Atlantic University*, ALAN W. KERSTEN, *Florida Atlantic University*, JULIE L. EARLES, *Florida Atlantic University* — Previous research has demonstrated that eyewitnesses falsely recognize novel combinations of visual stimuli that had actually been encountered separately. The present research reveals that such binding errors can also occur across modalities. Participants viewed a number of events, each involving an actor performing a simple action associated with a characteristic sound (e.g., popping a balloon). Some of these videos were accompanied by audio and others were presented silently. For some of the silent videos, the associated audio track was presented separately in the absence of video. Participants were later tested for recognition memory of the videos, with the instruction that they should only endorse test items that were identical to previously witnessed videos, including any audio (or lack thereof) that accompanied them. The critical test items involved videos that had been presented silently but were now accompanied by audio. Participants were more likely to falsely recognize these items if they had heard the audio track in a separate encoding item, suggesting that they incorrectly combined the video from one event with the audio from another. Implications of these results will be discussed for eyewitness and earwitness memory.

6:00-7:30 PM (I-118)

Articulatory suppression (AS) and post-encoding interference affect semantic and phonological short-term false memory differently. JENNIFER H. COANE, *Colby College*, DAWN M. MCBRIDE, *Illinois State University*, JILAN CHEN, *Colby College*, ASHLEY KWON, *Colby College*, MADELYN HENRY, *Illinois State University*, BRENDEN TROIDEN, *Illinois State University*, YONCA CAM, *Illinois State University* — Short- and long-term false memories differ as a function of list type, with higher rates of semantic than phonological errors in long-term tests and the opposite in short-term tests. AS can disrupt phonological coding in STM and reduce phonological similarity effects. Participants completed a modified Deese-Roediger-McDermott task; after encoding four items, a single probe was presented for recognition (studied list item, non-studied associate, or the non-studied critical item). Participants were randomly assigned to one of four AS conditions: no AS, AS during encoding, AS during a 3-s delay, or an unrelated task during the 3-s delay. Disrupting phonological coding during encoding decreased phonological short-term false memories but increased semantic false memories relative to a control condition. Blocking rehearsal via AS during the 3-s delay, however, only affected semantic false memories and had no impact on phonological errors. Half the participants also completed a surprise final recognition test: False alarms increased when phonological coding was disrupted at encoding equally for semantic and phonological lists. These findings suggest different underlying mechanisms support specific types of errors.

6:00-7:30 PM (I-119)

Mental Context Reinstatement Increases True and False Recognition of Associated Words. ASIA BAYOUD, *East Texas A&M University*, BENTON H. PIERCE, *East Texas A&M University*, DAVID A. GALLO, *University of Chicago* — Reinstating encoding context at retrieval can cue access to stored information, thus increasing recall or recognition of studied items (Smith et al., 1978). However, it has recently been discovered that reinstating encoding context at retrieval can increase false recognition of pictures (Doss et al., 2018) and words (Bayoud et al., 2026). This work shows that re-presenting context scenes at retrieval can drive a memory illusion, but what if context instead were mentally reinstated at retrieval? The present study investigated whether these findings would hold under a mental imagery condition, in which participants were prompted to imagine the scene at retrieval based on a provided descriptive scene label, compared to a condition where background scenes were actually present at test. The results revealed a pattern analogous to that observed in previous studies: specifically, gains in target recognition were accompanied by an increase in lure endorsement when both appeared with the

cue-label prompting the reinstatement of the scene. This finding may have implications for the Cognitive Interview, a technique used by law enforcement to enhance witness recall accuracy, which similarly relies on mental reinstatement of context.

6:00-7:30 PM (I-120)

Investigating the Role of Reminding in Recollection Rejection of Similar Episodes. KATHERINE R. CHUREY, *University of Guelph*, CHRIS M. FIACCONI, *University of Guelph* — Similarities between experiences elicit spontaneous remembering, where current novel experiences remind us of previous, similar experiences. Recently, we found that remindings, when later recollected, can improve discrimination between past experiences and novel, similar lures (Churey & Fiacconi, 2026). We interpreted this finding to reflect the use of a recollection rejection process, but further investigation is still required to provide converging evidence for this account. Importantly, the Similar Episodes Theory (SET) proposed by Parks et al. (2026) offers a new analytic method to assess the unique contribution of that recollection rejection process to recognition decisions for similar lures following reminding or not. Across two experiments, using this novel false-memory receiver operating characteristic (fROC) approach, we found further evidence that reminding at study facilitates greater use of a recollection rejection process at test which in turn reduces false recognition, relative to when reminding did not occur. Overall, this finding highlights the crucial role that similarity-driven remindings play in the accurate discrimination of similar experiences.

6:00-7:30 PM (I-121)

Get the Gist? Demonstrating the Confounded Nature of Gist and Association in the DRM Paradigm. ALEXA TRINGALI, *University of Southern Mississippi*, HALLIE CULPEPPER, *University of Southern Mississippi*, BRYAN FRANKS, *University of Southern Mississippi*, MARK J. HUFF, *University of Southern Mississippi* — The Deese-Roediger-McDermott paradigm (DRM) paradigm uses semantically related word lists to elicit false memories for a non-presented critical lure (CL). Activation Monitoring Theory attributes these false memories to associative strength between list items and the CL, whereas Fuzzy Trace Theory emphasizes gist or thematic overlap. Recently, Chang et al. concluded that mean gist strength (MGS) was a stronger predictor of false recognition than backward associative strength (BAS). However, their comparison used measures derived from different sources and scales. The current study addressed this issue using new recognition data and concurrently collected MGS and mean associative strength (MAS) ratings for 36 traditional DRM lists measured on the same scale. MGS and MAS were highly correlated. Further, when both measures predicted CL recognition in a regression model, only MAS reliably predicted false recognition. These findings suggest associative and gist strength are confounded, but associative strength may better predict DRM false memories.

6:00-7:30 PM (I-122)

An Attempted Replication of the False Recognition Reversal Effect. DANIEL M. BIALER, *University of Arkansas*, JAMES MICHAEL LAMPINEN, *University of Arkansas* — In a standard false recognition paradigm, participants study a series of words and are presented with a recognition test that includes studied items, related distractors (unstudied items that are semantically or phonologically related to studied items) and unrelated distractors (unstudied items that are unrelated to studied items). The typical pattern of results is that related distractors are falsely recognized at greater rates than unrelated distractors. Brainerd et al. (1995) found that this pattern could be reversed if the related distractors were immediately preceded by the studied item to which they were related. We attempted to replicate this effect. Participants studied a series of words and were presented with test items that included studied items, related distractors (both primed by the target item to which they were related and not primed), and unrelated distractors both after a filler task and a week later. We did not replicate the reversal found by Brainerd et al. (1995). A key distinction is that memory rates in our study were overall lower.

6:00-7:30 PM (I-123)

AI Images and Imagination Inflation. BRITNEY JANISZEWSKI, *University of Wisconsin - Platteville*, BLAIR BRAUN, *University of Wisconsin - Platteville*, QUIN CHROBAK, *University of Wisconsin - Oshkosh*, ABBY HANSON, *University of Wisconsin - Platteville*, EMA FRICK, *University of Wisconsin - Platteville*, KYLI MCCORKLE, *University of Wisconsin - Platteville*, DANIEL A. SCHEIBE, *College of Wooster* — It is well known that previous exposure to misleading false information can create false memories. This well-established finding takes on greater import given the volume of misleading or false information spread through social media. However, the recent advent of AI generated images creates a uniquely suggestive media format. Consequently, the goal of the current study was to investigate the role of AI generated images on false memory development. Specifically, the current study assessed whether adding AI generated images while participants were asked to imagine the event occurring would increase the rate of false memory development. Given that previous research has shown that both imagining an event (Garry et al., 2002) and viewing doctored images (Wade et al., 2002) can lead to false memories) – it seems possible that these factors may interact with one another to exacerbate this tendency. Results and theoretical implications will be discussed.

6:00-7:30 PM (I-124)

Testing Feature- and Association-based Contributions to False Memory. SARAH MACDOUGALL, *University at Buffalo, State University of New York*, CASSANDRA JACOBS, *University at Buffalo, State University of New York*, ANDRÉS BUXÓ-LUGO, *University at Buffalo, State University of New York* — False memory for words has been argued to result from the use of a list-level gist, such that lures that are similar or related to the gist are most likely to be endorsed. Here, we probe the nature of the gist representation to test whether semantic features or semantic association predominates the gist. We developed study lists from human descriptions of food items and confirmed that novel, feature-based lists elicit false memory in a yes-no recognition task to a similar extent as prior false memory lists. We then ran a second experiment contrasting critical lists where a single item was manipulated to make the list related to a lure either by features or association. Results indicated that false memory is most strongly elicited by the association list rather than the featurally similar list. This suggests that the construction of a list-level gist is more informed by associations than by shared features.

6:00-7:30 PM (I-125)

Effects of Visual and Auditory Presentation on True and False Memory in University Students: A DRM Paradigm Study. YAYOI KAWASAKI, *Waseda University*, MAIKO TAKAHASHI, *Waseda University* — This study examined the effects of visual and auditory presentation on true and false memory using the Deese–Roediger–McDermott (DRM) paradigm. Thirty-four university students studied eight DRM word lists presented either visually or auditorily. Participants studied eight lists; four lists were followed only by a recognition test, whereas each of the remaining four lists was followed by an immediate free recall test. After all eight lists had been presented, participants completed a recognition test including studied items, critical lures, and new items. Preliminary analyses revealed no significant effects of presentation modality or recall testing on either correct recognition of studied words or false recognition of critical lures. These findings suggest that semantic processing may occur similarly across visual and auditory modalities. The presentation will also report the results of the recall tests and comparisons with data from junior high school students (Takahashi & Kawasaki, 2025) and older adults with dementia (Kawasaki, Uchida, & Takahashi, 2026).

6:00-7:30 PM (I-126)

AI-Generated Images Lead to Memory Distortion of Aggressive Behavior. IN-KYEONG KIM, *La Sierra University*, COLLIN N. EWING, *La Sierra University*, SHAIANA M. TAYLOR, *La Sierra University*, ELIZABETH F. LOFTUS, *University of California, Irvine* — A recent study demonstrated

memory conformity for the subjective characteristics of a person's behavior, such as how aggressive their action was. In the current study, participants viewed a video of a woman interacting with nine objects in a room, including a critical action in which she carried a stuffed animal to a corner in a neutral manner. Shortly afterward, participants viewed short video clips depicting four actions from the original video and judged whether each clip was AI-generated or real. One clip depicted the stuffed animal action in a highly aggressive manner using AI generation. Next, participants judged whether each of nine actions from the original video was aggressive or not and rated its level of aggression. Results showed that participants rated the originally neutral stuffed animal action as more aggressive compared to a control condition (with no video clip). Judgments about whether the clip was AI-generated or real did not affect aggression ratings, suggesting that exposure alone was sufficient to distort memory from good to bad conduct.

6:00-7:30 PM (I-127)

A Scoping Review of Research on Student Learning Strategy Knowledge and Usage. VERONICA FOUREAUX-LEE, *Washington University in St. Louis*, TAMIA PRIOLEAU, *Washington University in St. Louis*, ANDREW C. BUTLER, *Washington University in St. Louis* — A growing body of research has investigated student knowledge and use of learning strategies. This scoping review characterizes the current state of this literature by assessing the populations of students and contexts studied, the methodological approaches used, and the findings that emerged. Using PRISMA guidelines, over 30 empirical, quantitative studies were identified from APA PsycINFO using keywords such as "cognitive learning strategies" within education and psychology fields. Across studies, there was consistency in the learning strategies studied (e.g., elaboration, retrieval practice, and rereading), but substantial variability in the way student knowledge and use were measured. Earlier studies tended to focus on psychology college students in the United States, but recent studies have diversified populations and contexts geographically, demographically, and disciplinarily. Students report relying most heavily on re-reading and retrieval practice, which have traditionally been labeled as "ineffective" and "effective" strategies, respectively. However, the emerging picture suggests the need for greater complexity and contextualization in our understanding of student knowledge and use of learning strategies.

6:00-7:30 PM (I-128)

Verbal Scaffolding During Real-World Expert-Guided Training. OLIVIA A. GATTO, *Indiana University Bloomington*, COURTNEY YONG, *Indiana University*, BENJAMIN A. MOTZ, *Indiana University Bloomington* — Expert mentorship offers a unique window into how experts predict and structure unfolding actions. During surgical training, expert surgeons must guide trainees through a series of motor tasks toward the completion of a goal. This involves the expert's anticipation of what the trainee will do next, and sometimes the violation of expectations when the trainee deviates or makes an error. In the present research, we examined expert-trainee dialogue during real surgeries to ask how verbal scaffolding by the expert varies during trainee-controlled task episodes. When the trainee was operating, we analyzed how expert surgeons verbally guide the trainee, and how this guidance changes as the trainee approaches performing a target step within the procedure. We predicted that, early in the trainee-controlled episode, expert surgeons would rely on more general framing of the task, principles, or goals. Closer to the completion of the trainee's task episode, we predicted that verbal guidance would become increasingly specific and action-oriented. This work uses naturalistic mentorship to investigate how experts forecast the likely trajectory of an ongoing task and intervene when they anticipate that guidance would be most consequential.

6:00-7:30 PM (I-129)

AI versus Human Feedback: How Perceived and Actual Source Shapes Student Preferences and Learning Outcomes. BRYNLEA GIBSON, *University of Queensland*, JASON TANGEN, *University of Queensland* — Large language models are increas-

ingly used to generate written feedback on student work, and a growing body of research asks whether their output can match that of expert human markers. Less clear is whether students prefer human or AI feedback, and whether their beliefs about the source shape learning. We investigated student preferences for human versus AI feedback and how actual and believed source independently shape perceptions and learning outcomes. In a within-subjects design, undergraduate participants (N ≈ 160) completed two feedback cycles, receiving feedback from both a human marker and an AI system across counterbalanced topics. Source was not disclosed during the task; participants reported their source beliefs and preferences afterwards, allowing us to separate actual from perceived source effects. Mixed-effects models tested whether believed source predicted quality ratings (helpfulness, clarity, tone, memorability) and revision performance, and whether perceived quality mediated the effect of source beliefs on learning. We discuss what the dissociation between actual and believed source means for the use of AI in assessment, and for how students come to trust the feedback they receive.

6:00-7:30 PM (I-130)

Exploring Individual Differences Among Common Misconceptions About Psychology. JAMIE KIM, *Washington University in St. Louis*, ANDREW C. BUTLER, *Washington University in St. Louis* — What makes some misconceptions harder to change than others? In research on knowledge revision, misconceptions are often treated homogenously, lumping across potential differences. However, anecdotal evidence suggests that there is heterogeneity among misconceptions, and understanding this heterogeneity is critical to designing effective interventions. Our study investigated three potential aspects of this heterogeneity to identify factors that predict belief in myths about psychology: domain knowledge, memory for source, and personal investment. We selected 20 statements representing common myths from four different sub-areas (clinical, developmental, social, and cognitive) and 13 true statements about psychology. Participants rated the statements on a Likert scale from 1-7 before answering questions about the three variables above. Using myths as the unit of analysis, we examined variability in belief as a function of the three factors. The data showed ample variability in the endorsement of myths, domain knowledge, source memory, and personal investment, supporting the conclusion that heterogeneity exists among misconceptions.

6:00-7:30 PM (I-131)

Is ChatGPT Enough? The Role of Instructional Support in AI-Based Learning. CHRISTINE LEE, *University of California, San Diego*, CELESTE PILEGARD, *University of California, San Diego* — Students using AI chatbots for learning must navigate large amounts of information by filtering relevant ideas, integrating related concepts, and evaluating the validity of responses. This may be especially difficult for novice learners, who need instructional guidance to build foundational understanding. The present study investigates how direct instruction and AI chatbot-assisted guidance shape novices' learning of causal reasoning. College students (N = 213) were randomly assigned to conditions varying in the AI-support and direct instruction. Students demonstrated stronger learning outcomes when direct instruction was present, while AI support alone did not significantly improve discrimination or retention performance. Cognitive load, fluency, and learning judgements did not significantly differ across conditions, suggesting subjective experience alone does not explain performance differences. These findings suggest that AI chatbots alone may be insufficient for supporting novice learners during knowledge acquisition, and highlight the continued importance of structured instructional guidance in educational settings.

6:00-7:30 PM (I-132)

Does the instructional approach impact the function of practice accompanied by feedback when learning complex math? MATTHEW MANNA, *University of Georgia*, ETHAN DOWDELL, *University of Georgia*, AMEDEE MARTELLA, *University of Georgia*, RYAN PATRICK, *University of Georgia*, LOGAN FIORELLA, *University of Georgia* — Prior studies have shown that practice and feedback (P&F) without lecture is more efficient than lecture alone or combining lecture with P&F. As part of a larger experimental study, we examined the practice phase of three instructional conditions (lecture with interspersed P&F (n = 51), blocked lecture and P&F (n = 47), and P&F alone (n = 41)) to investigate the effect of instructional design on practice time and practice scores for a complex math topic. We also investigated the relationship between practice scores and posttest scores across conditions. Results indicated that the P&F condition spent significantly less time on practice problems than the blocked ($p < .001$) and interspersed condition ($p < .001$). Furthermore, on practice problems, the interspersed condition significantly outperformed the blocked condition ($p = .009$). Additionally, scores on practice problems significantly predicted posttest scores in all conditions (all $ps < .001$). Therefore, while the P&F condition spent less time on average on practice problems, this did not result in improved or reduced scores during practice. Additionally, practice may serve as an important formative component as practice scores predicted improved posttest scores.

6:00-7:30 PM (I-133)

You Can't Change What You Don't Notice: The Role of Metacognitive Monitoring and Surprise in Knowledge Revision. CLAIRE MASON, *University of California, San Diego*, EMMA H. GELLER, *University of California, San Diego* — Refutation texts are effective for correcting misconceptions, and learners' self-reported surprise predicts knowledge revision following refutation. However, the mechanism underlying the benefits of surprise is underexplored. In this study, we explore the possibility that surprise predicts knowledge revision because it signals detection of discrepancies between misconceptions and new correct information. Participants evaluated six science misconceptions, then read a mix of refutation and expository (control) texts related to those statements, rating their surprise after each text. Immediately following, they made a metacognitive judgment by reporting whether the text was consistent with or challenged their initial beliefs. Then they reevaluated the six misconceptions. We found that participants made more accurate metacognitive judgments after reading refutation texts than expository texts, and that greater reported surprise was also predictive of more accurate monitoring. Additionally, when learners accurately monitored, they were more likely to revise their misconceptions. We discuss the implications of these findings for knowledge revision processes, and the relationship between surprise and metacognitive monitoring.

6:00-7:30 PM (I-134)

Learning with Chatbots: Exploring the Effects of Mental Workload and Search Behavior on Short-Term Learning. JEANNE NICOLE, *Université Laval*, ISABELLE LAVALLÉE, *Université de Sherbrooke*, GABRIELLE BOILY, *Université Laval*, JONAY RAMON ALAMAN, *Université Laval*, OLIVIER MORIN, *Université Laval*, LAURIE DIONNE, *Université Laval*, ALEXANDRE MAROIS, *Université Laval* — Artificial intelligence technologies are increasingly accessible and may affect key learning strategies during self-regulated Web search. This study examined how learning, workload and behaviors were affected when using a chatbot during a Web search task, compared to conventional search engines. Sixty participants completed essay questions using the Web or an LM-driven chatbot, with Web verification available. Participants rated their workload, effort deployment and tool familiarity, while measures of search behavior and chatbot interaction were extracted. After the task, a surprise memory test was administered to assess learning. Mann-Whitney tests indicated higher effort, workload and familiarity in the Web condition. Performance on the memory test did not vary between groups, but was higher among users who verified information in the AI condition. Hier-

archical regressions revealed verification behaviors and response involvement as predictors of memory performance across both conditions, consistent with previous self-regulated learning models. These findings support that chatbots may help reduce workload and effort deployment, while short-term learning may depend more on how users interact with the tool than on the tool itself.

6:00-7:30 PM (I-135)

LLM-Assisted Writing and Students' Perceptions of AI Support. JAJAIRA L. REYNAGA, *University of California, Santa Cruz*, PRANAV ANAND, *University of California, Santa Cruz*, ANTHONY FRANCE, *University of California, Santa Cruz*, HANNAH HAUSMAN, *University of California, Santa Cruz*, MATTHEW WAGERS, *University of California, Santa Cruz*, RUOQING YAO, *University of California, Santa Cruz* — Writing-to-learn theories argue that writing supports learning when students recall, elaborate on, and monitor understanding. LLMs raise questions about whether AI-assisted writing supports these processes or encourages cognitive offloading. We examined LLM-supported summarization of psycholinguistics research articles in undergraduates. In a within-subjects design, participants completed no-LLM and LLM-supported sessions. In the no-LLM condition, they read one text, took notes, and wrote a summary; in the LLM condition, they revised an LLM-drafted summary of a second text. Two days after each session, participants completed a comprehension test and surveys assessing either beliefs, familiarity, and use of generative AI tools or academic writing self-efficacy. Comprehension did not differ by condition, suggesting AI assistance did not affect understanding. Order effects largely did not interact with writing condition, but task order shaped AI attitudes: for those in the no-LLM first order, lower writing competence predicted stronger AI-optimism. Thus, LLM-supported writing may shape perception of AI assistance even if comprehension is unchanged. Ongoing analyses will examine how summarization processes relate to comprehension.

6:00-7:30 PM (I-136)

Testing Together: Role-Based Effects on Memory. YIZHI WEI, *Chinese University of Hong Kong*, AIKE SHI, *Chinese University of Hong Kong*, XIAONAN L. LIU, *Chinese University of Hong Kong* — Although the testing effect is robust, collaborative testing has less clear consequences for learners who take different roles. Across two experiments, participants either tested or restudied materials individually, or completed collaborative tests as a tester, asking questions, or testee, answering questions. Final memory was assessed immediately or after a delay. Individual testing replicated the classic delayed testing effect. In contrast, collaborative testing revealed a role-based asymmetry: testers showed poorer final performance than participants who restudied individually or served as testees, especially on an immediate final test. Testees' final answers were also systematically biased toward a partner's incorrect responses, indicating that exposure to errors during collaborative testing can create interference and distort later memory. These findings suggest that collaborative testing does not uniformly benefit all learners. Instead, its effects depend on learners' roles and on the accuracy of information exchanged. The results complicate broad recommendations for collaborative testing and highlight the need to structure role assignment and feedback carefully in educational practice.

6:00-7:30 PM (I-137)

More Than a Summary: Mental Effort and Learning from AI-Generated Text Supports. DARCEE R. SHIDELER, *University of Houston – Clear Lake*, KELSEY K. JAMES, *University of Houston – Clear Lake* — Generative AI tools are increasingly used to summarize academic materials, yet little experimental research has examined how AI-generated summaries influence learning from text and cognitive engagement during reading. This study examined whether exposure to an AI-generated summary prior to reading influenced reading comprehension and self-reported mental effort. University students (N = 105) were randomly assigned to read either an AI-generated summary before an expository

text or the text alone. Participants then completed a comprehension assessment and self-report measures of mental effort and perceived task difficulty. No significant differences emerged between conditions for comprehension, mental effort, or perceived task difficulty. However, greater reported mental effort was positively associated with higher comprehension performance. Planned follow-up work will examine how AI-generated summaries influence metacognitive judgments, cognitive engagement, and effort allocation during learning from complex academic texts.

6:00-7:30 PM (I-138)

Evaluating the Utility of GenAI as a Retrieval Practice Tool: A Comparison of Student-, AI-, & Experimenter-Generated Testing. KENDALL E. SULLIVAN, *University of California, Riverside*, MARIBETH M. TREGO, *University of California, Riverside*, ANNIE S. DITTA, *University of California, Riverside* — Retrieval practice is an effective learning strategy; however, instructors do not often provide students with practice tests, and students struggle to generate effective questions. Additionally, retrieval practice is only effective if students are willing to use it, and they often do not. AI-generated questions may support learning while minimizing student resistance. In a within-subjects design, we compared the effects of student-, AI-, and experimenter-generated testing on exam performance. Participants watched three brief lectures, then tested themselves and reported their willingness to use each testing type. Two days later, they took an exam. We expected exam performance would be highest after testing with experimenter-generated questions, moderate after testing with AI-generated questions, and lowest after testing with student-generated questions due to the expected differences in content overlap; and that students would be more inclined to test themselves with AI-generated questions due to its efficiency. The findings revealed AI-generated questions were similarly effective as experimenter- and student-generated questions for improving learning, though students were more willing to use AI.

6:00-7:30 PM (I-139)

Seeing the Big Picture: Effects of Text Structure on Metacognitive Judgments and Learning. INEZ ZUNG, *University of California, San Diego*, EMMA H. GELLER, *University of California, San Diego* — One goal of instruction is to help students see connections between ideas beyond simply memorizing definitions. The purpose of this study was to explore whether this can be achieved via the structure of a text. We tested whether structuring a text about experimental confounds and controls around higher- or lower-order ideas would lead to different learning outcomes. All participants read a text about the relationship between confounds and controls in experimental design, but the text was organized around either lower-order concepts (definitions of key terms, arranged in bullet points) or higher-order relationships (connections between specific confounds and controls, in cohesive paragraphs). They then made predictions of how well they would do on a final multiple-choice test. The test had an equal number of lower- (definition) and higher-order (conceptual) items. We found no group differences in accuracy or in metacognitive judgments for the lower-order items, but on the higher-order ones, participants in the higher-order group were both more metacognitively accurate and performed better than those in the lower-order group. Higher-order structures may help learners make more accurate judgments of learning for complex material.

6:00-7:30 PM (I-140)

Interim Retrieval Tunes Late-Stage Processing to Support Later Recall. IULIIA FOKINA, *University of North Carolina at Chapel Hill*, PETER C. GORDON, *University of North Carolina at Chapel Hill*, NEIL W. MULLIGAN, *University of North Carolina at Chapel Hill* — Interim retrieval can improve later learning, but how it reshapes moment-to-moment reading of complex texts remains unclear. We recorded the eye movements of 41 participants in a Testing condition as they read four multi-line expository texts and completed an immediate typed free-recall test after each text, with recall scored as the number of predefined idea units cor-

rectly recalled. We examine eye-movement indices of early encoding and later integration predict later recall. Each idea unit was aligned to its source region in text, allowing person-by-unit analyses relating processing of that region to whether the unit was later recalled. Preliminary results from the final text indicate that greater late processing on a unit's region predicts successful recall: spending 100 ms more on average after the initial reading increases recall from ~10% to ~12.75%. This supports the idea that interim testing shifts attention toward processing that is more tightly connected to later retrieval.

6:00-7:30 PM (I-141)

Memory Models Can Read: Combining Computational Models of Reading & Memory with SARK-R. ANGELA NELSON LOWE, *University of California, San Diego*, SABRINA Y. HA, *University of California, San Diego*, ANNE S. YILMAZ, *University of California, San Diego* — The process of learning to read has been highly studied in psychology, however, it is rarely discussed in the context of what is already known about memory. The current project therefore uses existing memory model architecture to provide a different and valuable way of describing the process of learning to read. We have developed an extension of the SARKAE model (Nelson & Shiffrin, 2013), termed SARK-R, that simulates the process of learning to read using the model's interactive connections between episodic and semantic memory systems. By relying on these interactions between events and knowledge, the model can successfully account for various components of the learning to read process including the self-teaching hypothesis of whole-word recognition and characteristic error patterns in developing readers. This presentation will describe the value of our interdisciplinary theoretical approach, the SARK-R model structure and simulations, fits of the model to existing findings, and proposed extensions that will test the model assumptions with behavioral studies.

6:00-7:30 PM (I-142)

Lineup Position Effect in Face Recognition: An Eye-Tracking Study. HOURIEH HAYATI, *University of Massachusetts Lowell* — The ability to identify a suspect from a lineup is cognitively complex, involving memory and decision processes. Witnesses must retrieve relevant facial features from memory and compare them to those in the lineup faces before making an identification (or rejecting the lineup entirely). In this study, participants completed a series of eye-tracked lineup tasks in which they briefly viewed a target face prior to the presentation of a target present or absent lineup. We manipulated the delay between encoding and lineup presentation: Sometimes the lineup appeared simultaneously with the target face, replicating prior work (Megreya et al., 2011), and other times it appeared after short and long delays. We also manipulated the target's location in the lineup across trials. Our goal was to examine whether lineup position effects from previous research replicate across lengthier encoding-retrieval delays, and how these effects emerge in eye movement patterns. Results are discussed within the context of eyewitness and recognition memory.

6:00-7:30 PM (I-143)

User Engagement Shapes the Memory Costs of AI-Assisted Learning. ANNA KAZATCHKOVA, *University of Guelph*, JOSHUA A. SKORBURG, *University of Guelph*, CHRIS M. FIACCONI, *University of Guelph* — Cognitively offloading generative tasks to Large Language Models (LLMs) has the potential to profoundly influence learning and memory. The generation effect suggests memory is improved when people produce information themselves, plausibly because self-generation promotes effortful processing. However, LLMs can produce high-quality content instantly, and unlike static forms of offloading, permit iterative interaction that may promote active processing and mitigate memory costs. Whether these factors offset the self-generation advantage remains unclear. Across four experiments, the present study aimed to expand our understanding of how LLM use impacts recognition and cued-recall memory performance using

a novel acronym-mnemonic paradigm. Offloading to LLMs produced a robust memory cost, such that recognition and cued recall memory were lower for LLM-generated than self-generated mnemonics. Additionally, we demonstrated that this cost was not attributable to differences in mnemonic memorability, and that more interactive LLM use reduced, but did not eliminate, the memory disadvantage. These findings demonstrate that offloading to LLMs impairs memory, but that it can be partially mitigated through increased user interaction.

6:00-7:30 PM (I-144)

The role of context in the repetition effect through the lens of event segmentation. CHANJU LEE, *Syracuse University*, LYNN J. LOHNAS, *Syracuse University* — We examine puzzling finding when repeated items are studied with same versus different source contexts. Recall probability is consistently greater for massed but not spaced items when presented with different source contexts (Verkoeijen et al., 2004). We reevaluate these results from the perspective of event segmentation theory (Zacks et al., 2007). In a list-learning task, a sequence of items studied with the same source context forms an event. However, an item studied before a context change (preboundary) or after (event boundary) can boast greater memorability (Heusser et al., 2018; Swallow et al., 2009). When repeated with different contexts, a massed item's second presentation is always an event boundary, yet a spaced item may have neither occurrence at an event boundary. In contrast to prior free recall studies which randomized source context, we manipulated context using event structure. We characterized free recall of repeated items as a function of whether the items were repeated with the same or different source contexts, whether the item occurred at preferred event positions, as well as whether repetitions were massed or spaced. The results have implications for theories of memory and event segmentation.

6:00-7:30 PM (I-145)

Influence of Short-Term Memory on Cue Use in Serial Recall. BAILEE SMITH, *Louisiana State University*, EMILY M. ELLIOTT, *Louisiana State University*, DAKOTA LINDSEY, *University of South Alabama* — The serial memory system uses positional cues and associative cues to recall information in order, evidenced by serial learning tasks that compare accuracy in same lists (that are identical each presentation), spun lists (that shift each presentation), and scrambled lists (that are rearranged each presentation). Accuracy is better in same than spun lists (same-list advantage), because positional cues are ineffective in spun lists. Accuracy is better in spun than scrambled lists (spun-list advantage) because associative cues are ineffective in scrambled lists. In our variant of this task, we manipulated list length and measured short-term memory (STM) capacity, to determine if STM capacity influences the use of positional and associative cues. The same-list and spun-list advantage were larger in 6-item lists (N=311) than 4-item lists (N=290). STM capacity was negatively correlated with the magnitude of the same-list advantage in 4-item lists, suggesting that STM capacity modulates the efficacy of positional cues.

6:00-7:30 PM (I-146)

Eliminating the Directional Asymmetry in Episodic Retrieval Performance Using Cued Recall. ROMAN M. GUTIERREZ, *University of Missouri*, JEFFREY JOHNSON, *University of Missouri* — Episodic memory encoding is supported by forming associations between events and their spatiotemporal contexts, which can in turn play a critical role in organizing and subsequently guiding strategies at the time of retrieval. Free recall studies have consistently shown temporal contiguity effects (retrieving one memory and then another nearby in time) that almost always exhibit a forward asymmetry, consistent with numerous serial recall studies indicating better performance in forward vs. backward directions. Here, we report on a procedure that eliminated this directional asymmetry. Subjects (N=48) encoded lists of about eight successively-presented words

followed by an immediate cued-recall test involving presentation of a list word along with arrows designating to recall in the forward or backward direction from the cued word's position. Measures of correct recall, recall from the uncued direction, and intrusion rates all indicated symmetric performance, as did standard effects of serial position and conditional response probability. These findings are discussed in the context of distinguishing forward and backward retrieval search neurally, which is made possible by controlling differences in difficulty and retrieval success.

6:00-7:30 PM (I-147)

Generation and Pretesting Do Not Produce Additive Benefits. MICHELLE E. COVERDALE, *Purdue University*, JIAAN SHANG, *Purdue University*, JEFFREY D. KARPICKE, *Purdue University*, JACK M. BALDINI, *Purdue University* — The generation and the pretesting effects are robust phenomena, yet it remains unclear whether they rely on shared or distinct, independent mechanisms. Prior research has investigated these effects in isolation, and no prior work has explored the effects of combining generation and pretesting. The present research examined the generation and pretesting effects both separately and in combination. Subjects studied weakly associated word pairs under four learning conditions: read (shark–bite), generate (shark–bi__), pretest-then-read (shark–____ then shark–bite), and pretest-then-generate (shark–____then shark–bi__). On a final test, both pretesting and generation enhanced memory relative to reading alone. However, the combined pretest-then-generate condition produced no additional benefit relative to either pretesting or generation. That is, the two effects seem to produce redundant benefits. These results are relevant to theories of both the pretesting and generation effects because they are consistent with the idea that these two effects are produced by a shared mechanism.

6:00-7:30 PM (I-148)

Embedding Individual Experience into Retrieved Context Models. NATHANIEL R. GREENE, *Villanova University* — In standard models of retrieved context theory, prior experiences influence retrieval primarily through global sensitivity parameters that dictate how strongly pre-experimental associations are weighted relative to novel experimental item–context associations. These models implicitly assume a singular "true" pre-experimental association matrix that applies to all to-be-learned items and all individuals. Yet humans vary widely in their experiences, and these differences can shape how any two individuals (e.g., a young versus an older adult) approach the same memory task. Here, I propose to treat semantic knowledge as a structured prior that differs across individuals. Holding learning and retrieval mechanisms fixed, I examine how differences in the similarity structure of the model's long-term memory alone reshape recall organization, with implications for understanding how our unique prior experiences influence our current and future behavior.

6:00-7:30 PM (I-149)

Living and Learning: Exploring the Benefit of Animacy in Foreign Language Word Teaching. SPENCER MOORE, *Tennessee Technological University*, STEPHANIE A. KAZANAS, *Tennessee Technological University* — Language revitalization has become paramount for indigenous and ethnic minority communities, following sharp decreases in childhood L1 acquisition in recent generations (Fontaine, 2017). Much work has been done in research and application, but more is needed to effectively combat language extinction. Adaptive memory may be helpful in this regard. Previous research has shown evidence for increased memory in student learning of plant (Prokop & Fančovičová, 2014) and mushroom (Fančovičová et al., 2020) names, with toxicity serving as a mortality-based fitness-relevant mnemonic. This study applies these methodologies to language learning, exploring how animacy, another robust adaptive mnemonic (Nairne, 2022), might aid the learning of words in a new language. Participants were presented novel words, delivered in

an 'animating' story or 'non-animating' description. Learning was measured at several intervals following presentation. Our results offer insight into the role of animacy in language learning and offer new strategies in the effort of revitalization.

6:00-7:30 PM (I-151)

Memory Errors in Proper Name Learning and Recall: Patterns, Mechanisms, and Implications. ART BEQIRAJ, *James Madison University*, KETHERA A. FOGLER MOORE, *James Madison University*, LORI E. JAMES, *University of Colorado Colorado Springs* — Proper names represent a distinct lexical class characterized by arbitrary referent mappings and minimal semantic content. Unlike common nouns, they lack rich semantic networks to aid encoding and retrieval, which may underlie their disproportionately high retrieval failure rates, as compared to common nouns. These failures carry notable social consequences and are frequently interpreted as markers of cognitive decline, a concern that is heightened in older adults. Theoretical explanations for these failures include the role of interference (e.g., Inhibitory Deficit Hypothesis, IDH; Hasher & Zacks, 1988), while others posit a dearth of semantic connections between a name and a referent (e.g., Fogler & James, 2007). The present study investigates both interference and semantic relatedness, as well as other factors that may impact proper name retrieval.

6:00-7:30 PM (I-152)

Comparing Retrieval Practice and Re-Studying Within the Remembered Success Effect. RACHEL N. SMITH-PEIRCE, *Washington University in St. Louis*, XINRAN WANG, *Vanderbilt University*, CRISTINA D. ZEPEDA, *Vanderbilt University* — Prior work has shown that learners generally prefer a task that provides opportunities for success at the start or end relative to a task that does not have such opportunities, a finding known as the remembered success effect (Finn, 2010). Although this effect has been replicated across various contexts (Finn & Miele, 2016; Finn et al., 2025), researchers have primarily examined this effect with re-studying, as opposed to retrieval practice. The current study attempts to replicate the remembered success effect when learners engage in retrieval practice. Participants studied and practiced two lists of word pairs: a short list containing only difficult stimuli and an extended list containing difficult stimuli followed by additional moderately difficult stimuli. Learning strategy (retrieval practice versus re-studying) was manipulated between-subjects. After learning both lists, participants chose which list they would prefer to do in the future. We hypothesized that learners would prefer the extended list over the short list, demonstrating the remembered success effect. Data collection is ongoing; however, preliminary findings suggest that the remembered success effect does not extend to retrieval practice.

6:00-7:30 PM (I-153)

Retrieval Reshapes the Neighborhood of Memory. XIAONAN L. LIU, *Chinese University of Hong Kong*, ZEYU LI, *Chinese University of Hong Kong* — Remembering is not an isolated act: retrieving one experience can change the accessibility of related experiences. We examined how retrieval affects memories encoded nearby in time, using data from the Natural Scenes Dataset. For each scene, we asked whether later recognition was predicted by prior retrieval of neighboring scenes. Retrieval success shaped the direction of spillover. Successful retrieval of nearby memories predicted better recognition of the target memory, especially within the same session, consistent with local context reinstatement. Failed retrieval showed the opposite same-session pattern, predicting poorer recognition, consistent with interference or noisy reinstatement. Across sessions, broader retrieval history in a memory neighborhood predicted better recognition, whereas the closest individual across-session neighbor predicted poorer recognition. One possibility is that repeated retrieval of many neighbors reactivates a broad temporal context, while a single highly overlapping neighbor creates competition. These findings suggest that retrieval reshapes a local temporal neighborhood of memory, with facilitation and interference depending on retrieval success, contextual overlap, and temporal distance.

6:00-7:30 PM (I-154)

Does Testing Create Unique Retrieval Contexts? An Investigation of the Forward Testing Effect. JEREMIAH J. ASHCROFT, *Colorado State University*, MATTHEW G. RHODES, *Colorado State University* — Testing on previously studied information may potentiate future learning, creating a forward testing effect. Several possible accounts of the forward testing effect have been considered, including explanations that testing reduces proactive interference or encourages students to change their learning strategy. We investigated whether the forward testing effect occurs because testing creates unique retrieval contexts that benefit subsequent learning. Using a framework adapted from Moscovitch and Craik (1974), in three blocks participants studied items presented with unique sentence stems or with sentences shared with other words. Following study, participants attempted to recall the target given the sentence stem as a cue. For a fourth block, all participants studied a list of unrelated words, with no sentence stems presented and then engaged in free recall, providing a measure of the forward testing effect. Results for this fourth block suggested that the benefit of prior testing was most evident for unique retrieval contexts but attenuated for shared contexts.

6:00-7:30 PM (I-155)

Retrieval Practice Enhances Familiarity but Not Source Judgments. J IMANI BUNN, *Emory University*, HE (HANS) ZHANG, *Emory University*, BENNETT LEVINE, *Emory University*, PHUONG (FIONA) TRAN, *Emory University*, JOSEPH R. MANNS, *Emory University* — A memory test often enhances retention more than equivalent studying, termed retrieval practice, yet an open question was whether testing boosts gist or sharpens discriminability from similar memories. We previously found that retrieval practice boosted gist (general memory for repeated images) but led to reduced discriminability between repeated images and repeated lures. We tested here whether the reduced discriminability was due to decreased pattern separation or poor source memory for which image was previously endorsed. Participants studied images and completed a two-choice recognition memory task in a retrieval practice intervention condition (control = restudy). After a one-day delay, participants completed a final test. The final test in Experiment 1 was a two-choice recognition memory test with either reused lures from the previous day or new, highly similar lures. The final test in Experiment 2 was a three-choice recognition memory test with the target image, reused lure, and a new, but highly similar lure. The results of both experiments indicated that reduction in discriminability following retrieval practice was due to poor source memory for which image was previously endorsed.

6:00-7:30 PM (I-156)

Examining Retrieval Practice Effects on Schema Integration. MARIA COREA, *University of North Carolina at Chapel Hill*, NEIL W. MULLIGAN, *University of North Carolina at Chapel Hill* — Expanding prior work on the limits of the testing effect in relational integration tasks, this study assessed the effect of retrieval practice on schematic inferential false memories. Extending the paradigm of Bransford et al. (1972, Experiment III), participants studied 12 passages describing spatial relationships between among objects. During the practice phase, half of the passages were restudied, and half went through retrieval practice. In the recognition test, participants indicated whether the sentences shown were old or new. Test iItems included old sentences, inferential lures, changed relation and subject sentences, and unrelated lures. The original Bransford et al. pattern, where in which inferential false alarms exceeded changed-relation false alarms, was not replicated. Additionally, there was no significant difference between restudy and retrieval practice in the false alarm and hit rates produced. These results indicate that spatial schematic integration in this paradigm is not a robust spontaneous phenomenon, and that deliberate schema-encoding conditions instructions may be required for inferential false memories to emerge.

6:00-7:30 PM (I-157)

Retrieval Practice Improves Memory for Abstract Images. ALANA DELAWTER, *Purdue University*, MICHELLE E. COVERDALE, *Purdue University*, JIAAN SHANG, *Purdue University*, JEFFREY D. KARPICKE, *Purdue University* — Retrieval practice has been consistently demonstrated to enhance long-term retention of semantically meaningful information. However, results are mixed for the few studies that have used abstract, visual materials that lack prior semantic associations. The present experiments examined the effects of practicing episodic retrieval on memory for abstract, semantically meaningless visual information. In three experiments, subjects learned abstract shapes (Experiments 1 and 2) or abstract artwork (Experiment 3) in preparation for a delayed final recognition test. In Experiments 1 and 2, subjects studied lists of abstract shapes and either repeatedly restudied the shapes or engaged in repeated retrieval via a list discrimination test. Experiment 3 followed the same general procedure, with lists of abstract artwork as the to-be-remembered materials. In all three experiments, retrieval practice improved performance on a delayed recognition test. These results are inconsistent with theories of retrieval practice effects that depend on activation of semantic associates and are more aligned with an episodic-context based account.

6:00-7:30 PM (I-158)

Older and younger adults' self-assessments of their knowledge, memory, and intelligence are similarly influenced by general knowledge test performance. MAY W. MCCOLLUM, *Colorado State University*, ELENI KOLOVOS, *Colby College*, SHARDA UMANATH, *Claremont McKenna College*, JENNIFER H. COANE, *Colby College* — Taking a general knowledge (GK) test affects perceptions of one's own intelligence, memory, and knowledge as well as the reported relationship between these constructs in younger adults (YAs). In the present study, we investigated whether older adults (OAs) would be similarly affected. OAs and YAs rated their intelligence, memory, and knowledge and assessed the degree of inter-relatedness of these constructs prior to and after completing an age-normed easy or hard GK test, or a control task. Half of participants in each GK condition were provided misinformation on their performance compared to the general population. After the hard GK test, participants' self-assessments on all three constructs declined, whereas in the easy GK test, participants' self-assessments for all three constructs increased. These patterns occurred regardless of misinformation. Knowledge and intelligence were perceived as less related after a hard GK test. In sum, there is clear age-invariance in implicit conceptualizations of core cognitive constructs and their relationships.

6:00-7:30 PM (I-159)

Do JOLs Improve Memory in Children?: Examining Reactivity Effects for Recognition and Source Memory During Young Childhood. BRITTANY MONCALIERI, *University of Colorado Colorado Springs*, TODD COLLINSWORTH, *University of Colorado Colorado Springs*, DIANA SELMECZY, *University of Colorado Colorado Springs* — Metacognition is the ability to evaluate and self-reflect on our own cognitive processes. Research in adults suggests that engaging in metacognition, such as judging what material one will remember on a future test, improves memory performance in some situations. However, little is known about whether similar benefits occur during childhood when metacognition is developing. In the current study, we examined whether metacognitive judgments, specifically Judgments of Learning (JOLs), in children ages 5- to 8-years-old (N=80) improved memory performance compared to a passive control group that did not make JOLs and an active control group that made an unrelated judgment. Our results showed that the JOL and active control group exhibited higher recognition and source memory for color information. Critically, all groups had similar performance for movement information. Our results suggest that children demonstrate JOL reactivity effects, but effects may differ on the type of memory measured and comparison groups used. Keywords: metacognition, JOLs, reactivity effects

6:00-7:30 PM (I-160)

Anticipation of cognitive load and its effects on end-of-trial slowing in self-paced performance. HUNTER B. STURGILL, *University of California, Riverside*, DAVID A. ROSENBAUM, *University of California, Riverside* — Performance can be externally paced or self-paced to varying degrees. Surprisingly, self-pacing has been little studied in short-term tasks like those completed in single trials of typical psychonomic experiments. Yet self-pacing probably reflects metacognition and embodiment, and likely touches on other issues at the core of psychological science. We used a novel finger tapping task to explore the role of forthcoming cognitive load on self-paced performance, adding to our earlier work showing a dramatic inability to inhibit premature inhibition, which we termed end-of-trial slowing. Our university student participants exhibited end-of-trial slowing here, but that effect was unaffected by whether math problems known to be short or long would follow. The results support the view that participants were willing to expend extra effort to relieve cognitive load as soon as possible, a result that aligns with pre-crastination, the tendency to hurry task completion. That tendency was so strong that it overwhelmed possible sensitivity to upcoming math problem demands.

6:00-7:30 PM (I-161)

Against the Clock: Examining Curiosity Decay During Tip of the Tongue States. DUSTIN S. ACKLEY, *University of Southern Mississippi*, ANDREW M. HUEBERT, *University of Southern Mississippi* — According to the Region of Proximal Learning (RPL), a person will be the most curious when they feel as if they almost know something. A notable example is a Tip-of-the-Tongue state (TOTs), where a word feels on the verge of recall. Consistent with the RPL, TOTs have been shown to be associated with curiosity for the target word (e.g., Metcalfe et al., 2017). However, there has been little research investigating if these feelings of curiosity fade with time, similar to some TOT related effects (Cleary et al., 2020). Participants were given trivia questions and were asked to indicate when they experienced TOTs. Participants either immediately rated their level of curiosity for the answer to the question (non-delay condition), or they experienced a 10 second delay prior to the curiosity rating (delay condition). Participants gave higher curiosity ratings during TOTs over non-TOTs for both the delay and non-delay conditions. However, the difference in curiosity ratings between when participants were experiencing TOTs and when they were not experiencing TOTs was larger when there was no delay present. These results suggest that increases in curiosity from almost knowing are time sensitive, and curiosity can fade fairly quickly.

6:00-7:30 PM (I-162)

Phenomenologies of Retrieval Failures Predict Accessibility Of Newly Learned Information. JACKSON CATE, *University of Waikato*, JASON BAO, *Claremont McKenna College*, JEN COANE, *Colby College*, SHARDA UMANATH, *Claremont McKenna College* — When retrieval fails, the mental experience, or phenomenology, differs. Sometimes people have simply forgotten information in that moment; other times, people know they have never encountered that information. Distinct phenomenologies of retrieval failures are reflected in natural language. In the context of prior knowledge, "I don't remember/IDR", and "I don't know/IDK" reliably predict a lack of accessibility or a lack of availability, respectively. Here, we extend this approach to newly learned information. Participants learned kanji characters and their English meanings. Next, they completed a cued-recall test of learned and novel kanji. When unable to answer, they indicated IDR or IDK. Finally, participants completed a multiple-choice test of learned and novel kanji. Consistent with work examining retrieval from the knowledge base, items initially classified as IDR were subsequently answered correctly more often on the multiple-choice test than those classified as IDK. However, many previously-presented kanji were labelled IDK, and some novel kanji were labelled IDR. These data suggest there might be some differences in how natural language maps onto retrieval from the knowledge base and new learning.

6:00-7:30 PM (I-163)

Investigating the Relationship Between Metacognition and False Feedback. SARAH M. GRILLO, *University of Central Florida*, JOSEPH SCHMIDT, *University of Central Florida* — Correct feedback guides behavior towards successful task execution, however false feedback skews confidence and decreases performance. High metacognition is associated with higher performance and more accurate confidence judgements. High metacognitive individuals are thought to rely on their accurate internal judgements, whereas low metacognitive individuals are thought to rely on external feedback, suggesting external false feedback should affect higher metacognitive individuals less. To test this, participants completed a VWM change detection task and reported trial-by-trial confidence in their response accuracy. The first half of trials did not include feedback. The rest of the study was between subjects; half the participants received accurate feedback and the other half received false feedback (incorrect feedback on ~20% of correct responses). Early results suggest false feedback decreased confidence and accuracy, but higher metacognitive individuals produced larger accuracy and confidence decreases than lower metacognitive individuals. Contrary to prior reports, high metacognitive individuals may be more receptive to external feedback rather than relying primarily on internal judgements.

6:00-7:30 PM (I-164)

Is this My Cue? Judgment of Learning Reactivity is not Sensitive to Font-Color Cues. NICHOLAS P. MAXWELL, *Midwestern State University*, AMELIA G. MOREHEAD, *University of Southern Mississippi*, MARK J. HUFF, *University of Southern Mississippi* — Previous research has shown that judgments of learning (JOLs) improve cued-recall of word pairs, particularly for related pairs. However, past research on JOL reactivity has largely tested the extent to which JOLs strengthen relational cues, making it unclear whether cue-strengthening processes can improve cued-recall by strengthening non-relational cues. We tested this possibility by manipulating font-color, which provides a salient non-relational perceptual cue, across three experiments. Experiment 1 tested for differences between JOL and no-JOL groups who studied unrelated word-pairs in different fonts color. Experiment 2 tested for font-color congruency effects while also comparing cued-recall to a shallow color-naming task. Finally, Experiment 3 tested for cued-recall differences between JOL and no-JOL groups when cues and targets were studied in matched or mismatched colors. Across experiments, we found no evidence of positive JOL reactivity, regardless of color, congruency (Experiments 1-3), or match type (Experiment 3). Considered alongside the broader JOL reactivity literature, our findings provide additional support for a relational account of cue-strengthening.

6:00-7:30 PM (I-165)

Tracking Imagery Usage in Judgment of Learning Reactivity. KARA MUSCHA, *University of Alabama in Huntsville*, JODI PRICE, *University of Alabama in Huntsville* — The present study examined the usage of interactive imagery as a study across one block of study and recall. Participants studied both related and unrelated word pairs, were asked to give a judgment of learning (JOL) or did give a JOL and, were asked to study the word pairs with interactive imagery or were not told to. Regardless of condition, all participants gave a study strategy report after studying each of the 60-word pairs. They completed a cued-recall test in which they were presented with the first word of each word pair and asked to type the second word in the pair. We found that JOLs were higher for related word pairs than unrelated word. Related word pairs were also recalled more in the JOL and No-JOL conditions. When tracking actual usage of imagery, JOLs were higher for related word pairs and related word pairs were recalled more.

6:00-7:30 PM (I-166)

Metacognitive Reactivity and Task Engagement: Evidence from Global Judgments of Learning. BEAU D. PURDOM, *Tarleton State University*, AMANDA R. STEVENS, *Tarleton State University* — Metacognitive judgments can shape later memory

performance, a phenomenon known as metacognitive reactivity. Although judgments of learning (JOLs) often improve recall, the mechanisms underlying this effect remain unclear. The present study examines whether global (i.e., list-wise) JOLs improve memory by enhancing task engagement, as reflected in reduced mind wandering during study. Participants were randomly assigned either to a JOL condition where they predicted how many words they would recall from each list, or a control condition where no such judgments were made. Across 10 categorized word lists, participants completed periodic mind-wandering probes during the study, followed by category-cued recall tests. The study tested whether global JOLs were associated with improved recall, reduced mind wandering, and an indirect of judgment condition on recall through mind wandering. Results are discussed in relation to the enhanced learning engagement theory of JOL reactivity (Zhao et al., 2022).

6:00-7:30 PM (I-167)

Flashcard Retrieval Failures: What Do Students Want to Do When They Can't Think of an Answer? MAISIE R. SHIN, *Colby College*, MADRY BREAZEALE, *Claremont McKenna College*, ISHYA BHAVSAR, *Pomona College*, MINGHUA ZHANG, *Pomona College*, MAY W. MCCOLLUM, *Colorado State University*, SHARDA UMANATH, *Claremont McKenna College*, JEN COANE, *Colby College* — In any learning situation, individuals need to be able to identify gaps in their knowledge, evaluate the causes of said gaps, and select the optimal strategies to mitigate them. The Proximity to Retrieval Success framework (PRS) argues that information varies in terms of its likelihood of retrieval; when retrieval fails, individuals can assess that proximity through phenomenological experiences. The PRS framework has been tested and validated online and in laboratory settings, on immediate and delayed tests, and across test format. In the present work, we begin to examine its effectiveness as a tool for self-directed learning. Participants classified general knowledge flashcards into retrieval failure categories and described how they would study the material and in which order they would review it as a function of retrieval failure category. Information further from retrieval success elicited more effortful strategies and/or more frequent review based on self-report. This suggests learners intuitively understand how to allocate limited resources for effective learning. Interestingly, participants showed two relatively distinct patterns for the order of checking (i.e., prioritizing information they deemed correct or unknown).

6:00-7:30 PM (I-168)

Metacognitive Awareness Across Internal States: Sustained Attention and Emotion. ZACHARY WUNDER, *University of South Florida*, PAUL ATCHLEY, *University of South Florida* — Metacognition refers to the capacity to monitor, regulate, and evaluate one's own mental processes. Although prior work supports domain generality of metacognitive abilities across certain cognitive domains such as memory and visual perception, it remains unclear whether this generality extends to awareness of attention and emotion. Recent findings suggest thought-probe responses are strongly influenced by feelings of inattention, which also predict sustained-attention performance. Additionally, newly developed signal-detection approaches now allow sensitivity to attentional and emotional states to be quantified more directly. Therefore, the present research examines the relationship between metacognitive awareness of sustained-attention performance and meta-emotional awareness. Sustained-attention awareness will be assessed using model-based signal detection analyses of thought-probe reports during a continuous performance task, and meta-emotional awareness will be assessed using valence judgments of IAPS images calibrated to each participant's subjective emotional response. In doing so, this work has implications for understanding the structure of self-awareness and the interaction between cognitive and emotional processes.

6:00-7:30 PM (I-169)

Equilibrium in Motion: The Impact of Acute Balance Training on Cognition. SELINA REIL, *Nova Southeastern University*, LUIZA PIGNATTI PINO, *Nova Southeastern University*, THALIA SKEENE, *Nova Southeastern University*, ASHLEY DENIS, *Nova Southeastern University*, AJAY RAMPAT, *Nova Southeastern University*, HEZRON MAYNARD, *Nova Southeastern University*, NICOLE MAZHAR, *Nova Southeastern University*, EMILIA NONIYAN, *Nova Southeastern University*, LEANNE BOUCHER, *Nova Southeastern University*, WILLIAM MATTHEW COLLINS, *Nova Southeastern University* — Studies examining the impact of long-term balance training on cognitive processes have established a link between balance exercise and benefits on visuospatial cognition. However, it is unknown whether a short bout of balance training can also benefit visuospatial cognitive processes, or how balance training compares to a short bout of aerobic exercise. In the present study, we examined the effects of acute balance exercise and aerobic exercise on cognitive and visuospatial cognitive processes. Seventy-six participants either did a balance circuit to a follow along video, powerwalked on the treadmill, or watched a nature documentary for 30 minutes before completing a battery of cognitive tasks: short-and-long term word memory task, Flanker task, Corsi Block Tapping task, and the Orienting and Perspective Taking task (OPT). Results revealed the balance condition performed significantly better on visuospatial orientation ability (OPT) than participants in the aerobic condition and control condition (after controlling for vigorous physical activity). These results suggest balance exercise may produce domain-specific effects on cognition, specifically visuospatial perspective taking.

6:00-7:30 PM (I-170)

Space for Face: Spatial memory capacity for faces. MARUTI MISHRA, *California State University, Bakersfield*, CHRISTINE ZIEMANN, *California State University, Bakersfield*, NOUR QUTEIBI, *California State University, Bakersfield*, MONTGOMERY JOHNSON, *California State University, Bakersfield*, MUKESH B. MAKWANA, *Brown University*, JEREMY M. WOLFE, *Harvard Medical School; Brigham and Women's Hospital* — Previous study reported massive memory for recall of everyday object locations (spatial massive memory-SMM), but poor spatial recall for locations of unfamiliar faces, suggesting that within-category perceptual similarity is a limitation. Would semantic familiarity (e.g. people you know) counteract this limitation? To address this, we conducted four in-lab experiments (total N = 100) using famous faces as stimuli across four set sizes (5, 15, 25, and 49) in a spatial recall task. Participants studied the identity and location of faces in a 7*7 grid followed by a test and retest phase, where they recalled the location of studied faces. Spatial memory capacity was quantified as the proportion of localization responses falling within a predefined region of interest surrounding each face's true location, relative to chance performance. Participants demonstrated robust SMM for famous faces across all set sizes, comparable to object SMM, with expected reductions as set size increased. Improved memory for famous faces indicates that SMM is not constrained solely by perceptual similarity but is modulated by semantic information associated with identity.

6:00-7:30 PM (I-171)

Viewing entropy and hippocampal integrity differentially contribute to spatial memory performance outcomes in aging adults. HILLARY SCHWARB, *University of Nebraska - Lincoln*, MICHAEL R. DULAS, *State University of New York at Binghamton* — Episodic memory errors are common. Prevalence of such errors increase with age and are often associated with changes in supporting hippocampal integrity and shifts in encoding strategies. This study investigated the shared and distinct

contributions of hippocampal-integrity and encoding-strategy on spatial memory outcomes among aging adults. Forty-eight participants (45-74 years old) completed a structural MRI and an eye-tracked Spatial Reconstruction Task where they attempted to reconstruct the spatial locations of 5 abstract stimuli after a short delay. Outcome measures included: Misplacement-distance errors, item-arrangement errors, hippocampal volume, and scanpath entropy. Scanpath entropy significantly correlated with both misplacement-distance and item-arrangement errors indicating that more ordered viewing at encoding was related to fewer errors. Hippocampal volume significantly correlated with only misplacement-distance errors. Multiple linear regression indicated that hippocampal volume was a stronger predictor than scanpath entropy for misplacement-distance errors while scanpath entropy was a stronger predictor than hippocampal volume for item-arrangement errors.

6:00-7:30 PM (I-172)

Metacognitive Predictions of Map Memory Over Learning Repetitions. HOLLY A. TAYLOR, *Tufts University*, GABRIEL STEIN, *Tufts University*, LAUREN MASON, *Mason-White Consultant* — We often look at maps to see the relative locations of landmarks. Whether we can accurately predict this information has been understudied. This work explored how two map features (landmark complexity and salience) affected metacognitive judgments of learning (JOLs) over repeated learning trials. Map complexity influenced JOL magnitude early in learning, but this effect diminished over time as learners shifted from surface-level difficulty cues to experience-based monitoring. Further JOLs predicted memory to a greater extent on low- compared to high-complexity maps, suggesting perceived complexity may have impaired metacognitive accuracy. Map salience showed a consistent influence on JOL magnitude across learning trials, indicating attentional guidance shaped JOL formation even as learners accumulated experience. JOLs predicted map memory equally for both salient and standard maps. Together these results suggest 1) different perceptual map features independently impact JOLs and 2) multiple testing phases likely play an important role in updating JOLs (past-test feedback heuristic). Overall, learners' relationship between JOLs and actual memory is complex.

6:00-7:30 PM (I-173)

The Impact of Making Predictions When Learning During Active and Passive Navigation. SOPHIA POLOZOVA, *University of California, Irvine*, DAISY A. VARGAS, *University of California, Irvine*, TAYLOR LE, *University of California, Irvine*, VAISAKH PUTHUSSERYPPADY, *Tilburg University*, MIKE J. STARRETT AMBROSE, *University of California, Irvine*, ELIZABETH R. CHRASTIL, *University of California, Irvine* — Learning is likely better under active decision-making than passive guidance, however, the reason is not well understood. One possibility is that making decisions during learning lets people choose where they want to explore. Another possibility is that people can make predictions about what they will encounter and then get feedback. Here we test these two possibilities during wayfinding in an immersive virtual reality environment. We used a between-subjects 2 (Decision-making: active, passive) x 2 (Predictions: prediction, selection) factorial design. During exploration, the active groups chose where to explore to find all 9 object locations; an experimenter guided the passive groups. In the select condition, participants reported the object before them, while in the predict condition, participants first predicted the object's identity before it was revealed. All groups were tested by navigating from one object to another with all objects hidden. We found a main effect of prediction, such that those who predicted the objects and got feedback performed better, but there was no effect of decision-making. These findings suggest that making predictions and receiving feedback is an important aspect of active learning.

6:00-7:30 PM (I-174)

Local and Global Strategies for Navigational Learning. DAISY A. VARGAS, *University of California, Irvine*, OLIVIA THEIRING, *University of California, Irvine*, TAYLOR LE, *University of California, Irvine*, ELIZABETH R. CHRASTIL, *Univer-*

sity of California, Irvine — Strategies can help with learning, but the use of strategies on the acquisition of spatial knowledge in particular requires further investigation. One question is whether strategies that favor learning local connections vs. the global environmental structure will result in acquiring different types of spatial knowledge. We hypothesized that using explicit strategies that biased participants towards local or global learning would result in increased survey (overall layout) and graph (path connections) knowledge. Participants underwent a navigation task in an immersive walking virtual reality maze. Participants explored to learn the locations of target objects in one of three strategy conditions (between-subjects design): No Strategy (control), Painting Association (local), and Hallway Connections (global). All participants then had to point from one object to another object (a test of survey knowledge) and navigate between objects using the hallways (a test of graph knowledge). Preliminary results suggest no differences in acquisition of graph and survey knowledge between strategy conditions. However, survey performance correlates to graph performance in the control and local strategy group, but not in the global strategy group.

Poster Session II

Friday, November 20, 2026,
12:00-1:30 PM PST

12:00-1:30 PM (II-001)

Rapidly Learned Suppression of Salient Distractors Based Upon Featural and Spatial Regularities. YUE ZHANG, *University of Missouri*, NICHOLAS GASPELIN, *University of Missouri* — To stay focused, attention must be directed toward relevant information while ignoring salient distractions. Many theories suggest that the ability to ignore salient stimuli is the result of slow learning that requires extensive exposure to distracting stimuli. The current study critically questions this assumption. Participants searched for a target and attempted to ignore a salient distractor that changed in a critical property every five trials. Across three eye-tracking experiments, we observed initial capture when the critical property changed, followed by immediate suppression that developed within 1-2 exposures to a salient stimulus. Moreover, this rapidly learned suppression occurred for a wide variety of distractor regularities (featural, spatial, and combined). Altogether, the results indicate that learned attentional control is highly adaptive and much more flexible than assumed by current theories of attention. The results are also consistent with revised versions of the signal suppression account, which suggests that initial capture will cause attention to immediately suppress all properties associated with a salient distractor to prevent future distraction.

12:00-1:30 PM (II-002)

No capture without search: Lack of distraction by irrelevant singletons in a global perception task. XIAOJIN MA, *University of Missouri*, STEVEN J. LUCK, *University of California, Davis*, NICHOLAS GASPELIN, *University of Missouri* — Salient stimuli sometimes involuntarily capture attention despite being irrelevant to goals, whereas in other situations they can be successfully ignored. What determines this variability in capture remains a question of great debate. The attentional window account suggests that capture only occurs when attention is broadly focused across an entire visual display. The present study critically questions this claim by demonstrating that capture only occurs during visual search for a local target. We experimentally induced two types of visual processing: global attention via a shape discrimination task and focused attention via a visual search task. Across four experiments, we repeatedly show that capture only occurred when searching for a local target and did not depend on the breadth of attentional focus. If anything, we observed that capture effects are greatest under difficult searches that should strongly focus visual attention. These results directly challenge the attentional window account by showing that tasks with narrower attentional focuses produced greater vulnerability to capture. More broadly, the results suggest that attentional capture may be a limited phenomenon that only occurs during a visual search.

12:00-1:30 PM (II-003)

The Skill of Learning to Suppress Distractors: Learned Oculomotor Avoidance. BRAD T. STILWELL, *Wake Forest University*, TSION A. ESHETU, *Wake Forest University*, BAITONG BARBARA MU, *Wake Forest University* — Salient items, such as uniquely colored stimuli, can be suppressed with greater suppression for a salient distractor that is frequently encountered. However, it is currently unknown how this learned distractor suppression develops via experience. One plausible mechanism involves the use of skill-based or habitual learning. Observers could learn to both avoid fixating the salient distractors. But when they inevitably fail to prevent this orienting response, they could learn to disengage from the distractor more rapidly. To test whether learned distractor suppression operates like a skill, participants searched for a unique shape target in the presence or absence of a salient color singleton distractor, the color of which varied in frequency. We observed both fewer fixations on the singleton distractors and more rapid disengagement via learning. These results suggest that learned distractor suppression may be better explained as a skill that develops from experience: The visual system learns to both avoid and escape the salient distractors, which we term learned oculomotor avoidance.

12:00-1:30 PM (II-004)

Rational Oculomotor Capture? DOMINIK GRAETZ, *University of Oregon*, KEELY MCMULLEN, *University of Oregon*, ULRICH MAYR, *University of Oregon* — Attentional control in displays with salient stimuli appears to be driven largely by salience, with little top-down control. From a cost-benefit analysis perspective, however, capture may produce only small costs (see Anderson, 2021), implying that it can be avoided when costs are high. We test this prediction in two studies (N = 30 and 50). Using fixed-time blocks (75 and 180 s) with rewards per completed trial, we tied time to money - and thus capture to opportunity cost. We manipulated time costs via gaze-contingent time delays triggered by capture (0 vs. 0.1 vs. 1 s) and trial rewards. We found that participants successfully avoided oculomotor capture when it was more costly and were particularly sensitive to time costs, at both the within- and between-individual level. The results suggest that there is a rational decision-making component even to salience-driven capture.

12:00-1:30 PM (II-005)

Skill-Based Learned Oculomotor Avoidance. TSION A. ESHETU, *Wake Forest University*, BRAD T. STILWELL, *Wake Forest University* — Sometimes salient stimuli, like a flashing neon sign, capture our attention, but other times they are suppressed. Recent evidence suggests that people learn to suppress salient, color singleton distractors via skill-based learning, yet the mechanism remains unclear. Here, we use eye tracking to examine the real-time dynamics of learned distractor suppression. Participants searched for a unique target shape (e.g., a circle) among homogenous nontarget shapes (e.g., diamonds) in the additional singleton paradigm. A color singleton appeared on half of trials, more frequently in one color than others, forming high- versus low-frequency distractor conditions. We recorded first saccade destinations and dwell times (duration) to test three possible mechanisms: the look-away hypothesis (fewer fixations toward high- than low-frequency distractors), the rapid disengagement hypothesis (shorter dwell times), and the learned oculomotor avoidance hypothesis (both combined). Consistent with the learned oculomotor avoidance hypothesis, participants were both less likely to fixate on, and faster to disengage from, the high- than low-frequency distractors, suggesting distractor suppression occurs through skill-based learning of oculomotor control.

12:00-1:30 PM (II-006)

Triggered Distractor Suppression: Learned Suppression Without Initial Overt Capture. BAITONG BARBARA MU, *Wake Forest University*, BRAD T. STILWELL, *Wake Forest University* — Salient distractors, such as a uniquely colored shape, can initially capture attention, but individuals can learn to suppress these distractors rapidly, with stronger initial capture triggering stronger suppression.

However, it remains unclear whether this initial capture requires an overt fixation to trigger suppression or whether overt capture is necessary for this learning at all. The current study used an eye-tracking version of the additional singleton paradigm, consisting of three-trial runs with varying colors. Critically, the first trial of each run contained two equally salient color distractors; the subsequent two trials each contained one of the two salient items. Interestingly, the magnitude of suppression on Trials 2 and 3, when these distractors were isolated, did not depend on Trial 1 behavior when these distractors were presented simultaneously and captured attention, overtly. Regardless of whether participants overtly selected the distractors or not on Trial 1, suppression was triggered on Trials 2 and 3. These results suggest that suppression is triggered by initial capture, but it can also occur without initial overt capture.

12:00-1:30 PM (II-007)

Statistical Learning in Feature Search Reflects Target-Location Bias, not Distractor Location Bias. KRISTINA-MARIA REITAN, *Oregon State University*, CHRISTOPHER HAUCK, *Oregon State University*, DOMINICK TOLOMEO, *Oregon State University*, ERIC RUTHRUFF, *University of New Mexico*, MEI-CHING LIEN, *Oregon State University* — Wang and Theeuwes (2018) suggested that people learn statistical regularities regarding distractor locations, resulting in suppression of high-probability distractor locations. However, the target was less likely to appear at the high-probability distractor location, making it unclear whether the effect was due to distractor regularities or target regularities. We addressed this issue using a feature search task. In Experiment 1, the target appeared equally often in all locations, eliminating target location regularities. Distractor location regularities had little effect. In Experiment 2, we reintroduced target regularities, as in Wang and Theeuwes. Specifically, the target never appeared at the high-probability distractor location on distractor present trials. Replicating their findings, participants responded 94 ms slower when the target appeared at the location that frequently had distractors but rarely a target. Overall, these results indicate that, in feature search, attention is primarily guided by facilitation of target locations than by suppression of distractor locations.

12:00-1:30 PM (II-008)

A modeling framework for testing mechanisms of attentional capture and distractor suppression. ISAAC SAVELSON, *Ohio State University*, TZU-YAO CHIU, *Ohio State University*, BRANDON M. TURNER, *Ohio State University*, ANDREW B. LEBER, *Ohio State University* — The mechanisms by which humans learn to ignore distracting information are poorly understood, despite decades of experimental work. This is in part due to limitations of behavioral and neuroimaging measures in formally testing latent processes. To circumvent these limitations, we developed a computational framework for implementing and testing multiple mechanisms proposed across different accounts of learned distractor suppression. We used a racing diffusion model integrated with a reinforcement learning mechanism as a basic architecture for investigating the trial-by-trial dynamics of search behavior. To test the processes underlying learned suppression, we tested models with various combinations of learning mechanisms to gauge the contribution of each mechanism to overall behavioral fit. Results showed superior fits on both early and late trials for models incorporating a learning mechanism for both target and distractor regularities. These results indicate that participants likely track target and distractor properties throughout the experiment, even after learned suppression has been implemented. Overall, this modeling framework offers a useful tool to further explain how people learn to ignore distracting information.

12:00-1:30 PM (II-009)

Valence-Driven Attentional Capture: Can Learned Valence Associations Modulate Attentional Capture? WILLIAM H. SECREST, *University of Notre Dame*, JAMES R. BROCKMOLE, *University of Notre Dame* — Salient but task-irrelevant stimuli, such as color singletons in visual search, reliably capture attention. Contemporary accounts of attentional control propose that attentional priority is shaped by physical salience, task goals, and impor-

tantly, selection history. The present research tested whether emotional valence can function as a form of selection history and modulate attentional capture. Across three experiments, participants completed a valence-association task in which colors were paired with negative or neutral images, followed by a visual search task in which those colors appeared as task-irrelevant singleton distractors. Experiment 1 found no effect of associated valence on attentional capture. Experiment 2 used culturally prevalent color-valence mappings (e.g., red-negative) and found reduced capture by negatively associated distractors relative to neutral distractors. Experiment 3 strengthened color-valence associations through explicit instruction but again found no modulation of attentional capture. Together, these findings suggest that emotional valence does not reliably modulate attentional capture and may represent an important boundary condition on the influence of selection history in visual attention.

12:00-1:30 PM (II-010)

Working Memory and Long-Term Memory Differently Disrupt Attention. DANA SLABBEKOORN, *University of Wisconsin - Milwaukee*, DEBORAH E. HANNULA, *University of Wisconsin - Milwaukee* — Working memory (WM) and long-term memory (LTM) both influence attention, but potential differences in the temporal dynamics of these interactions have not been investigated. We conducted two experiments to address this gap in the literature. In an LTM experiment, participants encoded scene-color pairs and then completed a combined memory-and-search task. On each trial, a learned color was retrieved from a scene cue and then identified; a search task separated retrieval from identification. During search, 12 displays were rapidly presented, each with two colored Gabor patches—one upright, one tilted—and participants reported tilt direction. In a second experiment, the colored Gabor was maintained in WM on every trial. In each experiment, the critical color appeared in six displays and was either the target (valid condition) or the distractor (invalid condition). Response time (RT) differences were examined in quartiles (search displays 1-3, 4-6 etc.). RT costs were evident for invalid displays in all 4 quartiles when WM was tested, but only in the first and final quartiles for LTM. Findings suggest that WM- and LTM-based attentional biases follow different time courses, reflecting distinct underlying memory-attention processes.

12:00-1:30 PM (II-011)

Examining Whether Prediction Errors Facilitate Memory Updating by Orienting Attention to Encoding with Pupillometry. BAYLEY M. WELLONS, *University of North Carolina at Greensboro*, CHRISTOPHER N. WAHLHEIM, *University of North Carolina at Greensboro* — Mnemonic prediction errors are theorized to facilitate memory updating by directing attention toward encoding. Using pupil dilation to index attention, this experiment tested whether such prediction errors increased attention to encoding and whether this upregulation predicted subsequent memory. In Phase 1, participants studied cue-target word sequences that appeared four times. In Phase 2, they made old/new recognition judgments for sequences that repeated (A→D, A→D), changed (A→B, A→D), or were novel (A→D). In Phase 3, they indicated which of two targets appeared after a given cue in Phase 2 and whether the alternative target appeared after the cue in Phase 1. Pupil dilation in Phase 2 was greater for recognized repeated sequences and prediction error trials than for novel sequences, but dilation did not predict subsequent recognition memory. These findings suggest that prediction errors elicit attentional arousal comparable to that of recognizing familiar information, yet this arousal may not translate into a memory benefit. Future research should clarify the conditions under which prediction-error-driven arousal improves memory for expectation-violating information.

12:00-1:30 PM (II-012)

The Effect of Divided Attention at Associative Memory Representational Retrieval. WEIBIN YANG, *University of Missouri*, NATHANIEL R. GREENE, *Villanova University*, MOSHE NAVEH-BENJAMIN, *University of Missouri* — The present study investigated whether the detrimental

effects of divided attention (DA) at episodic memory retrieval operate as a function of representational specificity, and further compared these effects with those at encoding to probe theoretical accounts of the functional relationship between encoding and retrieval. Participants' memory for face-scene pairs was tested in an associative recognition task under full and divided attention (Exp 1: at retrieval; Exp 2: at encoding). Under divided attention, participants simultaneously completed an auditory arithmetic task (i.e., addition or division). Mathematical modeling demonstrated that DA at retrieval predominantly impaired the recollection of specific details, whereas recollection of the episode's essential meaning (gist) remained largely intact. In contrast, DA at encoding impaired specific details to a larger degree than DA at retrieval and also affected gist representations. These findings provide representational evidence that elaborates on the asymmetry between episodic memory encoding and retrieval.

12:00-1:30 PM (II-013)

Performance and Physiological Stress in Digital vs. Analog Multitasking Conditions. LILA WARD, *Towson University*, STEPHANIE DUQUE, *Towson University*, RUISHA PRASAI, *Towson University*, JARED J. MCGINLEY, *Towson University*, BLAIRE J. WEIDLER, *Towson University* — Multitasking is a widely used strategy for increasing efficiency in academic settings; however, research has found that it can increase stress and decrease task performance. Performance and stress are also influenced by task modality (digital vs. analog). The present study investigated the interaction of multitasking and task modality on performance and stress. Participants completed mental arithmetic while their heart rate variability (HRV) was recorded in one of four conditions: digital single-tasking, analog single-tasking, digital multitasking (adding a Stroop task), or analog multitasking. They also reported their stress using a Visual Analogue Mood Scale. The variables did not influence mental arithmetic performance, but Stroop accuracy was higher in analog conditions. The variables did not influence self-reported stress; however, there were greater decreases in HRV (a proxy for increased stress) pre-to-post task in analog relative to digital conditions. This suggests analog modality can simultaneously impact performance and physiological stress.

12:00-1:30 PM (II-014)

Effects of Attentional Shift Distance and Spatial Distribution on Visual Perspective-Taking Tasks. YUTAKA OTAHARA, *Senshu University*, YOSHIHIKO TANAKA, *Senshu University*, MATIA OKUBO, *Senshu University* — Visual perspective-taking tasks typically show interference effects, where responses are slower when self and other perspectives conflict. While these effects have been explained by automatic perspective taking, alternative accounts emphasize attentional processes and spatial distribution of targets. The present study examined whether interference effects can be explained by attentional shift distance or spatial distribution. Thirty-five university students completed a simplified visual perspective-taking task in which target positions and attentional shift distance (short, middle, long) were manipulated. Results revealed a significant interaction between distance and consistency conditions. In one inconsistent condition, reaction times increased with greater distance and were generally slower than congruent trials, suggesting contributions of attentional processes beyond spatial arrangement alone. However, in another inconsistent condition, no difference emerged between short and long attentional shift distances despite identical spatial distributions, suggesting stronger effects of target arrangement. These findings suggest that attentional and spatial factors contribute differently depending on target configuration.

12:00-1:30 PM (II-015)

You Can't Do both: The Multitasking Costs of Phone Conversations while Driving. PATRICIA MORADA MACABULOS, *Macquarie University*, ALEXANDER A. SULFARO, *Macquarie University*, ANINA RICH, *Macquarie University* — Multitasking impairs performance, and yet phone conversations while driving remain common and legal. This may be because multitasking reduces people's awareness of their errors, leading them to under-

estimate its impact. We investigate this by having participants (N = 27) complete a way-finding task in a driving simulator while simultaneously playing a game of 20 questions via a hands-free phone call. We find strong group-level costs: phone conversations result in greater driving errors than just driving alone, with turn signals, braking force, number of collisions and brake reaction time to hazards requiring greater situational awareness showing the largest effects. 74% of participants showed a multitasking cost. Furthermore, when multitasking, participants were less accurate at retrospectively estimating these errors. Our results demonstrate that hands-free phone conversations produce robust impairments on driving performance, and that these may be underestimated by drivers. Funding: ARC Future Fellowship to ANR (FT230100119), MQRES to PMM (20245852).

12:00-1:30 PM (II-016)

The Effect of Response Window Manipulation on Thought Probe Response Time as a Predictor of Mind-Wandering Reports. MICHAEL MCHALE, *Kent State University*, CHRISTOPHER A. WAS, *Kent State University* — This study investigated the effect of time-varied response windows on probe response time during interspersed categorical thought probes. Previous studies found that participants take significantly longer to complete thought probes when reporting mind-wandering (Subhani et al., 2019; Martingdale et al., 2023) and that increased response time variability predicts categorical responses of mind-wandering (McHale and Was, 2025). During this counterbalanced within-subjects experiment participants completed 4 blocks (1,080 total trials) of a simple response time task (Donders, 1868) with six thought probes interspersed within each block. Prior to each block participants were instructed that, "During this block of trials you will have _____ to report your thought content", per each condition, instructions stated that participants either had "10s" or "as much time as you need" to respond to each thought probe. To address our primary research question, a paired-samples t-test compared the response time means within each condition. Expanding upon findings from McHale and Was (2025) we also used multinomial logistic regression to further explore the predictive power of thought probe response time within each condition.

12:00-1:30 PM (II-017)

Reassessing Temporal Limits to Dual-Target Perception Within and Across Modalities under Interference-Free Conditions. LANTING QIU, *Vanderbilt University*, RENÉ MAROIS, *Vanderbilt University* — Human information processing is temporally limited, particularly in conscious perception. The attentional blink (AB), a reduced ability to report the second of two targets, is widely used to investigate such limitations. A central question is whether the AB reflects a shared, amodal bottleneck or modality-specific processing constraints. Previous studies have provided evidence for both views, but many included two sources of dual-task limitations – representational overlap between targets and attentional overinvestment of one target over another – that may not reflect a genuine processing bottleneck. Here we reassessed whether there are dual-target deficits within and across modalities in the absence of attention overinvestment and representation overlap. While a visual AB was still robustly observed, an auditory AB mostly vanished, as did cross-modal deficits. These results suggest that fundamental differences in temporal information processing between visual and auditory modalities are primarily responsible for the absence of cross-modal limitations in conscious perception.

12:00-1:30 PM (II-018)

Instruction to Mind-Wander Facilitates Task-Switching Performance. LEILA J. TURET, *Skidmore College* — In task-switching (TS) paradigms, individuals who spontaneously mind-wander (MW) more show smaller reaction time (RT) switch-costs (the increase in RT when responding to a new task). However, this relationship has previously only been correlational. To delineate a potential effect of directed MW on RT switch-costs, we manipulated a form of MW during a TS paradigm. Participants were instructed either to focus on the task (Focus group), or let their minds wander (MW group), as much as possible, before performing a simple TS

paradigm. Thought probes interrupted the paradigm to record thought direction (i.e., on-task or off-task). We expected to find increased reports of MW among the MW group, smaller RT switch-costs among participants who MW more, and smaller RT switch-costs among participants who were instructed to MW. Results supported MW instruction facilitated MW and reduced RT switch-costs, though no mediation effect was found for reported MW. Results provide initial evidence for a role of MW instruction as a prime for increasing cognitive flexibility.

12:00-1:30 PM (II-019)

Not All Uncertainty Promotes Flexible Learning: Type and Timing Matter. JUHYEON SONG, *Yonsei University*, MIN-SHIK KIM, *Yonsei University* — Adaptive behavior requires balancing stability and flexibility in learning. Although uncertainty is often assumed to promote flexible adaptation, whether its effects depend on uncertainty type and timing remains unclear. Using location probability learning (LPL), we examined how two forms of uncertainty shape the flexibility of learned attentional priorities across three preregistered experiments (N = 288). Outcome variance—fluctuations in target frequency within a rich location—showed temporally specific effects: variance during initial learning facilitated extinction of acquired biases, whereas variance during environmental change promoted updating. Structural entropy—uncertainty about which location serves as the rich region—inhibited extinction but facilitated updating, suggesting it signals expected transitions in spatial contingencies. These findings demonstrate that uncertainty does not uniformly promote flexible learning. Instead, different forms of uncertainty function as structured signals about environmental volatility, with outcome variance showing timing-dependent effects and structural entropy exerting an asymmetric influence on flexibility, shaping when learned attentional priorities are maintained or updated.

12:00-1:30 PM (II-020)

Visual Symbol Processing in Neurodivergence: An Experimental Study of Icons. ZOE ALDERSON, *Swansea University*, CRISTINA IZURA, *Swansea University*, IRENE REPPA, *Swansea University* — Icons are prevalent in modern communication, yet little is known about how neurodivergent populations process them. Understanding this is important for inclusive design. This paper aimed to determine whether response times differ between neurodivergent (ASD/ADHD) and neurotypical populations when processing icons. It was hypothesised that neurodivergent participants would have slower response times. One hundred and forty-four icons were selected, varying across complexity and appeal. A visual search task was used; participants briefly viewed a target icon before being shown an array of distractor icons (3, 6, 9 or 12). The participant indicated via key-press whether the target was present in this array. A total of 113 participants were recruited. Data was analysed using repeated-measure ANOVA. Significant results were found for appeal, complexity, set size and presence, supporting previous literature. A significant main effect of Group was found, with neurodivergent participants responding more quickly and more accurately. This suggests that complexity, appeal, and set size influence response speeds differently between the groups. Future research should investigate additional icon characteristics and consider larger sample sizes.

12:00-1:30 PM (II-021)

Feature-Based Suppression of Salient Distractors: Evidence from Congruency Effects and EEG Decoding. SIEUN CHOI, *Korea University*, JAEIN LEE, *Korea University*, GI-YEUL BAE, *Arizona State University*, MYEONG-HO SOHN, *George Washington University*, YANG SEOK CHO, *Korea University* — The present study examined whether a singleton distractor would be proactively suppressed using a congruency paradigm. We recorded EEG while participants searched for a target defined by its shape among five distractors and reported the target letter (T or L) using a button-press. One of the distractors contained a task-related letter and the

others contained a task-neutral letter (F or P). On random half of the trials, one of the distractors was a color singleton and contained a task-related letter. We predicted that, if the singleton was suppressed prior to the processing of the letter, then the letter in the singleton distractor should not interfere with the report of the letter in the target (i.e., no congruency effect). As predicted, the congruency effect was absent when the singleton distractor was present. In addition, we found that the EEG decoding of the target location was stronger when the singleton was present, indicating that the singleton did not interfere with target processing. Together, these findings provide evidence consistent with the hypothesis that singleton distractors are proactively suppressed.

12:00-1:30 PM (II-022)

Visual Search is Disrupted by Perceived Lighting Changes in Dynamic and Static Displays. GABRIEL CONN, *Arcadia University*, KATIE JOBSON, *University of Pennsylvania*, KAYLA SANSEVERE, *Tufts University*, KATHERINE S. MOORE, *Arcadia University* — A successful visual search requires accurate perception of the visual environment, attentional guidance to the target, and a correct decision. We investigated if color constancy, which is the perceptual adjustment that stabilizes color appearance under lighting changes, automatically disrupts perception of the visual environment. Participants searched a rapid serial visual presentation for a target while background and distractor colors were shifted in hue to simulate lighting changes. Participants were instructed to reject two critical distractors created by applying red and green filters to the target. Across multiple experiments and targets, participants struggled to reject distractors whose color shifts matched the background tint. Effects were stronger when the background color persisted across trials, suggesting an establishing lighting context amplifies perceptual shifts. Similar effects emerged in static, realistic scenes. These findings show that color constancy adjustments in visual search are automatic and not under strategic control. This reflexive adjustment, while sometimes counterproductive as in the case of this study, is reflective of an adaptive mechanism for object recognition in natural environments.

12:00-1:30 PM (II-023)

Top-Down Search Demands Dominate Stereoscopic Depth Cues in VR-EEG Visual Search. MARK FAUST, *University of North Carolina at Charlotte*, ALEXANDER LITOVCHENKO, *Columbia University*, OLIVER WARD, *University of North Carolina at Charlotte*, ATA YILMAZMRE, *University of North Carolina at Charlotte* — Immersive virtual reality (VR) can make visual attention tasks more naturalistic, but it remains unclear whether attentional control in depth-rich scenes is driven more by task goals or by stereoscopic depth cues. We combined 64-channel EEG with a custom underwater VR search task in 30 adults. Participants completed a fully within-subjects 2 x 2 design crossing Task (passive observation vs. active visual search) with View Type (monoscopic 2D vs. stereoscopic 3D). EEG was cleaned using artifact rejection and independent component analysis; equivalent dipole modeling localized component clusters, and FDR-corrected non-parametric permutation tests assessed spectral power. Active search, relative to observation, produced reliable alpha and beta suppression in posterior cingulate and superior parietal components, with broader alpha-gamma suppression in superior frontal clusters likely encompassing frontal eye fields. In contrast, stereoscopic viewing and Task x View Type interactions did not reliably modulate oscillatory power. These results suggest that top-down search demands dominate stereoscopic depth cues in recruiting parietofrontal attention networks during immersive VR.

12:00-1:30 PM (II-024)

Who Gets Seen in AI Systems? A Mixed-Method Eye-Tracking Study. MERGIME IBRAHIMI, *Tallinn University of Technology*, ANU MASSO, *Tallinn University of Technology* — AI systems, such as autonomous vehicles, increasingly shape how people move, interact, and are represented in data-driven environments. While prior research has focused mainly on technical performance and ethical modelling of AI, less is known about how people perceive and cognitively process these systems, particularly regarding the inclusion of diverse social

groups. This research addresses this gap by developing a mixed-method research design that combines large-scale webcam eye-tracking with survey data to examine visual attention to diverse social groups in AI mobility scenarios. The study draws on an experiment conducted across 26 cities (N = 1,272; approximately 4,000 variables), complemented by a laboratory eye-tracking validation study. The findings reveal systematic differences in visual attention toward social groups, including reduced attention to people with disabilities, and a gap between values of inclusion and actual perceptual patterns. Building on this, the same mixed-method design will be scaled (N ≈ 26,250) across countries (N≈35) to study how cross-border data flows shape perceptions of AI, societal values, and emerging inequalities.

12:00-1:30 PM (II-025)

How Do Stimulus Features Impact the Expression of the Expectancy Effect in Visual Search. NATALIE PAQUETTE, *University of Central Florida*, JOSEPH SCHMIDT, *University of Central Florida* — Expectation violations change search performance. Expecting difficult search can decrease guidance, increase RTs and object dwell-times despite performing an easy search, whereas expecting easy search can decrease accuracy, RTs and object processing times despite performing a difficult search (Paquette & Schmidt, 2025). These expectancy effects were stronger for Landolt-Cs relative to real-world objects, suggesting real-world objects afford more rapid expectation accommodation. We thus evaluated how visual features or object semantics impact expectancy effects. Participants searched for intact, outlined (preserving semantics/reducing visual features), or diffeomorphically scrambled (preserving visual features/reducing semantics) real-world objects in blocks of easy or difficult search (25% of trials violated difficulty expectations). Object outlines tended to result in larger expectancy effects as measured by accuracy, reaction time, and target dwell time. This suggests that visual features rather than semantics allow participants to quickly accommodate, reducing expectancy effects, and search according to the actual rather than expected difficulty.

12:00-1:30 PM (II-026)

Pitting Spatial Priors Against Statistically Learned Spatial Associations in Scenes. ISIL SANUSOGLU, *Queen's University*, MONICA S. CASTELHANO, *Queen's University* — Prior knowledge about where objects can plausibly be found in a scene is the main driver of attention in real world scenes during visual search. However, we can still form new spatial associations through statistical learning. Notably, objects vary in how strongly they are associated with specific scene regions: High-certainty objects (e.g., boots) are strongly associated with one region, whereas low-certainty objects (e.g., plants) are spatially diffuse. In this study we investigate how attention is guided when new and prior spatial associations are pitted against each other, and how this is affected by the strength of those associations. Participants searched for targets varying in spatial certainty, appearing in typical or newly learned locations. Eye movements revealed a significant crossover interaction. While High-certainty objects were found fastest in typical locations, low-certainty objects were found fastest in newly learned locations. Stronger priors resist updating, whereas diffuse priors allow flexible learning.

12:00-1:30 PM (II-027)

Influence of AI Recommendations on Search Behavior in a Visual Search Task. MACKENZIE J. SIESEL, *Indiana University Bloomington*, JENNIFER S. TRUEBLOOD, *Indiana University Bloomington* — Recommendations from AI systems are increasingly used in visual search tasks to assist people in efficiently finding targets. AI guidance often involves cueing a specific location of interest during search. However, we do not yet fully understand how people incorporate AI recommendations into their search strategies, or whether strategies learned from AI persist after the AI is removed. In the present study (N = 366), participants completed a visual search task in which they searched for targets across two parts: in Part 1, an AI system provided spatial recommendations indicating where to search, and in Part 2, these recommendations were removed. The results show that attentional cues from AI influenced

search behavior in Part 1, as participants followed the AI's recommendations. Following the recommendations led participants to find targets faster. Importantly, in Part 2, even after the AI recommendations were removed, participants tended to use similar strategies to those the AI had recommended during Part 1. These findings suggest that AI guidance can shape not only immediate visual search behavior, but also the strategies people carry forward after AI support is withdrawn.

12:00-1:30 PM (II-028)

The Role of Socioeconomic Status in Cognition Across the Lifespan. ABIGAIL HELM, *University of Massachusetts Chan Medical School*, ERICA CHUNG, *Colby College*, JESSICA A. CLOUD, *Ohio State University*, KARL-HEINZ NENNING, *Nathan Kline Institute*, STAN COLCOMBE, *Nathan Kline Institute*, ANNA MACKAY-BRANDT, *Nathan Kline Institute*, JENNIFER H. COANE, *Colby College* — Research on the association between socioeconomic status (SES) and cognition typically samples narrow age ranges and includes groups with marked disadvantage. This study examined SES and modeled differences in cognitive performance from a suburban population with limited disadvantage across a lifespan sample using the Nathan Kline Institute - Rockland Sample. Regression analyses were used to examine three levels of SES (bottom, middle, and top tertile) and cognitive performance on measures of working memory, inhibition, shifting, and information retrieval. SES level predicted cognitive performance, such that the bottom tertile was related to worse performance across all cognitive tasks. Differences increased across age cohorts, consistent with the perspective that the impact of SES on cognition may be cumulative. SES may be a useful proxy for a wide range of environmental and individual factors that affect cognition across the lifespan and that accumulate over the life course.

12:00-1:30 PM (II-029)

Mindful Breathing Exercises, Aging, and Lexical Access. LORI E. JAMES, *University of Colorado Colorado Springs*, DELANEY CIBOROWSKI, *University of Colorado Colorado Springs*, OCTAVIO BUSTOS PENALOZA, *Alumni* — In two experiments, we tested whether brief mindful breathing exercises could improve lexical (lemma) access and whether any benefit would be similar for young and older adults. Previous research has shown benefits of brief mindful breathing on outcomes related to anxiety and cognition, and evidence indicates brief mindful breathing interventions can improve correct responding on word retrieval tasks, without reducing the frequency of tip-of-the-tongue states. We therefore examined relationships between performing a 10 min mindful breathing exercise (vs. a control mindfulness education condition) and dependent measures reflecting lexical access. We hypothesized that the brief mindful breathing exercise would facilitate lexical access in a subsequent task for both young and older adults. In Exp.1, the task was for participants to name line drawings, and in Exp.2, participants described scenes and we scored their speech for speech rate, fillers, and disfluencies. In neither study was there any evidence that the mindful breathing exercise improved lexical access for either young or older adults. Findings reinforce the conclusion that brief mindful breathing exercises are not recommended as interventions for word retrieval problems.

12:00-1:30 PM (II-030)

Neural Substrates of Spatial and Verbal Working Memory Independence in Younger and Older Adults: An EEG/ERP Study. CATHERINE L. REED, *Claremont McKenna College*, WENDY ZHANG, *Pomona College*, CHANDLYR M. DENARO, *Claremont McKenna College*, ALAN A. HARTLEY, *Claremont McKenna College* — The multiple component model of working memory (WM) proposes functionally independent verbal and spatial subsystems. Prior studies found differential age effects in the independence of VWM and SWM; older adults (OAs) show verbal interference in SWM. This study investigated the neural sub-

strates of age-specific verbal and spatial interference effects in WM. Young adults (YAs; n=36) and OAs (n=30) performed 2-back tasks. In the name task, they matched letter names, ignoring letter case and location. In the location task, they matched location, ignoring the letter. Letters in each block were phonologically similar or dissimilar. Behaviorally, YAs outperformed OAs. In the name task, both groups were affected by phonological similarity, not location. In the location task, YAs' performance was affected by location, but OAs were affected by both location and verbal difficulty. EEG and ERP analyses determined effects of irrelevant variation not always indicated by behavioral findings. These results suggest age affects WM independence.

12:00-1:30 PM (II-031)

The Role of Gain Outcomes in Memory-Based Inference in Younger and Older Adults. JESSIE CHIEN, *University of Southern California*, TEAL EICH, *University of Southern California* — Memory serves an adaptive function by allowing individuals to use details from past experiences to make inferences about new but related situations. Biderman and Shohamy (2021; 2023) demonstrated that memory for deliberation during decision-making plays a crucial role in future decisions: younger participants inferred the value of unchosen options as the opposite of the outcomes of paired chosen options. Because aging is associated with the positivity effect, older adults may infer the outcomes of previously encountered but unknown options differently than younger adults, potentially due to an age-related enhancement in processing positive information (i.e., gain outcomes). In contrast, younger adults tend to exhibit a negativity bias. Thus, younger and older adults may engage in inferential processing differently as a function of age-related differences in memory for valenced information. The current study manipulated gain magnitude (i.e., no gain, low gain, high gain) to examine whether, and how, the strength of positive information influences how younger and older adults make inferences based on previously learned information.

12:00-1:30 PM (II-032)

Age-related white matter pathology predicts susceptibility to proactive interference during associative memory retrieval. SARAH E. HENDERSON, *University of Texas at Austin*, H. JEREMY BOCKHOLT, *Georgia State University*, KYOUNGEUN LEE, *Georgia State University*, ALEXANDRA CLARK, *University of Texas at Austin*, VONETTA M. DOTSON, *Brigham and Women's Hospital; Georgia State University*, AUDREY DUARTE, *University of Texas at Austin* — Reduced ability to resolve competition among overlapping memories may contribute to age-related memory decline. Functional neuroimaging studies have implicated prefrontal and posterior cortical regions in successful retrieval when interference is high, yet the biological basis of age-related susceptibility to proactive interference (PI) remains unclear. White matter hyperintensities (WMH), a marker of age-related cerebrovascular pathology, may disrupt communication among neural systems. Because interference resolution depends on communication between cognitive control and memory systems, susceptibility to PI may arise in part due to WMH-linked structural disruptions to these networks. Participants aged 18-75 completed an associative memory task where PI was operationalized as the performance decrement for re-paired versus non-re-paired objects. Periventricular WMH burden predicted increased susceptibility to PI and regional analyses implicated dorsolateral prefrontal and posterior cingulate WMH burden. These findings suggest that age-related white matter pathology contributes to memory interference by disrupting communication between neural systems supporting retrieval and inhibitory control.

12:00-1:30 PM (II-033)

Neural mechanisms of collaborative memory retrieval in younger and older adults. ISABELLE L. MOORE, *Boston College*, ELIZABETH A. KENSINGER, *Boston College* — Collaborative memory -- individuals working together to remember past events -- leads to "memory synchrony" that persists during later, individual remembering. These memory benefits are relatively preserved in older

adults, as older adults working together can achieve memory performance comparable to that of younger adults. Whereas prior work has focused on collaboration within-generation, an important open question is how such effects may be impacted by intergenerational collaboration. We hypothesize that collaboration synchronizes memory even across age groups. Younger and older adult participants completed a collaborative remembering task either with a participant from their same age group or from the other age group. After a delay, each participant individually completed an old-new recognition task during scalp EEG. Preliminary results show a suppression of the Old-New Effect (FN400 and LPC ERP components) for older adults who collaborated with a younger adult, but not for older adults who collaborated with another older adult, with no effects of collaboration condition for younger adults. These findings suggest that intergenerational collaboration may disrupt individual retrieval patterns in older adults.

12:00-1:30 PM (II-034)

Both Young and Older Adults Claim Impossible Knowledge. KATHERINE M. ALLEN, *University of California, San Diego*, NADIA BRASHIER, *University of California, San Diego* — People sometimes report familiarity with the nonexistent, such as the fictional town of 'Monroe, Montana.' This tendency to profess impossible knowledge, or overclaim, has only been documented at one end of the lifespan. Older adults have amassed more general knowledge than young adults, but are they also more aware of its limits? In a preregistered experiment, we investigated whether older adults also claim to know the impossible. Both older (n = 125) and young (n = 125) adults rated their knowledge of terms across domains such as geography and science. Half of the lists contained foils – made-up concepts like plates of parallax – and the other half only referred to real concepts like asteroid. A majority of participants (58%) claimed at least some knowledge of foils. False alarm rates for these nonexistent terms did not differ with age. Knowing more information did not protect older adults from overclaiming, a finding that informs dual-process theories of metamemory and aging.

12:00-1:30 PM (II-035)

Facilitators and Barriers to Exercise Participation among Korean Middle-aged and Older Adults. SEONU AN, *Seoul National University*, GEUNTAE PARK, *Seoul National University*, LIM HEEKANG, *Seoul National University*, YOON KYUNG LEE, *Seoul National University*, SOWON HAHN, *Seoul National University* — Exercise programs for older adults rely on motivational frameworks that do not fully reflect later-life experiences. This study investigated facilitators and barriers to exercise participation among middle-aged and older adults. Thirty-five Korean adults aged 50 years or older participated in semi-structured interviews about exercise facilitators, barriers, and motivators (Mage = 77.7). Health conditions and demographics were collected. Data were analyzed using thematic analysis. Physical pain was the most common barrier (94.4%), alongside cognitive difficulties in retaining exercise instructions (36.1%) and psychological barriers (19.4%). Fear of being a burden to family served as a facilitator (47.2%), but it also placed emotional pressure. Positive affect from exercise matching preferences (97.2%) and social relationships (72.2%) were strong motivators. Findings indicate that exercise engagement in later life is shaped by concerns that motivation-focused programs did not fully address, such as adapting to bodily decline, preserving independence, and managing cognitive demands. Interventions should therefore emphasize personalized and emotionally supportive programs with flexible activity options and clear, repeated guidance.

12:00-1:30 PM (II-036)

Delay-Dependent Modulation of Alpha Power During Naturalistic Event Processing in Younger and Older Adults. MOHSEN DAVOUDKHANI, *Kansas State University*, TRASE MCQUEEN, *Kansas State University*, KRISTEN MCGATLIN, *Kansas State University*, ALEXIA BOUSLOG, *Kansas State University*, ASHLYN LEIKER, *Kansas State University*, SIDNEY ZINKUS, *Kansas State University*, MAKENA BURNS, *Kansas State University*, HEATHER BAILEY, *Kansas State University* — This study tested whether ISI duration modulates

alpha power during brief gaps in naturalistic event sequences and whether this effect differs between younger and older adults. Participants viewed slide-show-style sequences of still images from short naturalistic videos while EEG was recorded. Each image was followed by a gray-screen ISI of 1.5 s, 5 s, or 9 s. Alpha power (8–12 Hz) was measured during the final 1.5 s before the next image appeared. Interim results from a trial-level linear mixed-effects model showed a significant main effect of ISI duration, $F(2, 1732.1) = 20.07$, $p < .001$. Late alpha power was lower in the long ISI condition than in the short, $p < .0001$, and middle, $p = .0002$, conditions. The main effect of age group and the Age Group × ISI interaction were not significant. These findings suggest that alpha power decreases across longer gaps, but this modulation did not differ reliably by age group.

12:00-1:30 PM (II-037)

Do Personality Traits Predict Rule Breaking Representations And Behavior? LISA R. FOURNIER, *Washington State University*, LARISSA ALLEN, *Washington State University*, ERIC ARREOLA, *Washington State University*, CARDEN SKOUBO, *Washington State University*, EVERETT WEEKS, *Washington State University*, ROLAND PFISTER, *University of Trier* — We are influenced by countless rules that regulate social conduct. Surprisingly, how rule-related representations and behavior vary across personality traits is unclear. To address this, participants moved a virtual ball with a computer mouse to one of two colored boxes located to their left and right. Participants could follow the rule ("place ball in orange box") or increase their pay off by violating the rule ("place ball in blue box"). Afterward, they completed the NEO Five Factor Inventory. Results revealed a tripartition of 1) unconditional rule-followers, 2) strategic rule-breakers (break rules sparingly to attain additional rewards), and 3) prolific rule-breakers (break rules without external incentives). Also, during rule-breaking decisions, mouse movements were delayed, were longer, and showed larger movement deviations toward the rule-based box (cognitive conflict). Remarkably, frequency and rule representations leading to cognitive conflict were unrelated to Big 5 personality traits indicating that rule-breaking decisions are exceptionally multi-faceted.

12:00-1:30 PM (II-038)

Hempel's paradox in replication studies. KUNINORI NAKAMURA, *Seijo University* — The proposition "If process A occurs, judgment B will result" is a common form of hypothesis in cognitive psychology, particularly in studies of conceptual priming and anchoring and adjustment. Researchers manipulate conditions intended to induce process A and then test whether judgment B occurs. However, this reasoning can be interpreted as an instance of Hempel's paradox. Because the statement "If A occurs, then B occurs" is logically equivalent to its contrapositive, both cases in which A and B occur and cases in which neither occurs can be regarded as confirming the hypothesis, even though the latter resembles a failed experiment. This issue is especially important in replication studies, where completely failed replications may still appear logically consistent with the original hypothesis. The present study examined whether people regard such contrapositive evidence as confirming a hypothesis and found that they generally do not.

12:00-1:30 PM (II-039)

Learning Under Change: Adaptation to Shifting Multidimensional Reward Structures. DUYGU YÜCEL, *Washington University in St. Louis*, WOUTER KOOL, *Washington University in St. Louis* — Adaptive behavior requires learning which dimensions of an environment predict reward and updating this knowledge when the environment's structure changes. However, it remains unclear how humans adapt when the number of reward-predictive dimensions changes or when changes occur suddenly across contexts. To address this, we used a novel multidimensional reinforcement learning task in which participants learned to choose between two stimuli that varied along four dimensions, using feedback to infer which dimensions predicted reward. In two experiments, we varied environmental complexity by changing the number of relevant dimensions across blocks and by introducing abrupt

structural shifts after extended exposure to a stable environment. Participants were highly adaptive when exposed to rapidly changing reward structures. However, after prolonged stability, performance declined when dimensional complexity increased. These findings demonstrate that the metacontrol of reward learning adapts to the stability. This provides an elegant solution to the stability-flexibility tradeoff, but one in which prolonged environmental regularity pulls the learning policy toward a state from which adaptation to a more complex world becomes costly.

12:00-1:30 PM (II-040)

AI as a Moderator of Decision-Makers' Information Search and Hypothesis Testing. EOIN CREMEN, *University of Bath* — Decision-makers often search for information to reduce the uncertainty surrounding a decision. Support from a team can increase access to knowledge and opinions. Teams are also vulnerable to errors when decision-making, such as confirmation bias. Research shows that moderating decision-making teams can mitigate against errors. Progress in AI presents the opportunity to equip AI with the role of a moderator. Effective AI moderators may reduce the burden on humans to perform moderator roles. It remains an open question whether decision-makers' information search and hypothesis testing strategies respond to AI moderation. Our research asks: How does AI Moderation influence Decision-Makers' Information Search and Hypothesis Testing? Results are presented from three experiments that adopted an information search and hypothesis testing paradigm to analyse decision-making processes. A Medical Diagnosis Game was played by student participants on laboratory computers. We report on changes in decision strategies and performance when given advice from three different versions AI moderators. The studies provide novel evidence for how AI moderators influence decision-makers' information search and hypothesis testing strategies.

12:00-1:30 PM (II-041)

Model-based Neurophysiological Evidence for the Effect of Automation Reliability and Task Difficulty on Decision Efficiency. MING-YANG HUANG, *National Cheng Kung University*, PIN-JUI HO, *National Cheng Kung University*, SHENG-HSU HUANG, *National Cheng Kung University*, CHENG-TA YANG, *National Cheng Kung University* — Automated decision aids are increasingly used in complex environments, but they do not always improve performance. This study aimed to clarify how automation reliability and task difficulty jointly influence aided decision-making efficiency and its underlying cognitive mechanisms. Participants performed a perceptual judgment task under high-reliability (90%), low-reliability (50%), and unaided conditions across easy and difficult trials. We combined Systems Factorial Technology (SFT), hierarchical drift diffusion modeling (HDDM), and event-related potentials (ERPs). In difficult trials, SFT revealed super-capacity performance only under high-reliability automation, and HDDM confirmed that this benefit arose from faster evidence accumulation, with a higher drift rate than the unaided condition. Complementing these findings, ERPs showed reduced P300 amplitude under high-reliability aid, suggesting lower cognitive resource demands. These converging findings clarify that high-reliability automation enhances performance under difficult conditions by increasing evidence accumulation rate and reducing cognitive resource demands, advancing understanding of how automation reliability shapes human–automation collaboration.

12:00-1:30 PM (II-042)

A Common Neural Signal of Evidence Accumulation During Perceptual, Semantic, and Episodic Decisions. ALICE TSVINEV, *University of California, Santa Cruz*, APRIL PILIPENKO, *University of California, Santa Cruz*, HANNAH HAUSMAN, *University of California, Santa Cruz*, JASON SAMAHA, *University of California, Santa Cruz* — Human decisions often rely on both sensory and mnemonic information. The centro-parietal positivity (CPP) is a well-established EEG correlate

of evidence accumulation in perceptual decision tasks, yet its role in mnemonic decisions remains unclear. Across two studies, we tested whether the CPP reflects a domain-general decision variable. In Experiment 1, participants completed perceptual and semantic memory tasks with varying difficulty levels. Perceptual judgements involved luminance discrimination of alphanumeric strings, whereas the mnemonic task involved the comparison of US state populations, both with subsequent confidence reports. The CPP was observed in both tasks, with slopes scaling with evidence strength, response time, and confidence in stimulus- and response-locked analyses. In Experiment 2, participants completed a learned-word familiarity task where exposure frequency was manipulated to control mnemonic evidence. Results replicated Experiment 1: the CPP scaled with memory strength, and tracked response time and confidence. Together, these findings support the CPP as a domain-general neural signature of evidence accumulation across perceptual, semantic, and episodic mnemonic decisions.

12:00-1:30 PM (II-043)

Yawwnnn: The Role of Sleep Quality in Prospective Memory Offloading Decisions. DYLAN ELLIS, *University of Texas at Arlington*, CONNOR DUPRE, *University of Texas at Arlington*, SAM GILBERT, *University College London*, HUNTER BALL, *University of Texas at Arlington* — While prospective memory (PM) reminders can improve our ability to remember future intentions, they can also be costly in terms of the time and effort to set up and check. Therefore, individuals must accurately monitor task demands and internal memory ability to make optimal offloading decisions. Poor sleep quality has been shown to cause disruptions in attentional and memory processes required for PM, yet no work has examined how it impacts optimal offloading behavior. To explore this, we had participants complete a modified intention offloading task and the Brief Pittsburgh Sleep Quality Index Questionnaire (B-PSQI). Results showed self-reported sleep quality was largely unrelated to performance. There were no differences in PM performance between poor and good sleepers without reminders, and both groups equally benefited from having reminders available. Both groups were also similarly underconfident in their internal memory abilities and did not use reminders as optimally as their performance would suggest. A follow up experiment is currently examining whether sleep-related effects preferentially emerge under increased memory load, as cognitive disruptions may be more observable under varying task demands.

12:00-1:30 PM (II-044)

Examining the Role of Individual Workload in Collaborative Decision-Making Efficiency Using Systems Factorial Technology. SHENG-HSU HUANG, *National Cheng Kung University*, MING-YANG HUANG, *National Cheng Kung University*, CHENG-TA YANG, *National Cheng Kung University* — "Two heads are better than one" suggests that collaboration can improve decision-making, but the role of individual workload of collaboration remains unclear. This study combined a dual-task framework with Systems Factorial Technology (SFT) to examine how individual workload contributes to dyadic decision-making. Sixty participants completed two experiments. Dyads performed a T/L visual search task under collaborative and non-collaborative conditions, with easy and difficult conditions. Experiment 1 used an exhaustive stopping rule, whereas Experiment 2 used a self-terminating rule. During the T/L task, each participant also completed a Detection Response Task (DRT), allowing DRT capacity to index remaining individual cognitive resources. T/L capacity showed super-capacity processing across conditions in both experiments, confirming collaborative benefit. DRT capacity was lower in collaborative than non-collaborative conditions and lower in difficult than easy tasks. These findings indicate that collaborative benefit can arise from increased individual cognitive investment, supporting an information-integration account of collaborative decision-making.

12:00-1:30 PM (II-045)

The Temporal Contexts of Cognitive Effort in Risky Decision-making: Disengagement versus Adaptation after Difficult Choices. JAY VON R. MONTEZA, *University of Denver*, JANAE MUNDELL, *University of Denver*, JONAH PERLMAN, *University of Denver*, KIMBERLY S. CHIEW, *University of Denver*, PETER SOKOL-HESSNER, *University of Denver* — Dominant risky decision-making models focus on the choices made, but less is known about the underlying cognitive processes, including effort. We characterized the temporal contexts of cognitive effort in risky decision-making with a novel paradigm tailoring choice difficulty to participants' specific risk attitudes. Across 3 studies, participants 1) exerted more effort as choice difficulty rose, 2) exerted less effort on the current choice if the previous choice was more difficult, and 3) this effect of previous difficulty was amplified in participants with lower working memory capacity (WMC). This pattern is consistent with participants disengaging from the current trial after a difficult trial, but alternatively, decision processes may have adapted to recent difficulty to facilitate the next choice. The critical difference would be choice quality after a difficult choice (disengagement: poor, adaptation: good), but prior studies were unable to measure this, as choices were either completely predictable (easy), or unpredictable (difficult). Our fourth study thus included intermediate difficulty choices. Results are discussed relating decision times (indexing effort), choice quality, WMC differences, and their interactions.

12:00-1:30 PM (II-046)

Children's Deficits in Proactive Control: Monitoring or Implementation? ELIZABETH K. BOOR, *Berry College*, ISABELLA M. EDWARDS, *Berry College*, HAVILY M. WEAVER, *Berry College*, JACKSON S. COLVETT, *Berry College* — To navigate daily life, we use both proactive (i.e., preparing in anticipation of demand) and reactive cognitive control (i.e., reactivating goal representations in response to demand). While younger children typically rely on reactive control, 4-6 year olds engaged proactive control when given explicit instructions on how to implement a proactive strategy (Gonthier & Blaye, 2022). We aimed to examine whether children's deficits in proactive control reflect difficulty with monitoring the need for control rather than a deficit in implementation. We asked whether an implicit instruction (i.e., feedback on performance without direct instruction on how to prepare) could encourage proactive control. We built a gamified AX-CPT design in the context of an ice cream shop, where stimuli appeared in a meaningful order (i.e., ice cream cone prime → ice cream scoop probe). Participants aged 4-7 years received either explicit, implicit, or no additional instruction. Differences between instruction types demonstrate what scaffolds might encourage proactive control and whether deficits in proactive control reflect challenges in monitoring or implementation. Keywords: proactive control, reactive control, instruction, AX-CPT, metacognition

12:00-1:30 PM (II-047)

The emergence of language-specific attentional biases in pre-reading toddlers. CHRISTINE POTTER, *University of Texas at El Paso*, NADEEN KHERBAWY, *Tel Aviv University*, CHRISTOPHER SEPULVEDA, *University of Texas at El Paso*, SAGI JAFFE-DAX, *Tel Aviv University* — Adult readers show biases in visual attention that reflect their native writing systems (i.e., English readers scan left-to-right while Hebrew readers scan right-to-left). We tested the hypothesis that prior formal instruction, toddlers begin to develop expertise with written language using implicit learning mechanisms. Toddlers (2.2-3.6 years) showed different patterns of cortical activity in response to real native text vs. visually matched non-text items, suggesting they recognized text as familiar. We also directly compared the behavior of toddlers exposed to different writing systems (Hebrew or English) when they were asked to name a series of images. There were significant differences in the order in which toddlers tended to name objects across the two cultures, and the tendency to name objects in a language-consistent manner increased with age. These findings suggest children learn regularities related to text from a very young

age and that the foundations of later specialization may have origins in early attention to a frequent stimulus.

12:00-1:30 PM (II-048)

Infants Track the Social Targets of Their Parents' Gaze. BRANDON WOO, *University of California, Santa Barbara*, HAOWEI PENG, *Harvard University*, EMMA YU, *University of California, Santa Barbara*, ASHLEY THOMAS, *Harvard University* — The present experiments investigated infants' understanding of gaze in social contexts. Classic research (Woodward, 2003) suggests that before 11 months of age, infants do not track the object targets of others' gaze. In two preregistered experiments (N = 61, with two within-subjects conditions), we tested the role of social relevance in infants' understanding of gaze. We provide evidence that 8- to 9-month-old infants track the targets of their parents' gaze when that gaze is directed at a potential social partner: an animate puppet. When infants observed their own parents look toward an animate puppet, they expected them to continue looking towards the same puppet later ($b = 0.22$, $\beta = 0.26$, $p = .035$). Infants did not have the same expectations when their parents looked toward inanimate objects ($b = -0.14$, $\beta = -0.17$, $p = .198$), nor when they observed the gaze of an unfamiliar adult directed at objects ($b = -0.12$, $\beta = -0.15$, $p = .244$) and at puppets ($b = -0.13$, $\beta = -0.16$, $p = .207$). Thus, before infants track the targets of object-directed gaze, they already track the targets of their parents' social gaze. These findings are consistent with the possibility that social relevance shapes infants' understanding of others' actions.

12:00-1:30 PM (II-049)

Abstract Submission Preview: Atypical lateralization of word processing but not face processing in children with autism spectrum disorder. CHIA-CHI HSU, *National Tsing Hua University*, HSIN-JEN HSU, *National Tsing Hua University* — Hemispheric specialization for visual words and faces is thought to emerge through competitive developmental processes shaped by literacy acquisition. In adults, word processing is typically left-lateralized, whereas face processing is right-lateralized. However, it remains unclear whether this pattern is preserved in autism spectrum disorder (ASD), a condition often associated with atypical face processing. Using functional Transcranial Doppler sonography (fTCD), we examined word and face lateralization in typically developing adults (n = 20), typically developing children, and age-matched children with ASD (both mean age = 10.8 years; n = 20 per group). Adults showed the expected pattern of left-lateralized word and right-lateralized face processing. Typically developing children showed stable right-lateralization for faces, whereas word lateralization was weaker. In contrast, children with ASD showed preserved right-lateralization for faces but a rightward tendency for words. Within the ASD group, better reading competence tended to show greater leftward word lateralization. Taken together, these findings indicate preserved face but atypical word lateralization in children with ASD.

12:00-1:30 PM (II-050)

Young Children Spontaneously Appreciate the Perspectives of their Social Partners. ANUSHKA LAHA, *University of California, Santa Barbara*, AMELIA CHEN, *University of California, Santa Barbara*, ZOE GIPSON, *University of California, Santa Barbara*, BRANDON WOO, *University of California, Santa Barbara* — When we interact with our social partners, we need to represent their perspectives. Classic research has found that young children are egocentric when reasoning about others' visual experiences. Three-year-old children say that a picture that is upright to themselves would also be upright to someone with an opposite perspective (Masangkay et al., 1974). In four experiments (N = 318), we investigated whether 3- to 4-year-old children reason about others' distinct visual experiences when they engage in social actions. We presented children with pictures and books that were upright to them, and asked them to show those objects to people who faced the children (i.e., with opposite perspectives to children). Across experiments, young children spontaneously oriented pictures and books to be upright to the experimenters and their own caregivers ($ps \leq .009$, $ds \geq 0.49$). Children's sen-

sitivity to their social partner's visual experiences (i) extended to pictures and books that they had no prior experience with and (ii) did not reflect a simple strategy of rotating objects without considering the others' visual experiences. These findings shed light on the purpose of mental state reasoning: to support social interactions.

12:00-1:30 PM (II-051)

A Developmental Perspective on Conspiracy Beliefs: The Roles of Attachment and Cognitive Development. DYLAN MCGRATH, *Grand Valley State University*, MARIO FIFIC, *Grand Valley State University*, CARLEY MOHNEY, *Grand Valley State University*, KARIS GILLEN, *Grand Valley State University*, MYA HANNA, *Grand Valley State University*, TESSA KRAMER, *Grand Valley State University*, BRIAN F. BOWDLE, *Grand Valley State University* — Conspiracy theories are widespread and can contribute to social mistrust, discrimination, and political violence. While previous research has found weak associations between personality traits and conspiracy beliefs, developmental factors may offer a more comprehensive explanation. Drawing on Piaget's theory of cognitive development and attachment theory, this research examined the relationships among preoperational thinking, attachment-related anxiety, and conspiratorial beliefs. Across two studies, participants completed measures of conspiratorial beliefs, preoperational reasoning, and attachment insecurity. Consistent with prior findings, animistic thinking—the tendency to attribute agency to inanimate objects—was positively associated with conspiratorial beliefs. Additionally, attachment-related anxiety and adult separation anxiety were positively related to conspiracy endorsement. These findings suggest that insecure attachment may heighten the need for certainty and control, while preoperational reasoning may shape interpretations of causal relationships. Together, the results support a developmental framework in which cognitive and relational factors contribute to susceptibility to conspiratorial beliefs.

12:00-1:30 PM (II-052)

Recalling a Positive Nature Experience Reduces Anxiety. STEPHANI FORAKER, *State University of New York at Buffalo* — Evidence indicates that spending a greater amount of time in nature can improve the mental well being of an individual (Bratman et al., 2012), including lowering anxiety (Kotera et al., 2021). We tested whether recalling a positive autobiographical nature experience from memory can similarly reduce anxiety. We also predicted that the decrease in anxiety would be greater for an enhanced recall group prompted to provided sensory, embodied detail promoting a sense of reliving the memory. Two groups of participants completed an online experiment, randomly assigned to either an enhanced or basic recall condition. Participants completed the Profile of Mood State-Anxiety before and after recalling their memory. Results showed that both the basic and enhanced group rated their anxiety as lower after recalling a positive nature memory. Additionally, anxiety decreased significantly more for the enhanced recall group vs. the basic group. In sum, recalling a positive autobiographical nature experience from memory does reduce anxiety, and more so for those prompted to relive the memory in greater sensory detail.

12:00-1:30 PM (II-053)

Now you smell it, now you don't: olfactory simulation can be prompted by context. FRANKLIN A. BRAY, JR. 🎗, *University of Connecticut*, SARAH MCCARTHY, *University of Connecticut*, EILING YEE, *University of Connecticut* — According to experience-based accounts of conceptual knowledge, conceiving of an object involves reactivation of perceptual/motor states that arise during interaction with its physical referent. While several studies suggest simulation of visual, auditory, and motor experience, evidence of olfactory simulation has remained elusive. We provide novel evidence that olfactory simulation can be prompted by context. Participants made semantic judgments (i.e., 'Is this edible or not?') on 150 word items. When participants imagined smells before making judgments, those with low feature-based selective attention (FBSA; mea-

sured by poor performance on incongruent trials in a Stroop task) showed delayed responses dependent on the confusability and imageability of an item's smell. These effects were not observed if the prior context involved no imagery. Curiously, participants with high FBSA showed no evidence of olfactory simulation in either context. Instead, in both contexts, their response times increased depending on the relevance of smell for interacting with the target item. This pattern suggests a role for selective attention in suppressing olfactory representations during conceptual processing.

12:00-1:30 PM (II-054)

Action-Verb Meaning, Sentence Polarity, and Hand Posture: Effects on Recall of Manipulable Objects. STEVE BUENO, *Université Sorbonne Paris Nord*, LAURENT P. FERRIER, *Université Sorbonne Paris Nord*, HUGUES DELMAS, *Université Sorbonne Paris Nord*, ALIX SEIGNEURIC, *Université Sorbonne Paris Nord* — Previous motor interference studies showed that constraining hand posture during encoding affects memory for manipulable objects in action-related sentences (Dutriaux et al., 2019). The present study examined how sentence meaning (action vs. observation verbs), sentence polarity (affirmative vs. negative), and hand posture (free hands, hands constrained behind the back, or holding a paper ball) influence memory. Participants (N = 188) were asked to read and memorize 20 short sentences composed of a subject, verb, and manipulable object (e.g., "I hold the microphone"). Immediately after encoding they were asked to freely recall as many objects as possible. Recall was generally higher for action than observation sentences and for affirmative than negative sentences. Free hands showed an overall advantage, although this effect depended on sentence meaning and polarity. A three-way interaction revealed that free hands favored action-affirmative sentences, whereas other postures differentially modulated memory for observation-sentences. These findings support context-dependent accounts of embodied cognition and suggest that memory for manipulable concepts depends not only on motor compatibility but also on motor flexibility.

12:00-1:30 PM (II-055)

Hand movements and the efficiency of minimal-memory strategy. CHUAN LUO, *St. Bonaventure University*, JOHN M. FRANCHAK, *University of California, Riverside* — Previous research suggested that people are reluctant to use memory in everyday tasks. In block-copying tasks, participants consistently relied on frequent eye and head movements to gather visual information, using more memory only when eye-head movements became effortful. Why is the minimal-memory strategy preferred? The current study examined hand movements when participants used different strategies. Participants copied block patterns from models positioned at near and far locations while wearing a head-mounted eye tracker. The near condition encouraged reliance on physical movements, whereas the far condition encouraged greater memory use. Eye-tracking videos were analyzed frame by frame to identify the onset and offset of hand movements during block placement, allowing us to calculate the number and average duration of hand movements. Results showed that hand movements were slower and involved more corrections when memory use was greater (far condition) compared to when participants relied more on physical effort (near condition). These findings suggest that a minimal-memory strategy may lead to more efficient task performance.

12:00-1:30 PM (II-056)

VR Embodiment: Comparing the Effects of the RHI in Person and in VR. MANYA LAHRODI, *California State University, Fullerton*, DAVID GERKENS, *California State University, Fullerton*, MELENA MARTINEZ, *California State University, Fullerton* — Virtual reality (VR) is an increasingly relevant tool, and existing literature on embodied VR explores how the feeling of ownership over one's virtual body through multisensory integration impacts cognition (Keizer et al., 2016). The Rubber Hand Illusion (RHI) has been found to cause one to perceive the rubber hand as their own and report proprioceptive drifts (Kocur et al., 2022). The present study extends an experiment conducted by Kocur

et al. (2022), which compares the effects of the RHI administered in person and in VR. The present study compared embodiment between the two conditions by measuring subjective and behavioral ratings of embodiment via adapted survey items and proprioceptive drift. Initial findings demonstrate that body ownership did not differ significantly between the two conditions. Additionally, there was variability in proprioceptive drift across trials and conditions. VR produced significantly higher proprioceptive drifts compared to in-person.

12:00-1:30 PM (II-057)

Comparing Gesture and Drawing as Embodied Scaffolds for Learning Standard Deviation. LUKE RABELHOFER, *University of California, Riverside*, CATHERINE M. LUSSIER, *University of California, Riverside*, KINNARI ATIT, *University of California, Riverside*, FELIPE A. CRUZ-HERNANDEZ, *University of California, Riverside*, ANNIE S. DITTA, *University of California, Riverside* — Embodied scaffolds, including gestures and drawing, can support understanding for visualizations by allowing learners to externalize spatial information. However, these approaches have rarely been directly compared. This study examines how gesture- and drawing-based embodied instruction enhances undergraduate students' conceptualization of standard deviation, a foundational task that requires reasoning about visualizations depicting variability. Participants watched a video explaining standard deviation. At four points, students were prompted to mimic the instructor's gestures or reproduce their drawings to embody the depicted variability. In a control condition, participants repeated the instructor's explanation aloud rather than mimicking gestures or drawings. Preliminary results (N = 60) indicate no significant differences in posttest performance across conditions ($p = .60$). However, drawing and gesture conditions perceived the learning experience as more positive than control (Cohen's $ds > 1$, $ps < .05$). Findings have implications for incorporating embodied instructional supports for learner engagement when teaching spatial concepts.

12:00-1:30 PM (II-058)

Beyond Denial: The Effects of Industry Online Greenwashing and Its Correction. VICTORIA JOHNSON, *University of Miami*, GEOFFREY SUPRAN, *University of Miami* — Public discourse from fossil fuel companies has shifted from outright science denial to more subtle techniques of delay, including greenwashing narratives that portray these companies as essential, trustworthy innovators in decarbonization. These misleading messages, prevalent in digital media, extend beyond the typical misinformation paradigms studied in climate communication and may require distinct psychological interventions to address them. In the present research, we experimentally examine the effects of industry online messaging on individuals' beliefs, emotions, policy support, and behaviors. We then evaluate an intervention that discredits corporate messaging and exposes greenwashing techniques to counter this messaging. Results highlight the complex effects of contemporary industry climate messaging and possible corrective efforts to counteract these effects and encourage pro-climate behaviors. We also detail the influencing role of source credibility. Understanding how deceptive industry messaging influences beliefs and behavior is critical for identifying methods to mitigate these effects and address ongoing climate science denial and delay.

12:00-1:30 PM (II-059)

Third-Party Evaluation of Human–AI Dialogues: Limited Evidence for Algorithm Aversion Across Conversational Contexts. YOSHIMASA MAJIMA, *Hokusei Gakuen University* — Algorithm aversion—the tendency to evaluate AI-generated content less favorably than human-generated content—has been documented mainly for isolated messages or artifacts. The present study examined whether AI source disclosure influences third-party evaluations of human–AI dialogues across three conversational contexts: informational questions, interpersonal consultations, and complaint-handling. Participants evaluated pre-constructed chat logs and were randomly assigned to one of three source conditions

(AI, human, or unspecified). They rated perceived satisfaction of the person seeking assistance and the respondent's trustworthiness, likability, empathy, and usefulness. MANOVAs revealed no significant effect of source condition for any dialogue type. A small effect on trustworthiness emerged only in the informational-question context, with AI respondents rated slightly lower. No other differences were significant. These findings provide limited evidence for algorithm aversion in conversational evaluations. Source disclosure appeared to exert minimal influence when judgments were based on complete exchanges rather than isolated outputs.

12:00-1:30 PM (II-060)

Examining the Illusory Truth Effect Using Self-Paced Reading. MELVIN M. HAMDANI, *Vanderbilt University*, SARAH BROWN-SCHMIDT, *Vanderbilt University*, LISA FAZIO, *Vanderbilt University* — Repeated statements are perceived to be more true than novel statements. Fluency is one explanation for this illusory truth effect, where the subjective processing ease of repeated statements is used as a cue for truth. However, fluency is rarely operationalized in current research. The present study attempts to empirically measure subjective processing ease by using self-paced reading. In self-paced reading, participants view sentences one word at a time at their own pace. In this experiment (N = 100), we used self-paced reading to quantify fluency and examine its relationship to illusory truth. Participants viewed one of two sets of sentences at exposure and both sets at test phase in a self-paced format. At test phase, participants rated each sentence for truth. We expect to replicate an illusory truth effect and hypothesize that the size of the effect will be related to reading speed. In particular, we hypothesize that the difference in reading time between exposure and test will positively predict truth ratings.

12:00-1:30 PM (II-061)

Stereotype Threat Impaired Metacognition. DAPHNE HAREL, *St. John's University*, DANA CHESNEY, *St. John's University*, ALLISON J. JAEGER, *Mississippi State University* — Studies have found that women's math performance is impaired immediately after they are reminded of the stereotype that women are bad at math. Here, we investigate the possibility that this 'stereotype threat' may impair metacognition, not simply math performance. We predicted that experimental participants for whom we invoked such negative stereotypes would be less able to judge their own math performance than controls. We had female undergraduate participants complete a math task after reading a short passage that did (threat group) or did not (control group) invoke the stereotype that women are bad at math. After each math question, participants were asked: "How confident are you that you solved the question correctly?" For each participant we calculated how accurately these judgments reflected their performance. Results confirmed that indeed participants in the threat group had lower metacognitive accuracy scores than those in the control group. These results support the conjecture that stereotype threat may have broader impacts upon an individual's cognition than just impairment on a specific task: metacognitive abilities may also be impaired. More work is needed to investigate the mechanisms underlying these effects.

12:00-1:30 PM (II-062)

Physiological Correlates of Health-Related Anxiety - An Investigation between Heart Rate Variability (HRV) and Blood Pressure Reactivity in Clinical Settings. SARAH P. HEADAPOHL, *Belmont University*, LINGFEI LUAN, *Belmont University* — White-coat syndrome is commonly attributed to sustained autonomic dysregulation, but it may instead reflect transient reactivity to clinical contexts. In full partnership with Thomas F. Frist, Jr. College of Medicine, healthy undergraduates (N = 25) completed two within-subject visits: a home-like setting and a highly realistic simulated emergency-room setting in which a white-coated researcher conduct-

ed routine blood pressure and EKG measurements. Immediate cardiovascular and autonomic responses increased significantly in the clinical condition, including systolic blood pressure (MΔ = +7.0 mmHg, dz = 0.67, Wilcoxon p = .005, Bonferroni-corrected p = .019), heart rate (dz = 0.55), and sympathovagal balance (dz = 0.60). In contrast, none of 18 sustained heart-rate variability measures spanning time-, frequency-, and nonlinear domains from a 5-min post-acclimation window differed meaningfully between conditions (all |dz| < 0.33, p > .02). These findings indicate that the white-coat response reflects a brief sympathetic surge during measurement rather than a tonic shift in resting autonomic balance.

12:00-1:30 PM (II-063)

When and Why Advice-Taking Strategies Differ: A Dual-Hurdle-Based Meta-Analysis. JESSICA HELMER, *Georgia Institute of Technology*, SANTIAGO VENTURA, *University of Warwick*, THOMAS SCHULTZE-GERLACH, *Otto Friedrich University Bamberg*, EDGAR KAUSEL, *Pontifical Catholic University of Chile*, SOPHIA MASCI, *Georgia Institute of Technology*, MARK HIMMELSTEIN, *Georgia Institute of Technology* — Advice-taking experiments often use a Judge-Advisor System (JAS), where a judge expresses a prior belief, receives advice, and then may revise their judgment. The degree to which participants revise their judgement is examined via a continuous metric called Weight of Advice (WOA), defined as the final judgment as a weighted average of the prior and advice. However, people frequently make discrete choices between their prior and the advice rather than continuously average. A new dual-hurdle model of advice taking accounts for this, first modeling WOA as a categorical decision among declining, adopting, and compromising with advice and then modeling WOA from judgements that compromise with a continuous distribution. We extend the dual-hurdle model into a meta-analytic context, applying it to a dataset of over 200,000 observations of advice-taking tasks spanning 59 studies. While we do find compromising is the dominant strategy, there is high heterogeneity across both studies and participants. We also find participants tend to fully adopt advice at a relatively low rate. Our approach sheds new light on how different moderators, situational contexts, and study design choices influence the advice-taking process.

12:00-1:30 PM (II-064)

Numerical Presentation's Influence on Animal Welfare Futility Judgment: Evidence from Natural Language and Experimental Contexts. YANGYING LIU, *University of Oklahoma*, GWEN HOANG, *University of Oklahoma*, JENNA HOLT, *University of Oklahoma*, ALEX LEON, *University of Oklahoma*, TIAN TIAN, *University of Oklahoma*, EDWARD T. COKELY, *University of Oklahoma*, ADAM FELTZ, *University of Oklahoma* — Relative and absolute descriptions are two common ways of representing outcomes. Although futility has been examined in other domains, little is known about whether relative and absolute descriptions shape futility judgments concerning animal welfare. Study 1 focused on online discussions of animal welfare and examined the relation of uses of absolute and relative descriptions and futility. Based on a large-scale natural language corpus from X, uses of relative descriptions appeared significantly more often than absolute descriptions in posts expressing futility (z = 11.95, p < .01, OR = 17.29, 95% CI [9.31, 35.56]). Study 2 manipulated relative and absolute descriptions of the number of farmed animals affected by a program. Relative descriptions elicited higher futility judgments than absolute descriptions (absolute: average M = 4.62, average SD = 1.86; relative: average M = 3.38, average SD = 1.61; mean p = .019, mean Hedges' g = .73). Futility judgments were correlated with several animal welfare related outcomes. These findings suggest that relative and absolute ways of representing outcomes may not always be psychologically equivalent and can shape judgments about the utility of animal welfare related actions.

12:00-1:30 PM (II-065)

Mechanisms Underlying, and Methods for Reducing, Novices' Unsubstantiated Confidence about Doing Things They've Watched Experts Do. SARA E. NEUNER, *Northwestern University*, NADIA M. BRASHIER, *University of California, San Diego*, DAVID N. RAPP, *Northwestern University* — Videos depicting expert performance can increase viewers' confidence about performing comparably, even when such videos offer little instructional content. For example, participants who watched a video of pilots landing a plane showed increased confidence in their ability to land the plane as well as a pilot and without dying, as compared to participants who did not see the video (Jordan et al., 2023). We previously replicated this effect and showed that warnings about overconfidence failed to reduce it. In the current experiment, participants watched the video, answered the confidence questions, and then completed one of three tasks: (a) type out, step-by-step, how to land a plane, (b) re-type an unrelated message as an active control, or (c) wait a comparable amount of time as a passive control. After the task, participants again answered the confidence questions. Only participants in (a) and (b) showed reductions in confidence for judgments about landing without dying. Increased difficulty imagining landing the plane was also associated with confidence decreases. These findings suggest potential mechanisms underlying confidence gains after viewing nonprobative videos, and methods for reducing unsubstantiated confidence.

12:00-1:30 PM (II-066)

Expected or Unexpected, Better or Worse: What Biases Judged Duration? ELAHEH OLOUMI, *Syracuse University*, SOFIA DURANTE, *Syracuse University*, LAEL SCHOOLER, *Syracuse University* — When people explicitly predict an upcoming event, outcomes that match that prediction are often judged as lasting longer than outcomes that violate it. Previous work has primarily examined this expected–unexpected contrast using neutral outcomes, leaving open whether the effect generalizes to valenced stimuli and whether unexpected outcomes that are better versus worse than expected produce distinct temporal biases. We tested this question in a prospective temporal bisection task. Participants first indicated which of two sounds they expected to hear, then judged whether the presented sound's duration was closer to a short or long anchor. The sounds were a relatively neutral pure tone and a more unpleasant 5000-Hz band-pass-filtered white-noise stimulus (575–975 ms, 50-ms steps). Psychometric functions were fit separately for each participant and condition, and the point of subjective equality indexed temporal bias. Across two independent samples, expected sounds were judged longer than unexpected sounds, even when the stimuli differed in valence. Valence did not interact with expectation, providing no evidence that better- versus worse-than-expected violations produced distinct temporal biases.

12:00-1:30 PM (II-067)

Seeing Risk Differently: High Visual Resolution Can Increase Bias in Risk Perception. ALINA TRAN, *Georgia Institute of Technology*, MARK HIMMELSTEIN, *Georgia Institute of Technology*, CINDY XIOANG BEARFIELD, *Georgia Institute of Technology* — From weather forecasts to directional navigation systems, people routinely interpret complex visual information to make decisions. Choosing the 'right' level of visual granularity can shape risk perception. We examine the effect of visual information granularity using spatial heat maps depicting the risks of a hypothetical spacecraft crashing across levels of map resolution. Participants read spatial maps containing two highlighted regions and estimated the amount of risk in successfully landing the spacecraft in each region, with risk levels represented using a continuous color scale. In the high resolution maps, the risk levels varied within the target regions, while in the low resolution maps, risk was aggregated into a single value. To test the generalizability of this effect across different real-world environmental contexts, we also varied the underlying amount and variability of risk within each region. For high resolution maps, people were biased by the extreme values to overestimate the low and medium risk. This effect disappears when the extreme values are aggregated in the medium and low resolution

maps. These findings suggest that providing unnecessarily granular visual information may increase bias in perceived risk.

12:00-1:30 PM (II-068)

Time Limits in Everyday Problem-Solving Assessment: An Adult Lifespan Approach. ALICE REINHARTZ, *Medical School Hamburg*, TILO STROBACH, *Medical School Hamburg*, THOMAS JACOBSEN, *Helmut Schmidt University; University of the Federal Armed Forces Hamburg*, SYLVIE BELLEVILLE, *Centre de Recherche de L'Institut Universitaire de Gériatrie de Montréal (CRIUGM)*, CLAUDIA C. VON BASTIAN, *University of Sheffield* — Everyday problem-solving abilities are crucial to living independently and often assessed using timed or untimed tests. Since timed tests show stronger relations to processing speed, older adults might be more vulnerable to performance declines during timed tests due to their age-related slowing. Thus, we investigated how younger (18-39 years), middle-aged (40-59 years), and older (60-85 years) adults are affected by time limits in everyday problem-solving assessment using the EPT-14 (Reinhartz et al., under review), a 14-item version of the Everyday Problems Test (Willis & Marsiske, 1993) assessed either with (n = 180) or without (n = 180) time limits. Overall, time limits negatively impacted performance. Older adults specifically showed lower accuracy in everyday problem solving than younger and middle-aged adults, but there was no interaction between time limit and age group. These results indicate that time limits impact everyday problem-solving abilities in younger, middle-aged, and older adults equally, and there is no additional impairment in older adults to solve everyday life problems during timed tests, which supports the comparability of test results among different age groups using either timed or untimed tests.

12:00-1:30 PM (II-069)

Preventing the Effect of Repetition on Belief: The Role of Knowledge and Motivation. ANUSHKA BARTHWAL, *Vanderbilt University*, LISA FAZIO, *Vanderbilt University* — The illusory truth effect demonstrates that repeated statements are perceived as more accurate than novel ones. Interventions aiming to increase participant motivation or prior knowledge have produced inconsistent results in reducing the effect. Drawing on the MODE model (Fazio, 1990), we proposed that both motivation and prior knowledge are necessary to reduce this bias. In a preregistered experiment, participants (N = 668) were randomly assigned to a motivation (monetary bonus for accurate responses) or control condition. Participants first learned new facts about a fictional world and were then exposed to a subset of statements from the learned story. Participants then rated both repeated and novel statements for perceived accuracy. As expected, repeated true and false statements were rated as more accurate than novel statements. Contrary to predictions, motivation actually increased, rather than decreased, the effects of repetition on belief as compared to the control condition. Even when participants had accurate prior knowledge, motivation did not disrupt the illusory truth effect.

12:00-1:30 PM (II-070)

Measuring the Benefits of Collaboration in a Group Classification Task. LUKE SZTAJNKRYCER, *University of Illinois Urbana-Champaign*, AARON S. BENJAMIN, *University of Illinois Urbana-Champaign* — Collaboration is an important part of high-stakes decision-making. Groups typically outperform individuals not only because they hold more knowledge, but also because they exchange metacognitive information effectively during collaboration. We assessed the effects of collaborative exchanges on a classification task, in which groups and individuals categorized cartoon images of bugs as poisonous or nonpoisonous based on image features. A group model of signal detection was used to assess the performance of interacting groups, relative to individuals, nominal groups, and benchmarks of

hypothetically optimal performance. Groups learned faster and performed better than individuals. Groups also outperformed nominal groups generated by selecting the more confident response of two non-interacting members, indicating that collaboration involves more than the exchange of raw confidence. Teamwork is decomposed via a signal-detection model into separate scores for (1) weighting based on accuracy, (2) communication efficiency, and (3) individual member performance. It reveals that groups weigh member contributions with high effectiveness but lose information during deliberation. This outcome suggests routes for enhancing group cognition.

12:00-1:30 PM (II-071)

Premise Belief Predicts Argument Effectiveness. DAVID W. BRAITHWAITE, *Florida State University* — How do arguments work? I hypothesized that a key mechanism by which arguments affect belief is by drawing attention to discrepancies between belief in their conclusions and belief in their premises. This hypothesis implies that the larger this discrepancy, the more an argument should increase belief in its conclusion. To test this prediction, undergraduate students were shown valid arguments whose conclusions were surprising scientific facts. As predicted, the discrepancy between initial belief in the arguments' conclusions (e.g., "The Eiffel Tower gets bigger when it gets hotter, such as during the summer") and initial belief in their premises (e.g., "Iron expands when it gets hotter") predicted increase in conclusion belief after argument presentation (Study 1). Further, this discrepancy moderated the effect of argument presence (i.e., argument presented or not presented) on increase in conclusion belief (Studies 2 and 3). In contrast to theories that assume arguments work by increasing belief in their premises (e.g., Eva & Hartmann, 2018), the findings suggest that arguments can leverage existing belief in their premises to increase belief in their conclusions.

12:00-1:30 PM (II-072)

From Creative Thinking to Creative Language: Both Generating Far Analogies and Novel Uses Facilitates Metaphor Production. TIM GEORGE, *University of Maryland*, FELIX PAMBUCCIAN, *Minnesota State University, Mankato*, ANDRIANA L. CHRISTOFALOS, *Boise State University* — Our previous work demonstrated that engaging in distant analogical reasoning increases metaphor production (George, Christofalos, & Pambuccian, 2025). One interpretation is that generating solutions to cross-domain (far) analogies (goose:flock :: soldier:?) induces a more relational mindset compared to within-domain (near) analogies, encouraging a focus on abstract connections and increasing the use of metaphors. An alternative explanation is that distant analogical reasoning increases metaphor production by promoting divergent thinking more broadly. The present study examined this possibility using the Alternate Uses Task (AUT). Participants were assigned to one of four groups, where they first either generated solutions to far analogies vs. near analogies, or generated creative uses for objects vs. properties for objects. Next, they generated summary phrases for a series of topics (some jobs are confining, repetitive, and unpleasant). Both the far-analogy and creative uses groups resulted in more metaphorical summaries than the other groups. These findings suggest that divergent thinking may contribute to increased metaphor production by promoting greater flexibility in how one thinks about concepts.

12:00-1:30 PM (II-073)

Beyond Numbers: The Effects of Visual Representation Training on Geometric Word Problems to Identify Key Information. NHI NGUYEN, *Mississippi State University*, ANDREW F. JAROSZ, *Mississippi State University* — Students usually find word problems challenging because they struggle to find the key information needed to solve these problems. One way to locate this information is through self-generated drawings. Prior research investigating self-generated drawings showed promise in arithmetic word problem solving, but no benefits in geometric word problem solving. This may be due to differences in the scaffolding in each domain.

Across two experiments, the current studies emphasize either schemas or metacognitive drawing strategies by manipulating drawing instructions during geometry problem solving. In the first experiment, students completed geometric word problems by calculating the surface area of 3D shapes, with and without irrelevant information. In the second experiment, students completed near-transfer and far-transfer word problems. Results are discussed regarding how schematic and metacognitive strategies interact with students' ability to avoid irrelevant information, as well as whether these strategies can transfer to distinct problems on which they were not trained.

12:00-1:30 PM (II-074)

Analytical Thinking and the Suppression Effect in Conditional Reasoning. BARBARA SOSA, *California State University, San Bernardino*, KENJI RIDOUT, *California State University, San Bernardino*, HIDEYA KOSHINO, *California State University, San Bernardino*, ROBERT RICCO, *California State University, San Bernardino* — Expanding basic conditional arguments to include exceptions to valid, modus ponens (MP) arguments or counterexamples to invalid, affirming the consequent (AC) arguments suppresses the tendency to accept the conclusions of these arguments. We hypothesized that an ability to engage in analytical thinking, measured by the Cognitive Reflection Test (CRT), would contribute to the suppression effect for AC but not MP because analytical thinking is implicated in deductive reasoning but not defeasible, plausible reasoning. A sample of 160 college students was given the CRT and both basic and expanded versions of MP and AC arguments. The CRT was negatively related to acceptance of the conclusion on both the basic and expanded AC arguments and was positively related to the suppression effect for AC. The CRT was unrelated to performance on MP arguments or to the suppression effect for MP. These effects could not be explained by measures of related cognitive abilities.

12:00-1:30 PM (II-075)

Chimpanzees rationally revise their beliefs in response to perceptual and social evidence. EMILY M. SANFORD, *University of California, Berkeley*, HANNA SCHLEIHAUF, *Utrecht University*, BILL D. THOMPSON, *University of California, Berkeley*, SNOW ZHANG, *University of California, Berkeley*, JOSHUA RUKUNDO, *Chimpanzee Trust*, JOSEP CALL, *University of St. Andrews*, ESTHER HERRMANN, *University of Portsmouth*, JAN M. ENGELMANN, *University of California, Berkeley* — Humans are remarkable reasoners—we can weigh the pros and cons of multiple options, make decisions under conditions of uncertainty, and even conduct science. How did we come to have these remarkable cognitive abilities—did they emerge gradually over the course of primate evolution, or did they instead develop rapidly, coming into existence only in the human mind? In this recently published work (Schleihauf & Sanford, et al., 2025), we demonstrate that chimpanzees (Pan troglodytes) are capable of rational belief revision. In a series of studies, chimpanzees received evidence that food was hidden in one of two boxes, made an initial choice, then received conflicting evidence. They were more likely to revise their belief when the weak evidence was presented first and strong evidence second, compared to the reverse order. Follow-up experiments indicate that this belief revision was guided by the explicit representation and weighing of evidence. In more recent work, we also found they can rationally integrate evidence from social and perceptual sources. Taken together, our results suggest that the ability to reason rationally evolved prior to human speciation—at least 6-9 million years ago, in our last common ancestor with chimpanzees.

12:00-1:30 PM (II-076)

Patterning Practice Tunes Learners to Focus on Structures. TONGYAO ZHANG, *Indiana University*, EMILY R. FYFE, *Indiana University* — Patterning is the ability to detect and identify predictable sequences. It is a critical cognitive skill that predicts academic achievement. We test the mechanistic hypothesis that patterning facilitates cognition by

tuning learners' attention toward structural features over surface features. Using a within-subjects design, 248 adults completed two 10-minute blocks of training. One block required looking for matched pattern structures, and the other required looking for matched perceptual features. After each block, participants completed three tasks by sorting increasingly novel materials, including patterns, diagrams of physical structures, and causal phenomena word problems. Participants also completed a Raven's Matrices task to assess reasoning ability. After the pattern training block, participants sorted novel materials by their underlying structure more often than after the perceptual training block, while their reasoning ability did not differ. Patterning practice tuned learner's attention to structural information, enhancing their performance on novel cognitive tasks that did not include patterns. Results extend theories on abstract reasoning and have relevance for including pattern tasks in educational settings.

12:00-1:30 PM (II-077)

What verbal reports tell us about human reasoning. TEHILLA OSTROVSKY, *Ludwig Maximilian University of Munich*, CHRIS DONKIN, *Ludwig Maximilian University of Munich* — Verbal reports provide a useful way to study how people think and reason. They can reveal the strategies, interpretations, and thought processes that guide behavior across different tasks. Across a series of projects, we use a recently developed framework that automates the collection and analysis of verbal reports using large language models (LLMs). Within this framework, spoken reports are transcribed in real time and analyzed using methods such as keyword extraction, clustering, and semantic labeling. We apply this approach across several domains in cognitive psychology, including false memory, risky decision making, problem solving, and climate-related decision making. In all cases, we use the verbal reports as a kind of process-tracing method to help understand why participants behaved as they did. This talk will highlight some of the more interesting insights we discovered using this novel technique about the ways that people reason while doing cognitive tasks.

12:00-1:30 PM (II-078)

Latent Change Modeling of Multidomain Cognitive Training in a Large Randomized Controlled Trial. ALLEN M. OSMAN, *Lumos Labs*, NICOLE F. ROSE, *Lumos Labs*, SRICHARAN SUNDER, *Lumos Labs*, ROBERT J. SCHAFER, *Lumos Labs* — We examine how Lumosity, a multidomain cognitive-training program affects distinct cognitive components by modeling longitudinal performance changes across a neuropsychological test battery. Specifically, we use exploratory and confirmatory factor analysis and latent change structural equation modeling to identify latent dimensions of cognitive improvement derived from this battery. We then test whether treatment- and dose-related changes in these dimensions predict concurrent changes in attention and mood, assessed via psychometric scales. These analyses are performed using data from a large randomized controlled trial (N=4,081) comparing the cognitive training intervention to an active crossword puzzle control. The findings delineate both the breadth of transfer across multiple cognitive domains and the extent of its generalization along a near-far continuum, from latent cognitive improvements to distal changes in psychometric outcomes. More broadly, by differentiating distinct cognitive components and characterizing their malleability, the findings also advance our understanding of the architecture of human cognition.

12:00-1:30 PM (II-079)

People Remember Tweets Better than News Headlines Even in the Absence of Source Information. TORI PEÑA, *Stony Brook University*, MELISSA CHEN, *University of California, Santa Cruz*, SUPARNA RAJARAM, *Stony Brook University* — The expansive nature of the internet has made information widely available, especially via news outlets and social media. Interestingly, people remember information from these sources differently, recalling and recognizing microblogs such as tweets better than news headlines. This microblog memory advantage occurs despite people rating headlines to be more self-relevant than tweets, and

it occurs not only when tweets and news headlines convey similar messages but also when they convey contrasting messages. The present study tested whether displaying the source of information (i.e., tweet or news headline) is critical for the microblog memory advantage to occur. In a completely online experiment, 72 participants studied a list of tweets and news headlines without the source of information available (i.e., whether the item was a tweet or a headline), and then completed a recognition memory task. We again observed a microblog memory advantage for recognition memory. Participants also reported greater confidence when recognizing tweets compared to news headlines. These findings provide further support that the linguistic properties of tweets (versus news headlines) give rise to the mnemonic advantage for microblog information.

12:00-1:30 PM (II-080)

The Digital Amnesia Effect Persists Following an Opportunity to Relearn. DANA-LIS BITTNER, *University of California, Santa Cruz*, TRINITY MCDEVITT, *University of California, Santa Cruz*, BENJAMIN STORM, *University of California, Santa Cruz* — The "digital amnesia" effect describes the tendency to forget information offloaded to the Internet and other digital devices. In two experiments, we investigated whether this effect reflects a reduction in temporary accessibility or a deeper impairment in storage strength. Participants studied trivia facts assigned to be either "saved" or "deleted," followed by an opportunity to relearn a subset of those facts. Importantly, the digital amnesia effect persisted following relearning, with relearning benefiting saved and deleted facts about equally, indicating a reduction in storage strength rather than a temporary retrieval failure. This pattern was observed regardless of whether memory was tested after a 5-min delay (Experiment 1) or a more prolonged 24-hr delay (Experiment 2). These findings suggest that the digital amnesia effect is not easily undone, and that the costs of offloading are likely to persist even when people are given the opportunity to re-study to-be-learned material.

12:00-1:30 PM (II-081)

Who Thinks Outside the Box? Using Large Language Models to Assess Human Creativity. DAVID J. THERRIAULT, *University of Florida*, LISE ABRAMS, *Pomona College* — Researchers regularly report challenges in assessing creativity due to the effort, reliability, and costs incurred when humans score tasks that have open-ended elements. One possible solution is leveraging the power of recent Large Language Models (LLM) to automate scoring. The current work evaluated the feasibility of leveraging LLMs to score the Alternative Uses Task (AUT; Guilford, 1967), a widely utilized measure of divergent thinking, in comparison to human raters. The AUT queries individuals to list as many creative uses as possible for common, everyday objects. Sixty college-aged participants were asked to produce creative uses for four objects (brick, car tire, glass bottle, and paperclip), yielding a dataset of 1,830 responses for analysis. Both human raters and LLMs were asked to give each response an overall creativity score on a 5-point scale (Silvia et al., 2008). LLM ratings were elicited using a customized, prompt-based scoring procedure. Results are discussed in terms of scoring accuracy, reliability, and broader AI implications using LLMs in creativity research.

12:00-1:30 PM (II-082)

What Predicts Using Generative AI to Deepen Versus Shortcut Thinking? CONNIE M. FRALICK, *University of Texas at Austin*, VERONICA X. YAN, *University of Texas at Austin* — Student use of Generative AI (GenAI) in educational contexts has increased rapidly in recent years (Stephenson & Armstrong, 2026). The question is no longer if students are using it, but how. What predicts student use of GenAI in ways that deepen versus shortcut their thinking? GenAI can help or hinder cognitive processing (Kosmyna et al., 2025; Yilmaz & Yilmaz, 2023), so it is critical to examine the relationships between various factors and more and less adaptive use of GenAI. To examine this, we conducted a correlational study with 398 undergraduates on their purpose for being in college, achievement goal orientations, what they viewed as acceptable uses of Ge-

nAI, and how they engage in educational help-seeking behavior with GenAI. Being in college to gain domain-specific skills was positively associated with adaptive GenAI use and negatively associated with GenAI shortcuts and expediency. Amotivation had the opposite associations with each of those dimensions. Career focus for college was positively related to almost all uses of GenAI; in contrast, a mastery focus on content was negatively related to almost all uses of GenAI. Thus, some goals differentiate types of GenAI usage, while others relate to overall GenAI usage.

12:00-1:30 PM (II-083)

Facial Recognition Technology and Policing: Assessing the Cognitive Science to Policy Pipeline. JASMINE R. NICHOLS, *Texas A&M University - San Antonio*, DAWN R. WEATHERFORD, *Texas A&M University - San Antonio*, CLAIRE NOLASCO BRAATEN, *Texas A&M University - San Antonio* — Facial recognition technology (FRT) has been rapidly adopted by law enforcement agencies. While advocates emphasize efficiency benefits, cognitive psychologists advocate incorporating safeguards to protect against well-established human, algorithmic, and hybrid face matching biases. Like the cognitive science-to-policy pipeline within the eyewitness identification literature that sought to protect innocent suspects against misidentification, we were similarly motivated to consider how (and to what degree) face matching theory has reached practice. We conducted a thematic analysis of several FRT policies with 7 a priori constructs as guided by the National Institute of Standards and Technology (presented in order of frequency of occurrence): Automation Bias, Image Quality, Within-person Variability, Between-person Variability/Demographics, Training/Expertise, Context Effects, and Confirmation Bias. Our findings reveal the degree to which each construct is recognized, or not, within policy and mechanisms by which to address identified gaps.

12:00-1:30 PM (II-084)

When AI Can't Help: Generative AI Use and Stress During In-Person Exams. KENNETH BARIDEAUX, JR., *University of South Carolina Upstate* — With the rise of generative artificial intelligence (AI), educational researchers have raised concerns regarding its cognitive and academic effects. Recent research suggests that frequent AI use may reduce critical thinking through cognitive offloading. The present study examined whether AI use was associated with perceived stress related to in-person final exams and whether these effects differed by generation status. Across two undergraduate courses, students (N=34) completed a post-exam survey assessing exam stress, grade anxiety, AI use, and demographic variables. Results indicated that greater AI use was significantly associated with higher levels of both exam stress and grade anxiety. Follow-up analyses revealed that first-generation students reported significantly greater AI use and higher exam stress compared to continuing-generation students. These findings suggest that AI use may be associated with heightened stress in traditional in-person testing environments, though the direction and mechanisms underlying this relationship remain unclear.

12:00-1:30 PM (II-085)

Examining Mental Set and Cognitive Miserliness as Mechanisms for The Internet Fixation Effect. ZAKIYA N. EHARDT, *New Mexico State University*, JULIA S. SOARES, *New Mexico State University* — The internet fixation effect is observed when participants initially assigned to use internet search continue to rely on the internet for future tasks even when their memory would suffice. The mechanisms driving this effect are unclear. We investigated two possibilities. A mental set account says that participants who previously used internet search continue to do so because they become fixated on using a previously successful strategy. A cognitive miserliness account says that using the internet causes participants to adopt a miserly cognitive style, and since internet search requires little cognitive effort, they overuse it. After participants completed an induction phase either using memory or a search engine to an-

swer questions, participants answered a subsequent set of easy questions, with free choice to use memory, Google, or a click-to-reveal option. Those assigned to the search engine condition were less likely to answer easy questions using memory and more likely to answer using Google than those initially in the memory condition. Participants in both conditions were similarly likely to use the low-effort click-to-reveal option. These findings align better with a mental set than a cognitive miserliness account.

12:00-1:30 PM (II-086)

Evaluating AI-Generated Advice: Source Cues, Argument Quality, and Individual Differences in Credibility and Adherence. ELODIE ANDRIEU, *Université Toulouse – Jean Jaurès*, AURÉLIE PISTONO, *Université Toulouse – Jean Jaurès*, FRANCK AMADIEU, *Université Toulouse – Jean Jaurès* — As generative AI systems are increasingly used to provide advice in complex situations, understanding the cognitive factors underlying the evaluation of such messages has become essential. The present study examined the effects of message source (AI vs. human), message quality, attitudes toward AI, and intellectual humility on perceived credibility and adherence. A total of 191 participants evaluated ten scenarios describing challenging student situations. Responses were attributed either to a human expert or to ChatGPT and manipulated to display either high or low quality. Data were analyzed using cumulative link mixed models (CLMM). Results showed no effect of source on credibility or adherence: AI-generated responses were evaluated similarly to human responses. In contrast, message quality increased perceived credibility, with well-written messages judged as more credible, while no main effect of quality emerged for adherence. Attitudes toward AI moderated the effect of message quality on credibility and adherence. Intellectual humility showed no significant main effect. Overall, these findings highlight the role of cognitive and attitudinal factors in the evaluation of AI-generated advice.

12:00-1:30 PM (II-087)

Learning in the Digital Age: How Internet Access Shapes Motivation and Interest During Knowledge Acquisition. ASHLEY CHEN, *University of California, Los Angeles*, ALAN D. CASTEL, *University of California, Los Angeles* — In the digital age, the Internet has emerged as a popular form of transactive memory, offering users quick and in-depth access to a plethora of information. While the negative mnemonic effects of search fluency have been extensively studied, less is known about how internet access may influence motivation and interest during learning. In Experiment 1, participants studied a series of trivia questions, half of which they googled the answers to, and rated their curiosity and interest pre- and post-answer reveal, respectively. We observed that non-googled items tended to elicit more curiosity, and this effect was especially prominent for items high in a priori curiosity level (determined by normed database averages). Moreover, participants displayed greater interest towards high a priori items in the no-google versus google condition, whereas the opposite pattern emerged for low a priori items. Therefore, while having internet access may disrupt the cognitive processes (i.e., appraisal process) that drive curiosity, it may also promote information-seeking for less-interesting items. Experiment 2 aims to provide insight into how pretesting prior to googling may sustain motivation and interest during knowledge acquisition.

12:00-1:30 PM (II-088)

Limited prediction but deep encoding of knowledge-consistent information among content experts during language comprehension. SHERIDAN KRAUS, *University of Nevada, Las Vegas*, ALANA MCDEARMOND, *University of Nevada, Las Vegas*, MELISSA TROYER, *University of Nevada, Las Vegas* — Do people predict upcoming words more when they know more? We recorded ERPs while young adults who ranged in knowledge of a fictional domain (Harry Potter; HP) read sentences about HP; critical words were predictable (HP-consistent), unpredictable but plausible (and not specific to HP), or anomalous. They then performed

an old/new word memory task including predictable but never-encountered "lures." High- compared to low-knowledge individuals had more precise memory but did not false alarm more to "lures" compared to new, unrelated words, suggesting they had not strongly engaged in prediction (thus making the predictable words more active) during reading. Domain knowledge also impacted the presence of late positive components (LPCs) known to index memory encoding, which were largest to predictable words among high-knowledge individuals and to unpredictable-plausible words among low-knowledge individuals. For high-knowledge individuals only, larger LPCs were associated with more accurate subsequent memory. Thus, when content knowledge is high, individuals may not actively predict specific upcoming words; however, the ERP results suggest they deeply (and quickly) discern and encode knowledge-consistent linguistic content.

12:00-1:30 PM (II-089)

Stronger semantic sensitivity in deaf and hearing signers of German Sign Language (DGS) compared to hearing non-signers: a picture-based priming study. ELENA GEORGIA MPADANES, *Rochester Institute of Technology*, AGNES VILLWOCK, *Rochester Institute of Technology* — The present study investigates how deaf and hearing users of German Sign Language process semantic relationships in a picture-based priming task. Semantic priming refers to the facilitation of processing a target stimulus preceded by a semantically related prime (Meyer & Schvaneveldt, 1971). Deaf and hearing first-language users of DGS, hearing second-language DGS signers, and hearing non-signers performed a semantic priming task with picture pairs while the EEG was recorded. Stimuli consisted of 150 picture pairs from the Multilingual Picture Database (Duñabeitia et al., 2022) and were previously normed for semantic relatedness. Accuracy was high across all groups ($M = 97.5\%$), with higher accuracy for unrelated pairs ($p < .001$). Response times (collapsed across groups) are significantly shorter for related than unrelated pairs ($p < .001$), indicating a semantic priming effect. However, the strength of the priming effect varies between groups: deaf and hearing signers exhibit stronger facilitation for related pairs than hearing non-signers do. These results align with previous findings (Li et al., 2013; McGarry et al., 2021; Meade et al., 2017, 2018) and suggest that bilingual language experience might enhance semantic sensitivity.

12:00-1:30 PM (II-090)

Context, Reader Skill, and Incidental Novel Word Acquisition: An Eye-Tracking Study. ABIGAIL NEEDHAM, *Southern Illinois University Edwardsville*, NATHANIEL PERRY, *Southern Illinois University Edwardsville*, ASHLEY ABRAHAM, *Southern Illinois University Edwardsville* — Prior research on skilled adult readers demonstrates an association between orthographic and semantic learning during incidental word acquisition (de Long & Folk, 2022). The present study examined the relationship between contextual support and individual differences in skill on the incidental acquisition of novel word spellings and meanings. Participants read novel words in sentences during a natural reading task. Experimental sentences were normed for plausibility with respect to the intended meaning of the novel word. Latent Semantic Analysis was used to ensure that context prior to the target novel word had a strong, weak, or neutral relationship with the intended meaning. Following the reading task, participants completed surprise spelling and vocabulary post-tests followed by a skills assessment. The results indicate that contextual support impacts reading time and acquisition; however, the specific influence depends on individual differences in reader skill. Eye movement data suggest that the most skilled readers acquire more orthographic and semantic knowledge incidentally, but greater learning was not generally associated with longer reading times. Findings indicate qualitative differences in incidental word acquisition.

12:00-1:30 PM (II-091)

Computer-vision analysis of articulatory differentiation between nouns and verbs in ASL. REED BLAYLOCK, *Western Washington University*, KAREN EMMOREY, *San Diego State University*, ZED SEHYR, *Chapman University* — A grammatical distinction between nouns and verbs is often proposed

as a universal property of human language, independent of modality. In sign languages, this distinction is often realized in a modality specific way through differences in manual movements. Prior work documented contrasts for samples of noun–verb pairs in American Sign Language (ASL) that differ in movement repetition, size, duration, and manner. We used computer vision methods to test whether such articulatory distinctions generalize across the ASL lexicon. Using MediaPipe, we extracted index fingertip trajectories from 8,302 productions of 809 signs produced by 20 deaf signers when naming object and action pictures. Mixed effects analyses show effects of lexical class and frequency on fingertip distance traveled and duration: Less distance traveled (consistent with previous observations of noun–verb pairs) and shorter movement duration for nouns than verbs. Frequent signs showed reduction in distance and shorter durations. These findings provide large scale evidence that movement based noun–verb distinctions are systematic in ASL.

12:00-1:30 PM (II-092)

Behavioral and Neural Correlates of Morphological Constraint Processing during Chinese-English Code Switch. FEI GAO, *Institute of Modern Languages and Linguistics, Fudan University* — The study examines whether bilinguals rely more on Matrix Language or Embedded Language constraints when processing plural marking in Chinese–English code-switched sentences, and the role of individual differences. Drawing on a 2 (Rule: Chinese vs. English) × 2 (Switch: switch vs. non-switch) EEG experiment, our results revealed distinct processing patterns across early and late time windows. In the 100–150ms window, Chinese-rule violations elicited larger ELAN effects than English-rule in code-switched sentences. In the 300–500ms window, higher English proficiency was associated with larger N400 effects for Chinese-rule violations. In the 500–700ms window, stronger cognitive control and higher proficiency were associated with larger P600 effects in code-switching. These findings suggest that bilinguals initially rely on Embedded Language cues during early processing but shift toward Matrix Language constraints during later syntactic reanalysis, extending the MLF model to typologically asymmetric language pairs and highlighting the role of cognitive control.

12:00-1:30 PM (II-093)

Prefrontal Cortex Supports Speech Error Monitoring during Language Production: a Transcranial Direct Current Stimulation (tDCS) Study. NATHAN CAINES, *University of California, Santa Cruz*, MEGAN BOUDEWYN, *University of California, Santa Cruz* — This study investigated whether anodal transcranial direct current stimulation (tDCS) over the prefrontal cortex (PFC) enhances speech error monitoring during speech production. The PFC is strongly implicated in domain-general cognitive control, conflict monitoring, and response selection (e.g. Miller & Cohen, 2001). While questions remain about the extent to which PFC-mediated cognitive control mechanisms support language production, there is increasing recognition that the speech error monitoring system may overlap with the cognitive control network (e.g. Nozari et al., 2017). Here, we used a within-participants design (N=21) to examine the effect of PFC-tDCS on speech error rates and self-correction rate. Results showed that PFC-tDCS significantly increased the self-correction rate ($p=0.031$), compared to sham-tDCS. These findings suggest that PFC-mediated cognitive control supports error monitoring during language production.

12:00-1:30 PM (II-094)

From facilitation to interference: Gradient effects of phonetic feature overlap in masked priming and word pair production. MO CHEN, *Lehigh University*, PADRAIG O'SEAGHDHA, *Lehigh University* — In previous work, we reported that the unconscious activation of shared phonetic features of word onsets facilitates target word naming in masked priming, even when the prime and target onsets shared only one feature. The present study extended this investigation to a full production task, the cued word-order procedure, where participants produced related or unrelated word pairs in the order AB or BA immediately following presentation of directional arrow cues. Related onsets shared either one (place/

voice/manner) or two features (place/voice plus manner). Interference occurred in all related conditions except Manner alone, but with substantially more interference with two-feature overlap. Taken together, the findings support a continuous view of featural influences in two very different tasks, with facilitation (masked priming) and interference (cued word order) occurring even with single-feature overlap between onsets. We discuss potential indirect (phonemic) and direct (featural) contributions to the outcomes.

12:00-1:30 PM (II-095)

Dependency Resolution by Semantic Priming. ANDREW LEI, *California State University, Fullerton*, CHIDCHANOK PAIRCHAROEN, *California State University, Fullerton*, HOSSEIN KARIMI, *California State University, Fullerton* — During language comprehension, long-distance dependencies arise when two words that are interpreted together are separated by intervening material, such as bear and chased in "It was the bear that the hunter chased." Current memory-based models explain dependency resolution by assuming that previously encoded target words (e.g., bear) are retrieved from memory when their retrieval is triggered by the verb (e.g., chased). However, it is possible that representation of the target does not completely fade when the verb is encountered, obviating the need for retrieval. As such, dependency resolution between the target and the verb may be resolved through simple semantic priming. We examined how semantic similarity between the target, the verb, and the competitor (e.g., hunter) affect dependency resolution. Mixed effects regression models revealed that reading times on the critical verbs decreased as semantic similarity between the target and the verb, and between the target and the competitor increased, providing evidence for semantic priming.

12:00-1:30 PM (II-096)

Informativeness as a Unifying Explanation for Zero Copula in African American Language. MICHAEL SENKO, *Stanford University*, LORENA MARTÍN RODRÍGUEZ, *Stanford University*, AMIR ZUR, *Stanford University*, MEGHAN SUMNER, *Stanford University* — What factors shape the production of optional linguistic material? African American Language (AAL) exhibits copula variation (forms of the verb to be), providing a test case for theories of language production. Full surface, contracted surface, and zero copula are all grammatically licit variants: "my mother (is | 's | ∅) a teacher." Previous work has identified different predicate types that predict copula variation, known as the constraint hierarchy (Rickford 2021): gonna (favoring zero copula) > verb+ing > adjective > locative > noun (favoring surface copula). However, a unifying explanation as to why these environments differ remains elusive. Using 400+ hours of speech from the Corpus of Regional African American Language (Kendall & Farrington 2023), we show that information content significantly predicts copula variation: speakers are more likely to realize copula in unpredictable, high-information contexts. We then identify significant differences in average information content across predicate types, rediscovering the exact ordering of the constraint hierarchy. We argue that copula variation reflects accessibility-based pressures on language production, offering one unifying explanation for a well-documented pattern in AAL.

12:00-1:30 PM (II-097)

An Examination of the Impact of Gesture Congruency on L2 Mandarin Word Learning. LAURA M. MORETT, *University of Missouri*, RYLAN BATTEN, *University of Missouri*— Learning lexical tone poses unique challenges for atonal L1 speakers. Observing gestures representing the meanings of L2 words may aid learning. Forty-five L1 English speakers were recruited through an online experimentation platform. Participants completed a pre-test, learning phase, and three post-tests; the next day, participants repeated three post-tests from the day before. Participants were divided into three

learning groups: congruent, in which they watched video of an L1 Mandarin speaker producing gestures semantically congruent with the word (e.g., waving while saying the Mandarin word for "to wave"), followed by the English gloss; incongruent, in which gestures were inconsistent with the word's meaning(e.g., waving while saying the Mandarin word for "return"); and no gesture, in which a still image of the speaker was shown. Results indicated improvements in accuracy and response times for all groups and post-tests, with the exception of lexical tone discrimination, which is most reliant on ability to differentiate between lexical tones. Accuracy improvements were greatest for word-meaning association in all groups, improving further in the delayed post-test, indicating consolidation of meanings in L2 learning.

12:00-1:30 PM (II-098)

Opinions About Artificial Intelligence Modulate Likelihood of Believing AI-generated Misinformation. BENJAMIN WEISSMAN, *College of the Holy Cross* — Exposure to inaccurate claims makes people significantly more likely to later believe those claims to be true. Encountering misinformation is an unavoidable outcome of daily life, amplified by exposure to AI-generated information and the widespread existence of hallucinations in this content. This study extends past research to a topical AI-misinformation context. Participants encountered vignettes in which characters receive in/accurate information from ChatGPT (e.g., "Cracking your knuckles causes/does not cause arthritis"); after, they completed a T/F questionnaire assessing their beliefs on the pertinent information and a survey probing their general beliefs about and familiarity with AI. Results provide evidence that exposure to inaccurate information from AI leads participants to later believe that that inaccurate information is true, replicating past findings. Importantly, however, the individual differences analysis indicates that people's existing beliefs about artificial intelligence significantly modulate their susceptibility to this effect. This research points to "speaker"-specific encoding of information and contributes to our understandings of contextual and interindividual variance on information uptake and memory.

12:00-1:30 PM (II-099)

The Body-Object Interaction (BOI) Effect on Children's Eye Movements during Reading. REBECCA L. JOHNSON, *Skidmore College*, SHELBY M. KAISER, *Teachers College Columbia University*, LUCY ALTMAN-COE, *Central Washington University*, KATELYN HEEGER, *Skidmore College*, RUBY KOROTZER-MARIANI, *Skidmore College* — One recently investigated lexical variable is that of body-object interaction (BOI), or the extent to which the human body can interact with a word's referent. While some words have relatively low body-object interaction ratings (e.g., cloud, flame, moon), others have high body-object interaction ratings (e.g., belt, drum, soup). Previous research using visual word recognition and sentence reading tasks has shown that adults process words with higher BOI ratings easier than words with lower BOI ratings. In the current study, we explored this effect in developing readers (ages 8-12). Children read sentences with a target word that either had a low or high BOI rating while their eye movements were monitored. Words were matched on several lexical and sublexical properties. Significant BOI effects were seen in early (first fixation durations), late (total times, regressions in, second pass times), and post-target measures. There were also interactive trends that suggested that younger readers and weaker decoders showed the strongest BOI effects. These findings indicate that children rely on sensorimotor information during sentence processing and that this type of semantic information facilitates lexical access in developing readers.

12:00-1:30 PM (II-100)

Metaphoric or Literal? Readers Rely on Context to Interpret Sentence Meaning. CASEY M. RIEDMANN, *Wesleyan University*, BARBARA JUHASZ, *Wesleyan University* — Metaphors describe one concept in terms of another semantically unrelated concept (e.g., John is a fossil). During comprehension, readers must recognize metaphors as figurative expressions that compare concepts despite their syntactic overlap with non-comparative literal statements (e.g., John is a doctor). Adapting Doran

et al.'s (2012) truth-judgment paradigm, we asked 96 participants to judge sentence meanings as true given a specific context. Participants made judgments either without explicit instruction (control; n=35), or from the perspective of a literal- (n=29) or metaphor-minded character (n=32). Our results suggest that, while readers rely on syntactic structure as a cue for meaning interpretation, other factors, like a sentence's expected meaning in a given context, can override syntax. Relatedly, we find that readers coerce literal meanings from typically metaphoric statements more easily than they can coerce metaphoric meanings from typically literal statements. We also collected normative ratings (n=20) to create sentences for a current eye-tracking task to evaluate reading behavior for literal statements, metaphors, and similes that have either expected or unexpected meanings.

12:00-1:30 PM (II-101)

Visual Attention Deployment During Vertical Mongolian Reading. YAQIAN BOROGJOON BAO, *McMaster University*, VICTOR KUPERMAN, *McMaster University*, XINGSHAN LI, *Institute of Psychology, Chinese Academy of Science* — Using a combination of the gaze-contingent boundary paradigm and the probe detection task, we examined how visual attention is allocated during vertical Mongolian reading. When participants' eyes fixated a word after crossing an invisible boundary, the sentence disappeared, and a red-rectangle probe appeared at various positions from 2o above to 4o below the fixation point. Participants were instructed to detect the presence of the probe. Reaction times (RTs), reflecting attention deployment, were the shortest at the foveal fixation position (580 ms). Compared to the foveal baseline, RTs were significantly longer for the up_2 (598 ms), down_3 (601 ms), and down_4 (623 ms) positions, indicating asymmetrical visual attention deployment. These findings provide direct evidence that readers allocate more attention to upcoming novel information and extend the perceptual span in the top-to-bottom reading direction. They also determine the visual attention span boundaries in traditional Mongolian, from 1o of the visual angle above to 2o below the fixation.

12:00-1:30 PM (II-102)

Skilled Readers Rely on Frequent Phoneme-Grapheme Mappings During Pseudoword Reading. MICHAELA BROOKS, *University of Maryland*, ROBERT WILEY, *University of North Carolina at Greensboro*, CORY MCCABE, *Rutgers University*, WILLIAM W. GRAVES, *Rutgers University*, LUCIA Z-RIVERA, *University of Maryland, College Park*, DONALD J. BOLGER, *University of Maryland*, JEREMY J. PURCELL, *University of Maryland* — Skilled reading is thought to rely on statistical regularities at multiple sublexical grain sizes, including grapheme-phoneme (GP) and onset-rime (OR) correspondences. However, it remains unclear whether individual differences in reading skill are associated with sensitivity to the consistency and frequency of these sublexical mappings. Sixty-nine adults completed a pseudoword reading task and standardized measures of real-word reading skill. Mixed-effects models assessed the relationship between reading skill and GP and OR consistency and frequency measures while controlling for age, education, and stimulus length. After correcting for multiple comparisons, Word Identification significantly predicted GP frequency ($\beta = 0.0020$, $p = .002$, $q < .01$), such that higher-skilled readers produced pronunciations with more frequent GP mappings. Reading skill did not significantly predict GP consistency, OR consistency, or OR frequency. These findings suggest that higher reading skill is associated with greater reliance on finer-grained high-frequency GP mappings during pseudoword reading.

12:00-1:30 PM (II-103)

Investigating Decomposition of Derived English Words Using Eyetracking During Reading. RYAN BUGGY, *University of Massachusetts Amherst*, ADRIAN STAUB, *University of Massachusetts Amherst* — Reading multimorphemic words may involve decomposition (e.g. Rastle, Davis, & New, 2004), whereby readers rapidly segment words into their constituent morphemes. Most research on this process has relied on paradigms such as lexical decision, which is less naturalistic than eye movement recording, and which may inflate the magnitude of

frequency effects typically used to detect separate influences of a word's stem and its whole-word form (e.g., Amenta & Crepaldi, 2012; Kuperman et al., 2013). We present an eyetracking study in which the stem and surface frequency of English derived words were factorially manipulated. Individual subjects' reading expertise was also assessed with spelling, vocabulary, and comprehension tests. We found an interaction whereby stem frequency influenced fixation durations only for words with low surface frequency, and we found that the increase in reading time on these words was larger for less-skilled readers. These findings support a dual-route model of multimorphemic word reading (e.g., Baayen, Dijkstra, & Schreuder, 1997), in which the use of the distinct routes is moderated by individual differences in reading expertise.

12:00-1:30 PM (II-104)

Tracking Prediction in L2 Naturalistic Reading: The Role of Proficiency. LIN GAO, *University of Illinois Urbana-Champaign*, GAISHA ORALOVA, *Georgia State University*, LIN CHEN, *University of Illinois Urbana-Champaign* — Prediction is important in supporting fluent reading, but less is known about how it operates in second-language (L2) reading. This study examined whether L2 readers are sensitive to context-based word predictability during naturalistic text reading and whether this sensitivity varies by proficiency. Eye movements were recorded from 57 Chinese-English bilingual as they read 63 passages from The New York Times. Predictability of each word in a passage was indexed by transformer-based surprisal. We used the Nelson-Denny Reading Test to assess participants' English vocabulary and reading comprehension performance, with the two scores combined to index overall English proficiency. Mixed-effects analyses showed that less predictable words were read more slowly, especially among lower-proficiency readers, suggesting greater processing costs. Vocabulary and reading comprehension showed differential moderation patterns: vocabulary modulated current-word predictability effects, whereas reading comprehension modulated preceding-word predictability effects. These findings suggest that L2 readers use contextual information to support reading, with vocabulary and comprehension modulating different aspects of this process.

12:00-1:30 PM (II-105)

Reading in Museums: Investigating Eye-Movements Using Mobile Eye-Tracking. BRIANNA R. GRISKA-MACPHEE, *McMaster University*, MYRON GROOVER, *McMaster University*, VICTOR KUPERMAN, *McMaster University*, ALEXANDER NGUYEN, *McMaster University*, SHRESHTH SAXENA, *McMaster University*, LAUREN FINK, *McMaster University* — Textual signage plays a key role in museum education and visitor enjoyment. The design of textual signage has major impacts on user experience in gallery and museum spaces; overly complex language, for example, may limit engagement for audiences including children, non-native speakers, and individuals with cognitive or visual impairments. The current study examines how textual and visual information shapes visitors' natural behaviour and experience in a gallery environment. Visitors to the McMaster Museum of Art were invited to wear mobile eye-tracking glasses (Pupil Labs Neon + SocialEyes) as they navigated an exhibit containing historical textual and sculptural objects. Participants (N = 82) then completed a short survey regarding their demographic information, learning outcomes, and overall experience in the exhibition. We analysed eye-movement data linking the overall time spent and gaze duration on specific artifacts and labels to participants' subjective ratings of learning and enjoyment. This study's results help us understand 1) the relative impact of labels on users' aesthetic and learning experience in museums, and 2) the link between the visual properties of museum objects and user choice in navigating exhibit spaces.

12:00-1:30 PM (II-106)

Does Sign Language Experience or Deafness Impact Reading Span Size or Eye Movement Behaviors? AYDEN KPORMEGBEY, *San Diego State University Research Foundation*, FRANCES G. COOLEY, *Rochester Institute of Technology*, ELIZABETH SCHOTTER, *University of South Florida*, KAREN EMMOREY, *San Diego State*

University — The reading span is the region around fixation used to gather information and guide eye movements during reading. Using a gaze-contingent moving window paradigm, Bélanger et al. (2012) found that deaf readers had a larger rightward reading span than hearing readers (18 vs. 14 characters). The present study extends this work by including early hearing signers exposed to ASL from birth (n = 24), in addition to deaf signers (n = 28), and hearing non-signers (n = 17), to examine whether deafness and/or sign language experience influences reading span size and eye movements. Preliminary findings reveal no group differences in rightward span size, failing to replicate Bélanger et al. – perhaps due to methodological differences. However, there was some evidence that signers have a larger leftward span: reading rate increased when the full text was visible. Deaf signers also made significantly fewer fixations and skipped more words than hearing non-signers, while hearing signers showed an intermediate pattern for both. These results suggest that early sign language experience may influence visual attention during reading, but effects are more robust for deaf readers.

12:00-1:30 PM (II-107)

Numbers Facilitate Reading Fluency: Eye-Tracking Evidence for Processing Advantages of Numeric Content in Sentence Reading.. OLGA PARSHINA, *Middlebury College*, ZHANIYA MURAT, *Middlebury College*, AMNA MOHAMMED, *Middlebury College*, NANA SANTOS ALMONTE, *Middlebury College*, ARIS TECHASUKIJ, *Middlebury College*, GORAZD GAJDOV, *Middlebury College*, GENEVIEVE STONE, *Middlebury College* — Numerals and words may rely on different reading mechanisms. While words rely on phonographic processing, numerals are logographic, with each symbol carrying meaning independently; prior research has shown longer fixation durations for numerals than matched-length words when read out loud in isolation (de Chambrier et al., 2023). This eye-tracking study examined the effect of numeric format in sentences on silent reading efficiency compared to verbal format. Native English speakers (N = 98) silently read sentences with target words in one of three conditions: Numeral (‘4’), Spelled-out Numeral (‘four’), or a length- and frequency-matched Neutral Word (‘cute’), while eye movements were recorded. Linear mixed-effects models with early (first fixation, gaze duration, and skipping) and late (total reading time and regressions) measures revealed that spelled-out numerals were read more efficiently than neutral words: gaze durations were shorter ($\beta = -0.039$, $p = .039$) and skip rates were marginally higher ($\beta = 0.035$, $p = .050$). Combined with the high skip rate for Arabic numerals (~44% vs. ~25–29% for words), the data suggest that numeric content in either symbolic or verbal form facilitates rather than hinders processing.

12:00-1:30 PM (II-108)

Examining neural effects of semantic and syntactic violations during Rapid Parallel Visual Presentation sentence reading in deaf readers. SOFIA E. ORTEGA, *San Diego State University; University of California, San Diego*, KATHERINE J. MIDGLEY, *San Diego State University*, KAREN EMMOREY, *San Diego State University*, PHILLIP J. HOLCOMB, *San Diego State University* — Previous sentence reading studies using event-related potentials (ERPs) in deaf individuals often use the Rapid Serial Visual Presentation (RSVP) paradigm where one word is presented at a time. In contrast, the Rapid Parallel Visual Presentation (RPVP) paradigm presents short sentences all at once as a single stimulus. The current study explores to what extent deaf readers can extract semantic and syntactic information from RPVP sentence reading by examining N400 and P600 ERP effects. Well-formed sentences were compared to those containing one of four types of violations: a syntactic verb agreement violation, a syntactic word order violation, a semantic verb anomaly, or a final word semantic anomaly. Twenty-four deaf adults viewed five-word sentences presented for 200ms and performed an acceptability judgment task. ERPs were analyzed in three consecutive 300ms windows between 300–1200ms post-stimulus, encompassing the N400 and P600 time windows. Preliminary analyses suggest that word order violations and semantic final anomalies elicit delayed N400 responses. These effects were

more robust than for verb agreement violations and semantic verb anomalies.

12:00-1:30 PM (II-109)

Perceptual Span Size is Predictive of Search Behavior. GRACE SINCLAIR, *University of Central Florida*, JOSEPH SCHMIDT, *University of Central Florida* — Prior work demonstrated weak associations of fixations/saccades across linguistic and non-linguistic tasks, but reading ability and processing speed of words/objects may be related. Perceptual span size represents the visuospatial area from which textual information is extracted around and beyond central vision. Increased span size is associated with more efficient reading. Visual search requires a cyclical process of localizing and shifting spatial attention to target relevant regions (guidance), followed by recognition until the target is located. We asked if the same attentional mechanisms that support efficient reading behavior extend to visual search. Across word and object search, larger perceptual span sizes predict faster reaction times, driven by object recognition processes as indexed by decreased target and distractor dwell times. In word but not object search, increased span size also improved search guidance. This suggests that at the level of recognition, similar attentional mechanisms are involved in reading and search.

12:00-1:30 PM (II-110)

Bold Claims: Comparing Bionic Reading, Morphemic Highlighting, and Syllabic Highlighting on Reading Performance. GIA CICERO, *High Point University*, KIMBERLY WEAR JONES, *High Point University* — Techniques aimed at improving reading performance have become increasingly popular. One recent trend, Bionic Reading, claims that bolding the first few letters of words creates visual anchor points that guide readers through text by capitalizing on rapid word recognition processes (Bionic Reading, 2026). However, empirical support for these claims has been limited (Doyon, 2022; Snell, 2024; Spear et al., 2025). The current study replicated and extended Spear et al. (2025) using eye tracking to examine word recognition patterns related to reading speed and comprehension across five text conditions: (1) traditional Bionic Reading, (2) bolded initial letters of content words, (3) bolded morphemes in content words, (4) bolded syllables in content words, and (5) a no-bolding control. Eye-tracking research suggests skilled readers rely more heavily on morphemic than syllabic information during reading (Clifton et al., 2007; De Simone et al., 2023). Participants completed an ADHD screening questionnaire and comprehension assessment to examine individual differences.

12:00-1:30 PM (II-111)

The speed of memory retrieval predicts trial-by-trial variability in working memory performance. GI-YEUL BAE, *Arizona State University*, KUO-WEI CHEN, *Arizona State University* — Visual working memory (WM) performance is typically attributed to storage limitations, yet retrieval processes may contribute additional variability. To investigate the temporal dynamics of WM retrieval, we measured response initiation time (RTI) — the interval between response cue onset and mouse movement initiation — across memory loads in a color delayed estimation task. RTI distributions exhibited robust bimodality, indicating discrete retrieval states whose relative proportions varied systematically with memory load. Critically, RTI increased with memory load even between loads one and two, suggesting that retrieval demands emerge as soon as multiple items are stored in WM simultaneously. Within each memory load, slower RTI was associated with larger response errors, and individuals with greater RTI variability showed poorer overall WM performance. Together, these findings demonstrate that RTI predicts trial-by-trial variability in WM performance and suggest that quantifying WM performance without considering retrieval processes can systematically underestimate true WM storage capacity.

12:00-1:30 PM (II-112)

The role of visual working memory in bilingual children's classifier language processing. THORFUN GEHEBE, *City University of New York*, KLARA MARTON, *City University of New York* — Classifier language speakers (e.g., Thai) must process classifiers that are organized based on their visual features (e.g., shape; Allan, 1977), offering a unique opportunity to examine the interaction between specific language features and visual working memory (VWM). This study extended the interference model of VWM (Oberauer & Lin, 2017) by investigating the role of VWM in classifier processing in children. In Experiment 1, Thai-English bilingual children completed a visual continuous-reproduction task with context- and content-similarity manipulations. Consistent with the model, recall improved when items shared similar visual features, suggesting a facilitative effect of superposition. In Experiment 2, children completed a classifier-reproduction task with discrete and continuous classifier features. A facilitative superposition effect was found with continuous features but not with discrete features. Children with higher reading proficiency outperformed children with lower reading proficiency in both experiments, suggesting a relationship between VWM and reading proficiency. Findings extended the interference model to language processing and highlighted the complex interaction between VWM and bilingual language proficiency.

12:00-1:30 PM (II-113)

Impact of Affect on Visual Working Memory Capacity and Precision. ELIZABETH WIEMERS, *Bradley University*, CAMRYN PICKEN, *Bradley University* — Negative affect induced by presentation of negative-valence images has been shown to enhance visual working memory precision. However, positive affect induced by presentation of positive-valence images yields inconsistent changes in capacity and precision. The visual working memory literature primarily induces emotion through positive- or negative-valence images. However, emotion can also be understood and induced through a motivational dimension. For example, positive affect can be induced using unexpected rewards. Increases in working memory capacity have been observed under reward-induced positive affect in other tasks. Thus, the present study introduced unexpected reward in addition to positive-valence images to try to induce a stronger positive affect in search of a more robust result. In addition, we attempted to replicate what has been previously done with negative affect inductions through negative valence images. We found differences in precision and capacity among the three emotional conditions (positive, neutral, and negative). However, we found the neutral condition to have the highest capacity and highest precision.

12:00-1:30 PM (II-114)

Evidence of Proactive Interference in Visual Working Memory with Non-Repeated Stimuli. LI ZHOU, *Bemidji State University*, BAILEY GOTTLIEB, *Bemidji State University* — Proactive interference (PI) has been identified as a major factor disrupting performance in Visual Working Memory. Previous studies showed that repeated memory items increase PI effect due to growing familiarity with those items. However, it remains unclear whether PI can still occur when unique memory items are used. The current study employed the change-detection paradigm with unique memory items to examine the presence of PI. To provide a comparison with potentially reduced PI, simple numerical calculation tasks were introduced in the second condition. The results revealed no significant main effect between the two conditions, while the comparison between the beginning and end of each block showed a marginally significant effect, $F(1,9)=4.98$, $p=.05$. Importantly, a significant interaction was observed, $F(1,9)=5.67$, $p<.05$. Participants responded faster for trials at the beginning than that at the end of the block, $t(9)=4.90$, $p<.001$, whereas this advantage for early trials was absent in the second condition. These findings suggest that proactive interference can arise even when unique memory items are used, indicating that the source of PI may not be limited to the stimuli actively maintained in memory.

12:00-1:30 PM (II-115)

Working Memory Capacity as a Protective Shield Against Trait Anxiety in Visual Change Detection. CELENE GONZALEZ, *California State University, San Bernardino*, ROBERT RICCO, *California State University, San Bernardino*, HIDEYA KOSHINO, *California State University, San Bernardino* — Research shows that trait anxiety impairs cognitive performance by depleting working memory capacity (WMC). However, studies find anxiety may enhance visual short-term memory (VSTM) through increased hypervigilance. Studies further suggest WMC moderates the relationship between anxiety and cognitive performance, such that anxiety is negatively associated with performance in individuals with low WMC but positively in those with high WMC. The present study investigated whether WMC moderates the relationship between trait anxiety and VSTM. Participants completed working memory span tasks, a self-report measure of trait anxiety, and a VSTM change-detection task. Results showed trait anxiety significantly impaired VSTM performance in the low-WMC group, but not in the high-WMC group. Furthermore, WMC positively predicted VSTM across all set-size conditions, indicating WMC and VSTM share fundamental cognitive mechanisms rooted in the visuospatial subcomponent of working memory. Ultimately, a high baseline WMC serves as a protective shield, preventing trait anxiety from disrupting visual memory.

12:00-1:30 PM (II-116)

Independent Decoding of Visual Format and Abstract Content of Numbers Using EEG Signals. KUO-WEI CHEN, *Arizona State University*, GI-YEUL BAE, *Arizona State University* — Advances in multivariate classification have enabled decoding of visual information held in working memory (WM). However, the decoded information may reflect stimulus-specific sensory signals rather than the abstract meaning of the stimulus. Here, we investigated whether abstract numerical magnitude could be decoded from the spatial patterns of EEG activity. In the experiment, we recorded EEG while participants performed a WM task in which they remembered a numerical magnitude (1, 2, 4, or 5) presented as American Sign Language, dot patterns, English words, or Arabic numerals. We decoded both stimulus format and numerical magnitude using a multiclass support vector machine classifier. Stimulus format was decodable shortly after stimulus onset. Numerical magnitude was also decodable independently of stimulus format throughout the delay interval. RSA revealed that neural representational geometry for magnitude reflected higher-order abstraction, with neural distances tracking a categorical small/large distinction. Together, these results support the hypothesis that WM does not merely maintain sensory representations but rapidly recodes them into stimulus-independent, abstract representations of meaning.

12:00-1:30 PM (II-117)

Does How We Expect to Be Tested Alter How We Use Visual Working Memory? GENGSHI HU, *University of Chicago*, CHENYU LI, *University of Chicago*, EDWARD AWH, *University of Chicago*, EDWARD VOGEL, *University of Chicago* — Visual working memory (VWM) performance is commonly assessed using paradigms such as change detection and forced-choice tasks, which are often treated as interchangeable measures of a shared memory construct. However, these tasks differ in how memory is tested in both spatial uncertainty and decision demands, raising the possibility that the expected test format may alter how representations are initially selected and stored. Subjects completed change-detection, 2AFC, and 9AFC VWM trials while EEG was recorded. We used the memory measurement model (Oberauer & Lewandowsky, 2019) to estimate latent memory strength across paradigms on a common scale. We also examined whether the expected test altered the N2pc during encoding. Consistent with recent evidence that anticipatory task demands shape attentional selection, paradigms with greater spatial uncertainty produced enhanced N2pc set-size effects despite equivalent stimulus displays. These findings suggest that common VWM paradigms differ not only in decision demands, but also in the selection processes engaged during encoding.

12:00-1:30 PM (II-118)

To What Extent Do Mask Parameters Reshape the Masking Function in Delayed Recall? NOAH RISCHERT, *University of Zurich*, JACOB ZEPP, *University of Zurich* — Visual masks are widely used in working memory (WM) research to limit encoding from brief displays, yet "masking" names an outcome rather than a mechanism: Qualitatively different target–mask relations can yield similar costs, and superficially similar masks can produce markedly different ones. Treating the mask as a unitary intervention may therefore obscure variation that gets attributed to WM processes such as consolidation or capacity. Focusing on the classical VWM arrangement of backward masking with spatial overlap, we identify from the masking literature a set of mask parameters expected to shape the masking function (i.e., target recall as a function of target–mask onset asynchrony): contrast, spatial frequency, presentation duration, feature overlap, spatial configuration, and predictability. We will report a Registered Report series of delayed-recall experiments that systematically varies these parameters.

12:00-1:30 PM (II-119)

The Causal Roles of Visual and Prefrontal Cortex in Visual Working Memory Prioritization: A Phosphene- and MRI-guided rTMS-EEG Study. CHENLINGXI XU, *University of Notre Dame*, NATHAN ROSE, *Northeastern University* — Prioritization is essential when maintaining multiple items in working memory (WM). Prior studies suggest distinct roles for dlPFC and sensory cortices [i.e. visual cortex (VC) in VWM] in this process, yet its neural mechanisms remain unclear. In this preregistered study, 68 younger adults performed a two-item, double-retrocue, double-recall visual WM task with concurrent EEG recording, before and after offline rTMS (40s; 50Hz cTBS or 10Hz rTMS; active or sham) to MRI-guided left-dlPFC or phosphene-localized left-VC. Contrary to expectations of TMS-induced impairments, the results showed selective TMS-related improvements, or more specifically, site- and frequency-specific benefits to visual WM: 50Hz cTBS to dlPFC improved precision on recall1 and recall2-stay (same item as recall1), while 10Hz rTMS to dlPFC abolished precision gains on recall2-switch (different item as recall 1) with modulated ADAN ERP. 50Hz cTBS to VC selectively improved precision on TMS-targeted recall2stay conditions with modulated N1 ERP. These ERP-behavior pairings reveal dissociable causal contributions of dlPFC and VC, consistent with their roles in cognitive control and sensory processing, suggest distinct WM operations recruit dissociable mechanisms.

12:00-1:30 PM (II-120)

Modeling the Dynamic Interplay of History Biases and Memory Failures in Color Working Memory. BUGAY YILDIRIM, *Koç University*, AYŞECAN BODUROGLU, *Koç University* — Perceptual history biases (trial-by-trial serial dependence, session-level central tendency, stable categorical loci) in visual working memory (VWM) are ubiquitous but typically investigated in isolation or treated as noise to be residualized. We propose a unifying analytical framework that characterizes VWM representations as continuous traces that drift and diffuse over time. This stochastic model accounts for both perceptual history biases as well as memory failures including swaps and categorical guesses. Preliminary results using a two-target color RSVP task suggested that "remembered" representations drift towards both transient (stimulus distribution) and stable (canonical colors) biasing sources. Although parsimony-based metrics favored a model including the categorical bias and the central tendency bias, a more complex model including serial dependence to the immediately preceding target reduced deviance. We also applied the current model to other in-house and public datasets to ensure its generalizability. This approach could prove a valuable tool for investigating the interplay between multiple biases, instead of isolating them post-hoc, providing a more integrated understanding of perceptual and VWM processes.

12:00-1:30 PM (II-121)

Memories of mixed-emotion events. DAVID ANAKI, *Bar-Ilan University* — While memory for unipolar emotional events is well documented, less is known about memories involving concurrent, contradictory emotions. This research examined the accuracy of mixed-emotion memories across three studies with delays ranging from three weeks to three months. Experiment 1 assessed naturalistic autobiographical memories from the early COVID-19 period. Experiment 2 examined recall of recent personal events. Experiment 3 used a controlled paradigm in which participants encoded standardized positive, negative, and mixed-emotional vignettes and completed the Trait Ambivalence Scale. Across studies, item accuracy and recalled emotional intensity did not differ between mixed-emotion and unipolar events, indicating comparable memory stability. However, trait ambivalence was positively associated with the accuracy of emotional intensity recall for mixed-emotion experiences. These findings suggest that mixed-emotion memories are as stable as unipolar ones, while individual differences in ambivalence uniquely shape how their emotional intensity is remembered.

12:00-1:30 PM (II-122)

Looking Back from the Future: Temporal Perspectives in Personal and Collective Future Thinking. FIRAT CAGLAR SARICICEK, *University of California, Santa Cruz*, JEREMY K. YAMASHIRO, *University of California, Santa Cruz* — People can imagine events from different temporal perspectives; however, little is known about how these perspectives shape perceived temporal horizons. In the present study, we examine whether adopting a current self versus distant self perspective (imagining oneself at age 100 looking back on life) changes how personal and collective events are mentally represented. Participants will report five personal and five collective events and rate each on temporal distance, vividness, and perceived likelihood. Based on Construal Level Theory (Trope & Liberman, 2010), we expect that events generated from a distant self perspective will be more temporally distant, more abstract, less vivid, and less likely than those generated from a current self perspective. We also expect these differences to be larger for collective than personal events. This study aims to understand how temporal perspectives shape the organization and temporal scope of personal and collective events.

12:00-1:30 PM (II-123)

The Paradox of Asides in Older Adults' Autobiographical Stories: Cognitive Deficit or Story Quality Gain? NICOLE ALEA, *University of California, Santa Barbara*, ANNALISE EVANS, *University of California, Santa Barbara*, TEAGAN MCCUNE, *University of California, Davis* — There is a paradox in the cognitive aging literature about autobiographical storytelling: older adults' stories include more indirectly-related asides, due to an inhibition deficit, but are often considered better stories, perhaps due to expertise in communication. These competing explanations have not been explored simultaneously. In Study 1 (n = 60 young, n = 43 old) inhibitory control was considered as an explanation for age-group differences in manipulated story aside expression. These stories were then grouped by storyteller age (young, old) and aside expression (low, high) and rated for quality in Study 2 (N = 123). Cognitive deficits associated with aging did not account for additional story asides by older adults, compared to young, but neither did age variability in communication goals. Older adults' stories with fewer, not more, story asides were considered better in quality compared to the opposite pattern for young storytellers. These effects, however, were associated with ageism by the young adult story raters. Together these studies suggest that moving away from purely cognitive explanations for age group differences in storytelling towards socioemotional explanations may be a fruitful direction forward.

12:00-1:30 PM (II-124)

Flexible Scaffolds: Who, What, and Where Prompts Across Everyday, Significant, and Transitional Memories. REYYAN BILGE, *Northeastern University*, TUGBA UZER YILDIZ, *Bilkent University* — Scene construction theory proposes that spatial context serves as a privileged scaffold organizing autobiographical memory, predicting that "where" prompts should enhance retrieval more than "who" or "what" prompts. We tested this across four experiments (total N = 458) in which Northeastern University students recalled everyday, significant, and transitional memories, then wrote narratives oriented toward place, people, or activity and completed phenomenological ratings. Prompt type did not differentially affect how everyday or significant memories felt; ratings increased modestly after any prompt, consistent with general elaboration rather than a uniquely spatial scaffold. A selective reversal emerged for relocation memories, where "who" and "what" prompts yielded higher elements and specificity ratings than "where," presumably because the defining feature of these events is a changing, unstable location. Together, the findings suggest autobiographical reconstruction relies on multiple interchangeable entry points; space is structural but not special, and its diagnostic value depends on spatial stability.

12:00-1:30 PM (II-125)

Organizing the Life Story: Structure, Retrieval, and Flexibility of Autobiographical Memories. ERIN L. MURPHY, *Iowa State University*, DAVID COPELAND, *University of Nevada, Las Vegas*, THUYTIEN NGUYEN, *University of Nevada, Las Vegas* — This project examined the characteristics and flexibility of autobiographical memories within the life story, based on Conway and Pleydell-Pearce's (2000) self-memory system and McAdams's (2001) narrative identity theory. In two experiments, we examined how retrieval goals (based on instruction manipulation) and hierarchical organization influence the recall of autobiographical memories (specific events and life chapters) as well as the flexibility of the temporal boundaries and duration of these memories. The results showed that participants consistently recalled a greater proportion of chapters than specific events. In addition, temporal boundaries were flexible, but the pattern was asymmetrical, with chapter to specific event conversions being easier and more successful than specific event to chapter conversions. Finally, the results also showed that altering a memory's temporal structure can influence its subjective qualities. Altogether, these findings indicate that autobiographical memory is flexible, but that flexibility operates within organizational constraints that prioritize coherence and identity relevance.

12:00-1:30 PM (II-126)

Social Influences on Autobiographical Narratives of Positive and Negative Events. KRISTI A. COSTABILE, *Iowa State University*, ABBY BOYTOS, *Seton Hill University* — Three experiments examined how beliefs of one's communication audience affects: (a) how rememberers attached the recalled event to their self-concept, (b) how connected rememberers felt with their communication audience, and (c) the use of the recalled event when projecting future experiences. Study 1 used an experimental design that manipulated audience beliefs and event valence; Study 2 used a daily diary design to examine experiences related to conversational remembering in everyday life; and Study 3 examined whether effects would extend to AI audiences. Findings indicate that audience beliefs are a critical component of the communication process enhancing the rememberers' self, social, and directive memory outcomes, regardless of event valence. However, preliminary evidence suggests results to do not extend to AI audiences. This work highlights the role of communication processes on autobiographical consciousness and the meaning individuals derive from their remembered life experiences.

12:00-1:30 PM (II-127)

Which language does the heart speak? Emotional diversity and intensity in bilingual autobiographical memories. DAISY A. ESTRADA, *Tarleton State University*, RICHARD J. GERRIG, *Stony Brook University* — Cross-cultural researchers have found meaningful differences in autobiographical memory (AM) across cultural groups, often attributing those differences to cultural values. However, various studies confound culture with language of recall, leaving open the question of whether language also shapes memory construction. Spanish, for instance, carries a broader emotional vocabulary and greater affective expressiveness than English, suggesting that recall language may drive emotional differences in AM. To test this hypothesis, we recruited 141 Spanish-English bilingual Latine Americans (university and national samples) who recalled self-defining memories in both languages. We coded narratives for emotional intensity and diversity using a sentence-level NLP pipeline sensitive to positive, negative, and neutral content. Spanish narratives showed substantially greater emotional intensity and diversity than English narratives, yet participants reported no subjective emotional differences between languages. These findings suggest that both language and culture shape the content of people's autobiographical memories.

12:00-1:30 PM (II-128)

Can anchoring instructions boost the effectiveness of a dual-task intervention for emotional autobiographical memories? GAETAN MERTENS, *Tilburg University* — Executing lateral eye-movements while recollecting an unpleasant autobiographical memory can reduce the vividness and unpleasantness of this memory. This effect is thought to occur because of working memory load. However, an alternative explanation is that repeated assessments of emotionality and vividness of a memory throughout the task may induce an anchoring-effect. Specifically, repeatedly asking about emotionality and vividness of a memory introduces an anchoring-effect with the previous rating, thereby leading to reductions in emotionality and vividness ratings. In this study, the role of the anchoring effect in an eye-movement intervention task was examined experimentally: Half of the participants received anchoring instructions that ask how much their ratings during the task have reduced compared to the previous rating. This instruction was intended to induce a stronger anchoring effect. The other half of the participants were simply asked to rate their memory in the moment, without any reference to a direction. As expected, reductions in memory vividness and unpleasantness were almost double in the anchoring-group compared to the control group. This anchoring effect may have promising clinical applications.

12:00-1:30 PM (II-129)

Modulating mind wandering and statistical learning through region-specific delta tACS. TEODÓRA VÉKONY, *Universidad del Atlántico Medio*, ADRIENN HOLCZER, *Universidad del Atlántico Medio*, INÉS BOTÍA, *Universidad del Atlántico Medio*, ORSOLYA PESTHY, *INSERM*, PÉTER SIMOR, *Université Libre de Bruxelles*, DEZSO NEMETH, *INSERM; Gran Canaria Cognitive Research Center* — This study investigates the causal relationship between local sleep-like brain states, mind wandering, and statistical learning. We applied 1.5 Hz delta transcranial alternating current stimulation to either the frontal or posterior cortices of healthy participants, comparing them to a sham group during an Alternating Serial Reaction Time task. We aimed to determine if experimentally inducing slow-wave activity alters mind wandering and statistical learning. Results indicated that while reaction times remained unaffected across groups, stimulation impacted accuracy and the propensity for mind wandering. Specifically, posterior stimulation significantly increased mind wandering, whereas frontal stimulation reduced it compared to the sham condition. Furthermore, participants in the frontal group exhibited a higher tendency toward mind wandering rather than mind blanking. Statistical learning was also influenced by the stimulation. These findings suggest that cortical region-specific delta activity modulates attentional drift and implicit learning processes. Project PID2024-160183NA-I00 funded by MICIU/AEI/10.13039/501100011033 / FEDER, UE

12:00-1:30 PM (II-130)

Mind wandering, statistical learning, and obsessive-compulsive tendencies: Is there a connection? BIANKA BREZÓCZKI, *Atlántico Medio University*, PÉTER SIMOR, *Université Libre de Bruxelles*, TEODÓRA VÉKONY, *Gran Canaria Cognitive Research Center*, DEZSO NEMETH, *INSERM; Gran Canaria Cognitive Research Center* — Obsessive-compulsive (OC) tendencies are characterized by persistent intrusive thoughts, yet their relationship with fundamental learning processes remains poorly understood. Recent findings suggest that OC tendencies are associated with individual differences in statistical learning, a cognitive process that enables the extraction of regularities from the environment. At the same time, emerging evidence indicates that mind wandering may facilitate the detection of hidden patterns, pointing to a potentially adaptive role of spontaneous internally directed thought. Together, these findings raise an intriguing question: could mind wandering play a role in the relationship between OC tendencies and statistical learning? Although intrusive thoughts and mind wandering are conceptually distinct, both involve internally generated mental content that may influence how environmental information is processed and learned. Examining these processes within a common framework may offer a novel perspective on individual differences in sensitivity to environmental regularities. Such an approach could contribute to a better understanding of the cognitive mechanisms linking learning, spontaneous thought, and OC tendencies.

12:00-1:30 PM (II-131)

Individual Differences in Hyper-Binding: The Roles of Age and Attentional Control. JAKE GOLDSWORTHY, *University of Western Australia*, BRIANA L. KENNEDY, *University of Western Australia*, SIMON FARRELL, *University of Western Australia* — While the age-related decline in episodic memory has traditionally been attributed to an associative binding deficit, it has more recently been suggested that older adults may actually bind too much information and recall it in a later memory task – termed hyper-binding. The present study aimed to examine the extent to which normal ageing and attentional control independently contribute to hyper-binding. Older and younger adults completed a standard hyper-binding paradigm involving a 1-back task and paired associates memory task to assess implicit associative memory. Participants also completed several measures of individual differences in attentional control. As predicted, older adults' attentional control was substantially worse than younger adults'. Bayesian analyses revealed evidence for hyper-binding in both age groups; however, evidence for an age-related difference in hyper-binding was equivocal, and age did not moderate the relationship between attentional control and hyper-binding. We also found evidence against a correlation between individual differences in attentional control and hyper-binding. These findings question whether hyper-binding is an age-related effect, and the role of attentional control in hyper-binding.

12:00-1:30 PM (II-132)

The Accessibility of Relational Memory Varies Between Awake and Sleep Delays. ALISSA GOMEZ, *Northwestern University*, MARK BEEMAN, *Northwestern University* — Across two studies, we utilized a relational learning paradigm to probe how sleep and subsequent decision-making strategies influence the development of relational memory. Participants (Study 1: n = 80; Study 2: n = 169) first trained on a set of novel "virus" stimuli, presented in pairs, and judged which was more dangerous. Unbeknownst to participants, there was an embedded hierarchy among the images (i.e. A>B>C>D>E>F>G>H). These "premise" pairs reflected stimuli adjacent in the hierarchy. Participants were randomly assigned to a delay interval spent either awake or including sleep. They were then tested on memory for premise pairs and asked to make judgments on novel "inference pairs." Participants were instructed to use either intuitive or analytic decisions when approaching the inference pairs. Across both delay periods, participants were more accurate on increasingly distant inference judgments. However, participants who remained awake were more accurate when instructed to make analytic decisions, whereas participants whose delay included

sleep were more accurate when instructed to make intuitive decisions. This suggests differences in the accessibility of relational memory across wake and sleep delay periods.

12:00-1:30 PM (II-133)

Exposure Task Affects Attentional Engagement and Accuracy in Implicit Learning. IRINA LAVROVA, *Texas Tech University*, MIRANDA SCOLARI, *Texas Tech University* — Artificial grammar learning (AGL) paradigms are often used to study implicit learning via an initial exposure phase to letter strings followed by a grammaticality judgment phase. However, exposure procedures vary widely across studies, raising concerns about whether all tasks equally engage implicit processes. We addressed this question by directly comparing common exposure conditions and their subsequent impacts on grammaticality judgment performance. Participants (N = 60) were assigned to either (1) remember each string, (2) make a same/different judgment of two sequential strings, or (3) passively view each string. First, we measured pupil size during exposure to indirectly assess attentional effort. Relative to baseline, we observed a significantly larger constriction during string presentation in the first two conditions compared to passive viewing. A similar pattern was observed within behavioral performance during the grammaticality task: Accuracy exceeded chance following the remember, M = .574, p = .001, and same/different exposure conditions, M = .591, p = .003, but not following passive viewing, M = .520, p = .089. These results indicate that different exposure phases are not interchangeable within AGL paradigms.

12:00-1:30 PM (II-134)

Habitat Identification: Is the Structure Derived from Statistical Learning Purely Associative? ALEXANDER N. LAWRIW, *Louisiana State University*, CHRISTOPHER R. COX, *Louisiana State University* — Statistical learning allows us to implicitly track regularities within our environment; however, it remains unclear what types of representations are supported by this process. In a series of two experiments, we examined whether the associative structure derived from statistical learning was rich enough to also support categorical inference, the ability to generalize shared properties across objects. Participants were first explicitly taught the category membership of certain objects before viewing a sequence with or without underlying structure. Although participants showed signs of associative learning, they typically failed to infer shared category membership. These results suggest that statistical learning produces pairwise associations rather than true categorical representations. This distinction maps onto established neurobiological differences with the hippocampus, a key region involved in statistical learning, serving as a rapid encoder of pairwise associations while more neocortical structures slowly build categorical structure at a longer time scale.

12:00-1:30 PM (II-135)

Burps > Syllables > Sign Words: Reassessing the Linguistic Advantage in Statistical Learning. MINE MUEZZINOGLU, *University of Maryland, College Park*, ROCHELLE S. NEWMAN, *University of Maryland, College Park*, L. ROBERT SLEVC, *University of Maryland, College Park* — Statistical learning (SL), our ability to track patterns in the environment, allows us to segment input into larger chunks important for further processing. Though traditionally viewed as domain-general, SL appears especially efficient for spoken language, raising the question of what makes speech a privileged input. One possibility is that linguistic structure (e.g., phonemic units and combinatorial regularities) makes language well-suited for SL. Another is that familiarity, meaningfulness and/or human-generatedness drive SL efficiency. We exposed 209 participants to sequences of spoken syllables, non-linguistic human-generated sounds (e.g., coughs, burps), and ASL sign words, and collected ratings of each stimulus on familiarity, meaningfulness, and communicativeness. Recognition of statistically common groupings was best for non-linguistic human generated sounds, intermediate for speech syllables, and worst for ASL sign words, opposite of what a linguistic-structure account predicts. Additionally, nonsense syllables

were rated less meaningful and familiar than non-linguistic human sounds, suggesting that familiarity and meaningfulness, not linguistic structure, drive SL efficiency.

12:00-1:30 PM (II-136)

Retrieval-Induced Forgetting Influences Perceived Truth. JESSICA UDRY, *East Texas A&M University*, SARAH J. BARBER, *Georgia State University* — Repetition increases perceived truth. The referential theory of truth proposes this illusory truth effect occurs because repetition increases the availability and coherence of corresponding references in semantic memory. If this theory is correct, then retrieval-induced forgetting (RIF), which strengthens some memory representations while weakening others, should also influence perceived truth. To test this, 193 younger adults studied categorized lists of facts and then practiced retrieving half of the facts from half of the categories. Participants later rated the truth of practiced facts (RP+), unpracticed facts from practiced categories (RP−), unpracticed facts from unpracticed categories (Nrp), and new facts. Replicating the illusory truth effect, repeated facts (RP+, RP−, and Nrp) were rated as truer than new facts. However, truth ratings also varied as a function of retrieval practice. RP+ facts were rated as truer than all other fact types, whereas RP− facts were rated less true than Nrp facts. Thus, RIF affects perceived truth.

12:00-1:30 PM (II-137)

Unconscious Plagiarism: Generative Elaboration Changes Source Guessing. JOHANNA M. HÖHS, *University of Tübingen*, D. STEPHEN LINDSAY, *University of Victoria* — Unconscious plagiarism can undermine social relationships and jeopardize careers. Previous research suggests that the likelihood of unconscious plagiarism increases after generative elaboration (e.g., generating ways to improve others' ideas). Yet, not much is known about the cognitive processes that underly this observation. Separating source memory and guessing with a multinomial processing tree modeling approach, we addressed this in the context of advice-taking interactions, a high-risk setting for source misattribution. Participants (N = 250) were tested individually online. They generated and read health advice in turns. Half of the participants rated the advice after generation/reading, whereas others elaborated the advice. The modeling results indicated the expected positive generation effect on recognition memory in both conditions, but no positive generation effect on source memory. Crucially, after elaboration, guessing the source as being self-generated increased substantially in comparison to rating the advice, suggesting that generative elaboration poses a risk to proper credit assignment due to adapted source guessing strategies.

12:00-1:30 PM (II-138)

Divided attention can enhance memory performance: A meta-analysis of the attentional boost effect. SAMET KAYA, *University of North Carolina at Chapel Hill*, ADITYA KRISHNAN, *University of North Carolina at Chapel Hill*, NEIL W. MULLIGAN, *University of North Carolina at Chapel Hill* — Attentional boost effect (ABE) is a counterintuitive memory phenomenon in which divided attention can facilitate memory encoding and thereby increase subsequent memory performance (Swallow & Jiang, 2010). In this study, we conducted a multi-level meta-analysis of 89 studies that contributed 519 effects. Our results suggested that across different studies, there was a moderate attentional boost effect ($g = 0.433$, 95% CI = [0.372, 0.494]) which was significantly greater than zero [$t(78.6) = 14.00$, $SE = .031$, $p < .001$]. We identified three moderators of the ABE: intentionality of encoding, the number of presentations for the to-be-remembered (TBR) items, and retention interval. Intentional encoding and the additional presentations of the TBR items were associated with increases in the size of the ABE; however, longer retention intervals were associated with a decrease in the effect size, albeit small.

12:00-1:30 PM (II-139)

Goals and Shifting Gears: Evaluating Strategic and Motivational Processes Across Neurotypes in the Wild. BRADY PERMENTER, *University of Tennessee at Chattanooga*, LUKE HICKS, *University of Tennessee at Chattanooga*, ALEXANDRA DIHONOV, *University of Tennessee*, EDITH RUST, *University of Tennessee at Chattanooga*, JILL SHELTON, *University of Tennessee at Chattanooga*, GABRIEL COOK, *Claremont McKenna College* — The current study examines prospective memory (PM) in neurotypical and neurodivergent individuals using a naturalistic goal-elicitation procedure. Data on the execution of participant-driven goals were collected over a five-day period for approximately 100 participants. Group differences in motivation were evaluated through the inclusion of both prosocial and self-interested goals, thereby translating previous theoretical and laboratory findings on pro-social motivation deficits in neurodivergent individuals into a more ecologically valid paradigm. Data was also collected on the cognitive offloading strategies utilized by participants, providing information on the prevalence and effectiveness of cognitive offloading in a naturalistic setting as well as group differences in cognitive offloading between neurotypical and neurodiverse populations. Individual differences in reprioritization and the reasons for PM failure were also evaluated, providing insight into the strategies leveraged by neurodivergent individuals, an understudied population in the PM literature.

12:00-1:30 PM (II-140)

Bias Against Disconfirmatory Evidence and Rule + Exception Learning. CHEYNA WARNER, *University of Oregon*, LAINEY COSTA, *University of Oregon*, DAGMAR ZEITHAMOVA, *University of Oregon* — In response to encountering contradictory evidence, people may either keep their initial representations or update them. We tested whether the tendency to update one's representations is a stable individual trait. Healthy young adults completed the Bias Against Disconfirmatory Evidence (BADE) questionnaire, a task designed to measure the willingness to incorporate information contradictory to previous beliefs. Participants also completed a unidimensional rule + exception category learning task. We examined the extent to which willingness to reconsider a category rule in the face of exceptions was related to the willingness to update beliefs based on new evidence in social scenarios. We found a correlation between belief updating in the BADE questionnaire and rule following in face of exceptions, such that participants who most strongly adhered to following the initial rule after introduction of exceptions were the least likely to update their beliefs in the BADE task. These findings indicate that tendency to update one's representations is a stable individual trait that contributes to performance in both social and cognitive tasks.

12:00-1:30 PM (II-141)

Mutual Inhibition between Perceptual and Conceptual-Based Fear Generalization: Evidence from a Novel Pavlovian Paradigm. ZHENJIE XU, *KU Leuven*, KENNY YU, *KU Leuven*, BRAM VERVLIET, *KU Leuven* — Why does fear, once learned, spread to stimuli that were never themselves threatening? A widely accepted answer is that fear generalizes along two routes: perceptual similarity and conceptual relatedness, both implicated in the overgeneralization seen in anxiety disorders. Yet these routes have almost always been studied in isolation, leaving the more interesting question untouched: how do they interact, and what determines which one dominates? Using a Pavlovian paradigm that established perceptual and conceptual differential learning concurrently, we measured generalization immediately and one week later via US expectancy and skin conductance. Results showed fear generalization shifted from perceptually driven shortly after learning to conceptually driven a week later, with this shift predicted by perceptual memory precision. Further, the two routes did not simply add together; instead, they appeared to mutually inhibit one another, with the dominant memory trace driving generalization while suppressing the other. Together, these findings motivate a "failed inhibition" account, in which maladaptive fear generalization may arise

not from a faulty single route but from a breakdown in the inhibitory balance between memory traces.

12:00-1:30 PM (II-142)

Effects of Sleep Restriction on Social Contagion of Emotional Memory. NINOO DE SILVA, *Montana State University*, KONSTADENA GIANNAKOPOULOS, *Montana State University*, MICHELLE MEADE, *Montana State University*, CARA PALMER, *Montana State University* — This study investigates how sleep restriction influences social contagion for emotional memory. Participants were randomly assigned to a normal sleep condition (8 hours sleep) or a sleep restricted condition (4 hours sleep). The next day, participants studied positive, negative, and neutral images and then recalled with a confederate who suggested both accurate and inaccurate images. Next, they completed individual recall and a source monitoring recognition test. Results showed that sleep restricted participants were less likely to incorporate their partner's responses on the recall test, but once they were encouraged to consider the source of the information on the recognition test, the sleep restricted participants showed similar levels of social contagion as the well-rested participants. These findings suggest that retrieval demands influence the relationship between sleep and social false memory.

12:00-1:30 PM (II-143)

Metacognitive Influences on Learning from Failure. ANDREW KELLY, *Mercer University* — Recent research has demonstrated that individuals remember less information following error feedback as compared to success feedback. The current study explored whether individuals' metacognitive judgments reflected this pattern of performance. Participants completed several sets of a matching game. After matching images on the screen, participants received feedback that two of the pairs were correct and two were incorrect. Following feedback, participants were shown one of the images from the pair and asked to make a confidence judgment about how likely they would correctly remember the matching stimulus during a second retrieval attempt. The second retrieval attempt occurred after a short two-minute, filled delay. Replicating previous research, individuals' memory was more accurate for items that were previously marked as correct versus incorrect. Gamma correlations between confidence judgments and retrieval success indicated good resolution for items previously marked as correct but were near zero for items previously marked as incorrect. These data suggest that a metacognitive misalignment may partially contribute to individuals' difficulties in learning from failure.

12:00-1:30 PM (II-144)

Crossmodal integration of novel words: Benefits of phonological input and high neighborhood density. EFTHYMIA C. KAPNOULA, *Basque Center on Cognition, Brain and Language*, NINI CHRISPEELS, *Basque Center on Cognition, Brain and Language; Vrije Universiteit Brussel*, ARTHUR SAMUEL, *Stony Brook University; Basque Center on Cognition, Brain and Language* — Bakker et al. (2014) showed that novel words can be integrated in the mental lexicon across modalities: Phonological training led to orthographic integration the next day, whereas orthographic training led to phonological integration a week later. However, the apparent advantage of auditory input might reflect their use of different tasks to test phonological vs. orthographic integration. Here, we use the same task to assess integration in both modalities. Participants were trained on 6 novel words in each modality, half in high- and half in low-density neighborhoods (ND). Lexical integration was tested in a visual world paradigm immediately, 24hrs, and 1 week later. Once integrated, novel words should compete with their neighbors, slowing down their activation. Overall, phonological training produced the expected inhibitory effect. However, orthographically trained words show a reverse, facilitation effect, likely reflecting the encoding of episodic, not yet integrated representations (Dumay and Gaskell, 2012). Critically, the effects were strongly modulated by ND. Our results confirm the advantage of auditory input in novel word learning (Bakker et al, 2014), but show that neighborhood density of new words plays a decisive role.

12:00-1:30 PM (II-145)

The Effects of Value on Memory Specificity. MIRANDA MEDINA, *University of California, Los Angeles*, DONNI STALEY, *University of California, Los Angeles*, BARBARA J. KNOWLTON, *University of California, Los Angeles* — Value directed remembering has been shown to improve memory performance. However, it remains unclear whether value also enhances memory specificity. Younger and older adults encoded faces associated with either high or low point values that would be earned if the exact image was recognized at test. The recognition task containing targets (identical previously studied faces), lures (the same face shown from a different angle), and foils (entirely novel faces). Participants also rated their confidence that each face was the exact image previously studied. Across both age groups, participants were able to discriminate targets from lures but made significantly more false alarms to lures compared to foils. Value increased recognition of targets and false alarms to lures at a similar rate suggesting enhanced gist-based memory rather than improved memory specificity. Although recognition accuracy was relatively comparable across age groups, younger adults showed reduced confidence following lure false alarms compared to target hits, whereas older adults were similarly confident when endorsing targets and lures as old. These findings suggest that value strengthens generalized memory representations over detailed memory specificity.

12:00-1:30 PM (II-146)

Emotional Memory or Response Bias? A Signal Detection Theory Analysis. SARAH CLINE, *Southern Methodist University*, STEPHANIE WILSON, *University of Alabama at Birmingham*, HOLLY J. BOWEN, *Southern Methodist University* — Emotional memory research reports enhanced recognition for emotional information reflects greater memory accuracy. Prior work in younger adults shows that recognition hit rates can be contaminated by response biases. Using signal detection theory, the current study examined whether emotional memory effects reflect response biases over memory sensitivity in an older sample. Healthy older adults completed a within-subjects directed forgetting paradigm including positive, negative, and neutral stimuli cued at encoding to be remembered (TBR) or to be forgotten (TBF). Results show a significant effect of valence on response bias, $F(2,248) = 48.80$, $p < .001$, $\eta p^2 = .282$, suggesting liberal response biases for positive items. A significant effect of cue indicated conservative TBF responding, $F(1,124) = 73.42$, $p < .001$, $\eta p^2 = .372$. Valence effects of discrimination sensitivity were comparatively smaller than response bias, $F(2,248) = 5.11$, $p = .007$, $\eta p^2 = .040$. These findings suggest that response bias partially drives emotional memory effects in older samples.

12:00-1:30 PM (II-147)

Cognitive Resource Constraints on Context Variability in Recognition Memory. ERICA S. SHAFER, *Virginia Polytechnic Institute and State University*, RACHEL A. DIANA, *Virginia Polytechnic Institute and State University*, MADELINE NETTO, *Virginia Polytechnic Institute and State University*, SOPHIA BRANCH, *Virginia Polytechnic Institute and State University* — Previous research shows that context variability across repeated study exposures improves recognition memory in younger adults (ages 18–30), even when variability includes fewer exposures to the retrieval context. In this paradigm, words are studied with repeated or variable semantic questions and later tested with matching or non-matching cues. We extended this approach to healthy older adults (ages 60–80), who showed reliable encoding–retrieval match benefits but selective benefits of context variability. Older adults did not benefit from context variability with a 2-second encoding window. Variability did benefit recognition for older adults with a 4-second encoding window, but only when an encoding context was not reinstated at retrieval. These findings led us to hypothesize that variability depends on resource-demanding processes. To test this, younger adults completed the task under divided attention using a concurrent tone-detection paradigm. Preliminary findings suggest that divided attention may produce a pattern similar to older adults, consistent with the idea that variability effects depend on available cognitive resources and retrieval demands.

12:00-1:30 PM (II-148)

Knowing It Like the Back of Your Hand: An Illusion of Attention. TAYLOR TRACY, *Iowa State University*, ANDREW M. SMITH, *Iowa State University*, REBECCA C. YING, *Iowa State University*, NYDIA AYALA, *John Jay College of Criminal Justice - City University of New York* — People routinely overestimate how much they notice and remember about the world—a phenomenon known as the illusion of attention. Classic demonstrations show that even highly familiar stimuli are poorly encoded when there is no strong functional reason to do so. Across two experiments, we extended this idea to the self by testing whether individuals could recognize the back of their own hand when embedded in a lineup of hands. Accuracy was strikingly low: only 50.8% in E1 and 55% in E2. Despite this, participants expressed high confidence, with pre-identification confidence averaging 74% and post-identification confidence averaging 81%. These findings suggest that even highly familiar, self-relevant stimuli are not automatically encoded with great detail. More broadly, the results indicate that encoding of fine-grained detail is selective, occurring primarily when it serves a functional purpose. The findings highlight a fundamental dissociation between subjective confidence and objective memory for the self.

12:00-1:30 PM (II-149)

Test Feedback Lowers Recognition Accuracy on 2AFC Tests. BRYAN FRANKS, *University of Southern Mississippi*, JASON HICKS, *Auburn University*, MARK J. HUFF, *University of Southern Mississippi* — Prior work has found that providing accuracy feedback on single-item recognition tests lowers or has a null effect on recognition discriminability (Kantner & Lindsay, 2010). Here, we investigated if feedback would have a similar effect on recognition accuracy using 2AFC tests. Participants completed two study-test cycles, one with and without feedback. In Experiment 1, accuracy was significantly lower on the tests with feedback. Experiments 2 & 3 also employed a memory strength manipulation at encoding whereby words were studied either once (weak) or twice (strong). In Experiment 2, feedback lowered accuracy for the weakly encoded items but had no effect on the strongly encoded items. However, in Experiment 3, feedback lowered accuracy for both strongly and weakly encoded items. Overall, our results suggest that test feedback reliably impairs memory accuracy on 2AFC tests and that the mechanism by which this occurs may not be criterion noise.

12:00-1:30 PM (II-150)

Emotional Memory and Neural Reinstatement in Neurodivergent Adults. EMILY A. HUTSON, *Kennesaw State University*, SIDNI A. JUSTUS, *Kennesaw State University* — Emotional experiences are often remembered better than neutral experiences, but this benefit may differ in clinical populations such as those with autism spectrum disorder (ASD) and/or attention-deficit/hyperactivity disorder (ADHD). These differences may be due to differences in emotion regulation and attentional control. This EEG study examines emotional memory and neural encoding–retrieval similarity in adults ages 18–80 with and without ASD and/or ADHD. Participants complete questionnaires assessing emotion regulation and clinical symptoms, then complete a computerized memory task featuring negative and neutral images from standardized affective databases. During encoding, images are presented under passive-viewing and divided-attention conditions. At retrieval, participants complete recognition (old/new) judgments with confidence (sure/unsure) ratings. EEG is recorded during both phases to assess neural reinstatement. We predict neurodivergent groups will show reduced arousal-enhanced memory, greater distraction-related memory disruption, and reduced encoding retrieval similarity compared to neurotypical adults. Findings will clarify how emotion, attention, and neurodivergent traits influence emotional memory.

12:00-1:30 PM (II-151)

The Impact of Drawing, Describing, and Tracing on Face Memory. ANNA MCCARTER, *Harvard University*, ERLISA DEMNERI, *Harvard University*, LIVIA KOH, *Harvard University*, DANIEL L. SCHACTER, *Harvard University* — Many people have difficulty remembering faces. The potential benefit of writing a description of faces during encoding has been tested before, with mixed results. Related recent research has shown that drawing and tracing object images at encoding both lead to significant increases in subsequent object memory. In this study, we investigated whether drawing and tracing are also beneficial for remembering faces, and how they compare to describing. Participants intentionally studied 80 face images. At encoding, they described, drew, traced, or simply viewed each face. They then took a three-alternative forced-choice recognition test with description-matched faces. We found that describing was the most effective strategy, showing a benefit over viewing alone. The next best strategy was drawing, showing roughly comparable performance to viewing. Interestingly, tracing led to considerably worse memory performance than simply viewing the face. In contrast with prior object image work, this study suggests that when learning faces, describing (and drawing to some extent) can be beneficial encoding strategies to boost later face memory and that tracing should be avoided, at least with respect to the retrieval conditions examined here.

12:00-1:30 PM (II-152)

Measuring Recognition Memory: Implications for Individual Differences and Value-Directed Remembering. DILLON H. MURPHY, *University of California, Riverside*, ILANA J. BENNETT, *University of California, Riverside*, HALLE R. DIMSDALE-ZUCKER, *University of California, Riverside*, GENE BREWER, *University of California, Riverside* — Recognition is assessed using a variety of formats. However, these measures may not be interchangeable and may differentially reflect underlying memory processes. We examined whether different recognition memory judgments converge under memory-directed encoding and whether value-directed remembering (VDR) depends on the type of judgment used. Participants studied words under value-directed or memory-directed instructions and completed old/new, confidence, or two-alternative forced-choice (2AFC) tests. Under memory-directed encoding, accuracy (d') across formats was highly correlated (r = .70). For VDR, substantial list-to-list variability was observed; the value effect was numerically largest in the old/new format and smallest in 2AFC, and was only moderately correlated across formats (r = .25). Remember–Know–Guess and receiver operating characteristic analyses revealed that value effects were driven selectively by recollection rather than familiarity across all formats. These findings suggest that while basic recognition formats measure a highly convergent construct in practice, task constraints and analytic approaches moderately influence the expression of selective encoding strategies.

12:00-1:30 PM (II-153)

Concealed Information Test: Textual vs. Pictorial Probes across Time Delay. PHILIP TSENG, *National Taiwan University* — The Concealed Information Test (CIT) detects deception by presenting suspects with crime-related stimuli only culprits would recognize. Since recognition memory is vital to CIT's success, this study investigated how pictorial versus verbal probes of a visually-experienced mock crime hold up against time delay and memory decay. Participants encoded a first-person mock theft and were tested under one of four randomly assigned conditions: immediate verbal, immediate pictorial, 2-week delayed verbal, or 2-week delayed pictorial. Results showed that time delay significantly impaired CIT performance, with higher AUCs in the immediate conditions. However, no difference was observed between textual and pictorial probes.

12:00-1:30 PM (II-154)

When Memory Looks First: Rapid Episodic Guidance of Visual Attention. JONATHON WHITLOCK, *Mississippi State University*, DEBORAH E. HANNULA, *University of Wisconsin - Milwaukee*, LILI SAHAKYAN, *University of Illinois Urbana-Champaign* — Episodic memory can rapidly guide visual attention, but the temporal onset remains unclear. Across four experiments, we show that memory-driven eye movements emerge on the very first fixation to a multi-item display. After encoding scene–item pairs, participants completed a 3-alternative forced-choice recognition task preceded by a scene cue. First fixations reliably targeted studied associates above chance, with this effect scaling with subjective confidence, and with first gaze duration predicting subsequent recognition accuracy. A critical extension using a same–different location manipulation revealed that spatial memory strongly constrains this early guidance: first fixations were above chance to associates when test location matched study location but fell below chance when locations differed. Second fixations showed a complementary reversal, consistent with rapid scene-cue-driven shifts of attention. When cues instead triggered foils, fixations were drawn to foils but produced shorter dwell times than on associates. Together, results show that episodic retrieval shapes attentional selection within the first eye movement.

12:00-1:30 PM (II-155)

The Positivity Bias and Perceived Familiarity: Do Smiling Faces Increase False Recollections? BROOKE N. CARLAW, *Colorado State University*, ANNE M. CLEARY, *Colorado State University* — An established body of research suggests that people are biased to perceive faces with positive expressions (e.g., smiling) as more familiar than neutral faces. Newer research on feelings of familiarity suggests that sensing familiarity with something may drive people to confabulate reasons for their sense of familiarity. For example, patients experiencing chronic seizure-related déjà vu often exhibit a phenomenon known as recollective confabulation—a tendency to confabulate explanations for the déjà vu. More recently, basic laboratory research suggests that cue familiarity can drive false recollective experiences among non-clinical college students, as well as indicators of memory search effort and curiosity-driven information-seeking behaviors. This suggests that people may have an inherent need to explain why something feels familiar. The current study examined whether the established familiarity positivity bias for faces is similarly associated with confabulatory and information-seeking patterns. Across two experiments, we examined whether smiling faces lead to greater illusory recollection and curiosity than neutral faces. This work provides insight into how different sources of familiarity may drive the need for explanation.

12:00-1:30 PM (II-156)

How Far Does the Face Recognition Memory Advantage Extend? Insights from Face-Pareidolia. OLIVIA N. BEREZA, *Villanova University*, NATHANIEL R. GREENE, *Villanova University* — Human faces enjoy a substantial recognition memory advantage over objects, but whether this advantage extends to face-like objects remains less understood. Face pareidolia, the perception of faces in ambiguous stimuli, elicits neural and perceptual responses similar to face perception, suggesting heightened sensitivity to face-like configurations. Here, we investigated whether this sensitivity confers a mnemonic recognition memory advantage for face-pareidolic objects comparable to that of actual faces. Participants incidentally encoded faces and recognizable objects, some manipulated to elicit face-pareidolia, while controlling for valence and perceived distinctiveness. Surprise recognition tests assessed memory for studied items relative to lures from each category. A mnemonic advantage for face-pareidolic objects would indicate that face-like configurations are sufficient to engage privileged memory processes beyond genuine face stimuli, whereas the absence of such an effect would suggest that the face memory advantage is uniquely constrained to actual faces. Together, these findings may refine boundaries of face-selective cognition.

12:00-1:30 PM (II-157)

What Transfers from an N-back Task to Long-Term Memory? KELLEN HENDRIX, *University of Missouri*, MOSHE NAVEH-BENJAMIN, *University of Missouri*, NELSON COWAN, *University of Missouri* — We investigated the question of how information transfers from working memory (WM) to long-term memory (LTM) using an n-back task, a common, continuous WM task in which participants are repeatedly asked if the item currently presented is the same as the item "n" items ago. Specifically, participants completed a 2-back task using scenes, two distractor tasks, and an LTM task that probed their LTM for item recognition, repetition information, and the specific number of items between a repeated item (i.e., spacing). These measures of LTM following an n-back task are more precise than in previous research and allowed us to explore cognitive qualities of the n-back task that are often overlooked. Logistic multilevel models did not reveal a connection between an image's n-back accuracy and its subsequent LTM item recognition or repetition detection. Instead, these measures were best predicted by automatic effects of repetition and spacing. However, participants' ability to report an n-back item's spacing in LTM was determined by their n-back accuracy for all presentations of the item. Appropriately matching WM and LTM tests and evidence for a "gateway" between WM and LTM are discussed.

12:00-1:30 PM (II-159)

Longitudinal Assessment of Working Memory Performance: Evidence from P300. GRACE CLEMENTS, *Air Force Research Laboratory*, CIARA H. PAGE, *Oak Ridge Institute of Science and Education*, SAMANTHA KLOSTERMAN, *BAE Systems, Inc.*, ALYSSA STOVALL, *BAE Systems, Inc.*, KEVIN ALEXANDER, *BAE Systems, Inc.*, MARGARET BOWERS, *BAE Systems, Inc.*, JUSTIN ESTEPP, *Air Force Research Laboratory* — The P3b event-related potential (ERP) represents attention allocation and working memory (WM) updating. While n-back paradigms consistently show P3b amplitude decreases as WM load increases, research is mostly cross-sectional–with most studies comparing n-back conditions over two or fewer timepoints–or in clinical samples, leaving longitudinal P3b amplitude changes in healthy populations unclear. We used EEG to track WM performance in a verbal n-back task with four load levels (0, 1, 2, 3) in 28 university students (Mage = 23) over 10 weeks. Controlling for trial variability, we observed systematic P3b decreases from week 1 to 10. Results showed main effects of day ($F(1,220) = 7.69$, $p = .006$) and load ($F(1,220) = 7.90$, $p = .005$), alongside faster reaction times and improved performance. Over time, lower-load conditions required fewer attentional resources (reduced P3b), whereas 3-back P3b amplitudes remained stable, suggesting the hardest condition resisted practice effects and required continuous effortful attention. Our results highlight longitudinal impacts of load on WM updating and its implications of attention allocation. *No DoD endorsement implied*

12:00-1:30 PM (II-160)

How is Serial Order Coded in Working Memory from an Early Age: Investigating the Mental Whiteboard Hypothesis in School-aged Children. MORGANE FTAÏTA, *Université Côte d'Azur; CNRS*, ALESSANDRO GUIDA, *Université Rennes 2*, FABIEN MATHY, *Université Côte d'Azur* — Working memory for serial order is a crucial component of human cognition, as it underpins higher mental activities such as reading, mathematical reasoning, and vocabulary learning. One influential account of serial working memory posits that to-be-remembered information is represented spatially on a mental whiteboard, a phenomenon known as spatialization. Although largely reported in adult studies, spatialization remains poorly examined in children. Here we investigated the phenomenon in a sample of 212 children aged 6 to 11 years. Participants performed memory tasks involving series of visual stimuli presented centrally on screen. To test spatialization for each sequence, participants were then asked to judge whether a test item belonged to the memoranda using a left or a right response key. Our results showed that serial order is coded spatially from the age of eight, and that the effect was modulated by working memory load. While stabilizing

with increasing age, spatialization was also found to be linked to lower verbal capacity. We discuss how this phenomenon may reflect a possible compensatory process rather than a core representational mechanism for serial coding.

12:00-1:30 PM (II-161)

Perceived Socioeconomic Status Shapes Cognitive Response Strategies. COLTON HUNTER, *University of Arkansas*, WESLEY VAUGHT, *University of Illinois College of Medicine*, GRANT S. SHIELDS, *University of Arkansas* — Greater socioeconomic status (SES), both objective and subjective measures, has been linked to critical psychological outcomes such as increased quality of life and cognitive functioning. Potential mechanisms for how objective and subjective measures of SES are associated with improved psychological outcomes have yet to be elucidated experimentally. The current study aims to create a new method to determine objective SES, propose a manipulation of subjective SES, and test the effect of the subjective manipulation on participants' performance on a n-back (3-back) task in three studies. Across studies, middle-class participants who were told they were in a higher SES percentile than they were had a more conservative guessing bias criterion than middle-class participants who were told a lower or actual percentile. A possible explanation for this is the activation of stereotypical beliefs about the cognitive performance of higher-class individuals such that higher-class individuals perform better than their middle- and lower-class counterparts.

12:00-1:30 PM (II-162)

One digit too many: brain rhythms and autonomic responses at the limits of working memory capacity. YURI G. PAVLOV, *University of Alabama at Birmingham*, ALEXANDER KOTYUSOV, *Ural Federal University*, ALEXANDRA KOSACHENKO, *Ural Federal University*, DAUREN KASANOV, *Ural Federal University* — Detecting working memory overload requires knowing when performance declines and how physiology responds as capacity is exceeded. We tested whether exceeding individually calibrated digit span by one item produces behavioral, neural, and autonomic changes. 123 participants completed a digit span task while EEG, pupillometry, and photoplethysmography were recorded. Adding another digit to the individual digit span produced clear overload: participants recalled fewer complete sequences and reported higher mental demand, while performance remained above floor. Responses were dissociable. Pulse wave amplitude was reduced from the first digit and remained suppressed, suggesting tonic autonomic mobilization. Pupil size showed later differences, consistent with redistribution, not an increase, of effort. Frontal theta increased with serial position and was stronger during final retention in overload, suggesting continued increase in executive control even beyond capacity limit. Alpha and beta were load sensitive but appeared tied to recall preparation in the sequence end rather than overload. Mild overload appears to be a dynamic boundary state with no time-locked distinct and unitary physiological signature.

12:00-1:30 PM (II-163)

Verbally Mediated Task-Set Formation in Working Memory: Facilitation of Retro-Cue-Based Control of S–R Representations. ERINA SAEKI, *Kobe Women's University* — Working memory supports the maintenance of declarative information and the active control of stimulus–response (S–R) mappings that guide action selection. This study tested whether organizing S–R mappings into task sets (e.g., "Japanese-origin color names → middle finger; loanword color names → index finger") facilitates retro-cue-based control compared to learning individual S–R mappings. Participants memorized associations between four colored patches and corresponding finger responses, then responded to a probe patch after a retention interval. During retention, zero, one, or two retro-cues indicated patch locations that were potentially probed next. In Experiment 1, participants instructed with task sets showed reliable retro-cue benefits in the two-cue condition, whereas those who learned isolated S–R mappings showed no such benefit. In Experiment 2, prior training was introduced, and both groups showed comparable retro-cue benefits, eliminating the group difference.

These findings indicate that verbally mediated task-set formation facilitates flexible control of S–R representations in working memory, and that extensive practice enables comparable prioritization even for individually learned mappings.

12:00-1:30 PM (II-164)

Does Working Memory Capacity Predict Susceptibility to Attribute Amnesia? MEI SUN, *College of St. Scholastica*, ANNA SLAVIK, *College of St. Scholastica*, WILLIAM FISHER, *College of St. Scholastica*, CHONG ZHAO, *University of Chicago* — Attribute amnesia (AA) is the phenomenon in which observers fail to report a recently attended attribute, suggesting that not all attended information is available for later report. Here, we examined the relationship between AA and working memory capacity (WMC) in two experiments. Participants (Exp 1: N = 65; Exp 2: N = 63) completed an AA task in which they reported one attribute (location) of the target (Exp 1: English letter; Exp 2: colored letter) among non-targets (Exp 1: Arabic number; Exp 2: black letter) on the pre-surprise trials, and an unexpected attribute (Exp 1: identity; Exp 2: color) of the target on the surprise trial. Participants' WMC was assessed using a change localization task in both experiments. The results showed that participants could easily localize the target among distractors on the pre-surprise trials. Nonetheless, more than half of the participants failed to report the unexpected attribute of the target on the surprise trial, indicating the presence of AA. However, no correlation was found between AA and WMC, suggesting that WMC does not predict susceptibility to AA.

12:00-1:30 PM (II-165)

Is the mental working memory line influenced by numerical representations? MAËLISS VIVION, *Université Rennes 2*, MARIA DOLORES DE HEVIA, *Université Paris Cité*, ALESSANDRO GUIDA, *Université Rennes 2* — The SPoARC effect refers to the spatial organization of non-spatial items along a mental working memory line during ordinal processing. This effect coexists with spatial-numerical associations in long-term memory (LTM), as assessed by the SNARC, such that early items and small digits are associated with the left side of mental space, while late items and large digits are associated with the right side. However, it is unsure whether the SPoARC persists for organized sequences of digits either consistent or inconsistent with LTM representations. In this study, we thus asked 48 participants to memorize either increasing or decreasing four-digit sequences and to perform a subsequent recognition test. A standard SPoARC effect was detected for both increasing and decreasing sequences, suggesting that numerical representations only exert a limited impact on spatial associations in WM. In contrast, measurement of the SNARC revealed a standard effect with increasing sequences, but a reversed effect with decreasing sequences. Overall, these findings confirm that spatial associations in WM can easily overrule LTM numerical representations, further suggesting that spatialization in WM is recruited strategically to facilitate order processing.

12:00-1:30 PM (II-166)

Working memory-driven semantic associations can bias attentional processing. JANNA W. WENNBERG, *University of California, San Diego*, NICOLE R. GRIMES, *University of California, San Diego*, MINA E. KIM, *University of California, San Diego*, RACHEL K. MILLER, *University of California, San Diego*, KALPITA NATH, *University of California, San Diego*, ANASTASIA KIYONAGA, *University of California, San Diego* — Information held in working memory (WM) may shape our attention to information in the external environment. For example, Kiyonaga & Egner (2014) showed that holding a color word (e.g., blue, yellow) in WM leads to faster identification of congruent colors in the environment, suggesting that WM and attention draw on shared cognitive resources. Here, we ask whether WM representations extend beyond explicit features to include semantic associations. We replicated Kiyonaga & Egner's adapted Stroop paradigm and added a condition where participants remembered color-associated words (e.g., ocean, banana) while performing a color identification task. The color patch matched the remembered word on congruent trials but not incongruent trials. If WM

representations include semantic associations, a color-associated word may evoke its color and bias attentional processing. We found that participants did indeed show faster color identifications, and better WM, when remembering congruent color-associated words. Preliminary analyses also indicate that individual differences in visual imagery numerically correlate with the magnitude of congruency effects. These findings suggest that WM can bias attention through implicit semantic associations.

12:00-1:30 PM (II-167)

Working Memory as a Predictor of English Listening Proficiency in EFL Junior High School Students: A Three-year Longitudinal Study. YASUYUKI SAKUMA, *Fukushima University*, SHUICHI TAKAKI, *Fukushima University*, MASAMICHI YUZAWA, *Kyoto Tachibana University*, SATORU SAITO, *Kyoto University* — This study examined the development of phonological working memory (WM) in Japanese as the first language and English as a foreign language among Japanese junior high school (JHS) students from Grade 7 to Grade 9. It also investigated whether performance of two complex span and two simple span tasks in each language version predicted English listening proficiency (ELP) in Grade 9. A single composite variable based on the eight span tasks served as a significant predictor of ELP. Mediation analysis revealed that Grade 7 WM function predicted Grade 9 WM function and Grade 9 WM function predicted ELP. However, Grade 7 WM function remained a significant predictor of ELP after controlling for Grade 9 WM function, whereas Grade 9 WM function no longer predicted ELP after controlling for Grade 7 WM function. These findings suggest that Grade 7 WM function are an important predictor of ELP two years later.

12:00-1:30 PM (II-168)

Exploring Social Anxiety Disorder-Like Symptoms in Simulated Social VR Environments. MARIAH N. DURAN, *California State University, Northridge*, NATALIE KHOUKAZ, *California State University, Northridge*, CARLOS A. COUZIN, JR., *California State University, Northridge*, RAY ARISTA, *California State University, Northridge*, STEFANIE A. DREW, *California State University, Northridge* — Social anxiety disorder (SAD) is a common condition that affects millions of people worldwide. SAD is characterized by an intense fear of social situations, due to the fear of being perceived by others. Previous research in SAD has found negative correlations between typical gaze patterns and social face regions (eyes, nose, mouth), with increased fixations during social interactions. Virtual reality (VR) has previously been used to help in the assessment of SAD, and VR eye-tracking studies have aligned with previous research. This study aims to investigate the relationship between ocular behaviors and SAD-like symptoms within an immersive, social, VR environment. Twenty-five participants were observed between three conditions simulating virtual social situations with increasing engagement demands. A repeated-measures ANOVA revealed significant differences in dwell time, fixation count, and saccade count across conditions. However, no significant relationship was found between eye-tracking measures and the Leibowitz Social Anxiety Scale scores. Overall, these findings provide proof of concept for using stereoscopic VR videos and eye-tracking to create highly immersive social environments that elicit measurable ocular behaviors.

12:00-1:30 PM (II-169)

Using AI to manipulate age/gender face features independent of face configuration in a face inversion task. ZIXU GONG, *University of Colorado Boulder*, ROSEMARY A. COWELL, *University of Colorado Boulder*, DAVID E. HUBER, *University of Colorado Boulder* — In a typical face inversion study, a mismatching face differs in both face configuration and face features. To separate configuration

from features with photorealistic images, we used AI to generate 25 "offspring" faces that differed across 5 levels of age and 5 levels of gender, for each of 14 distinct "parent" faces. First, we confirmed these manipulations elicited appropriate perceptual responses in a norming study. We also confirmed by formal inspection that offspring of the same parent shared a configuration. Next, we ran a face inversion study in which an upright face appeared followed by a test face that was upright or inverted and either matched or mismatched. For mismatch trials, a different offspring of the same parent face was used, which differed in both age and gender (i.e., same configuration, different features). We found no inversion effect for mismatching faces (i.e., same accuracy for upright and inverted). In a follow-up study, mismatch faces possessed the same age/gender but were offspring of a different parent face (i.e., same features, different configuration). This time, there was an inversion effect for mismatching faces. This supports the idea that inversion disrupts configural but not feature processing.

12:00-1:30 PM (II-170)

Characterizing the Joint and Independent Impacts of Visual and Semantic Relatedness on Visual Processing. JUSTIN N. GRADY, *George Washington University*, STEPHEN R. MITROFF, *George Washington University*, DWIGHT J. KRAVITZ, *George Washington University* — Previously attended information can affect current visual processing in subtle ways that positively and negatively affect performance. For example, repeated visual features can generate intertrial performance benefits when they are task relevant. Similarly, semantically related items can bias attentional priority. The current study leveraged a large dataset where participants made speeded responses in an object sorting task ("allowed" or "prohibited" on a plane) to examine the joint impact of visual and semantic similarity. When the current and preceding trials were the same condition (e.g., "prohibited" to "prohibited"), participants were quicker and more accurate when the two stimuli were more visually or semantically related. Conversely, when the condition switched between trials (e.g., "prohibited" to "allowed"), higher relatedness led to slower response times. Though simple visual and semantic models fit best in smaller data slices, increasingly complex regression models which allowed for non-linear interactions between both factors excelled with larger samples. This work highlights the specificity of trial history effects while also highlighting the value of using high-powered analyses to examine naturalistic behavior.

12:00-1:30 PM (II-171)

Judgments of Perceived Image Complexity. KEIGHLY HARRIS, *University of Alabama in Huntsville*, JODI PRICE, *University of Alabama in Huntsville* — This study examined subjective ratings of visual complexity to determine if image features contribute to ratings of complexity and provide clarity on the perception of visual complexity. Participants briefly viewed images ranging in complexity (simple dots, somewhat simple silhouettes, moderately detailed graphics, somewhat complex graphics, and complex photographic images) and provided a complexity rating (1 simple - 5 complex). A one-way repeated measures within subjects ANOVA analyzed the data. Participants ranked the somewhat complex graphics as being the most complex (M = 3.45, SD = .66). Whereas photographic images, expected to be the most complex, were rated as somewhat simple (M = 2.04, SD = .85). Moderate images were rated as less complex than expected (M = 1.57, SD = .48). Simple (M = 1.04, SD = .21) and somewhat simple images (M = 1.69, SD = .60) performed as expected. Almost all images were less complex than anticipated and no images were rated as complex.

12:00-1:30 PM (II-172)

Differences in Visual Resolution for Size Along the Horizontal-Vertical Plain Depend on Stimulus Configuration. YARDEN MAZUZ, *Ben-Gurion University of the Negev*, YOAV KESSLER, *Ben-Gurion University of the Negev*, TZVI GANEL, *Ben-Gurion University of the Negev* — The Horizontal-Vertical Illusion refers to the tendency to perceive a horizontal dimension as shorter than a vertical dimension of the same physical length. In light of evidence supporting the robustness of the illusion, much

less is known about potential differences in visual resolution between the horizontal and vertical dimensions. To address this question, we compared the Just Noticeable Differences (JNDs) for lines presented in horizontal vs. vertical orientations. In a series of experiments, we examined the effect of line orientation on JND in various line configurations. Across different experiments, the results provided some support for the idea that JNDs for horizontal stimuli are larger than for vertical stimuli. However, a systematic manipulation of stimulus configuration revealed that these differences in visual resolution emerge when stimulus configuration allows participants to use task-irrelevant information as an extrinsic cue. These findings indicate that the Horizontal-Vertical Illusion does not always entail differences in visual resolution. Instead, differences in resolution between the horizontal and vertical plane are context-driven rather than indicating inherent properties along the orientation of objects.

12:00-1:30 PM (II-173)

Spatial and Temporal Visual Masking Reflect Distinct Dimensions of Individual Differences in Visual Masking. SHANGLIN YANG, *University of California, Irvine*, REAN DU, *University of California, Irvine*, LILY DORVAL, *University of California, Irvine*, JEFFREY ROUDER, *University of California, Irvine* — Visual masking provides a framework for studying how humans resolve information across space and time. In spatial masking, the target and mask are presented simultaneously requiring observers to separate signal from overlapping noise. The task measures observer's spatial abilities. In temporal masking, the mask follows the target after a brief delay requiring rapid processing of the target signal before it is interrupted by subsequent visual noise. The task measures observer's temporal abilities. By comparing spatial and temporal masking using identical stimuli and masks, the present study examines whether these two masking paradigms reflect shared or dissociable perceptual abilities. Surprisingly, preliminary findings suggest that spatial masking performance shows stronger associations with working memory and intelligence than temporal masking performance. In addition, substantial stimulus-specific effects appear, suggesting that performance is partly driven by stimulus-specific abilities shared across spatial and temporal masking tasks.

12:00-1:30 PM (II-174)

The Effect of Gestalt Grouping on Pooling and Substitution in Visual Crowding. JIARUI YANG, *University of Notre Dame* — Visual crowding impairs peripheral object identification when nearby elements interfere with target perception. Although crowding is often explained as feature pooling, observers may also report flanker features. This study tested whether color-based grouping modulates pooling- and substitution-like errors. Participants reported the orientation of a peripheral Gabor target surrounded by six flankers. The target was the same color as half of the flankers, allowing them to be perceptually grouped, while the other half of the flankers were rendered in a different color allowing them to be segregated from the target. Response-error distributions were fitted with both pooling and substitution models. Small orientation differences were better explained by pooling, whereas large differences showed more substitution-like structure, with greater individual variability. Critically, grouping reduced response precision in the pooling-like condition, reflected by increased standard deviation of responses. Grouping did not selectively increase substitution from grouped flankers, nor modulate response mean towards grouped flankers. These results suggest that color-based grouping may influence crowding mainly by altering response precision.

12:00-1:30 PM (II-175)

Revisiting Thurstone's Law of Comparative Judgment Using Generalized Linear Models. YOONHEE JANG, *University of Montana* — Thurstone's (1927) law of comparative judgment was developed to quantify subjective magnitudes, such as attitudes toward the seriousness of offenses. Although highly influential across psychology and related fields, Thurstone scaling is rarely used in contemporary research. The present study offers a simple way to implement the model using a generalized linear model (GLM), noting that Thurstone scaling can be expressed as a special case of the GLM

framework. Historical data collected by Thurstone one century ago, along with new data using both identical and modified materials, were reanalyzed. The GLM-based analysis yielded results comparable to traditional Thurstone scaling while additionally allowing statistical inference and tests of factors such as sex differences in judgments of offense severity. Moreover, the regression framework was more robust to extreme response proportions (i.e., values near 0 or 1), which occurred across datasets and pose challenges for classical scaling approaches. These findings highlight how classical comparative judgment models can be flexibly integrated into modern regression-based methodology, increasing their accessibility for contemporary experimental psychology.

12:00-1:30 PM (II-176)

Hypernetwork RNNs Reveal Emergent Task-General Cognitive Structure Through Convergent Participant Embeddings. MIANZHI HU, *Texas A&M University*, DARRELL A. WORTHY, *Texas A&M University* — Characterizing task-general cognitive ability remains challenging because cross-task performance and parameters often generalize weakly across tasks. Here, we introduce the hypernetwork architecture over recurrent neural networks (hyper-RNN) to discover persistent, task-general individual differences across five cognitive tasks: the attention network test, delayed discounting task, Columbia card task, Stroop task, and motor selective stop-signal task. Each task-specific hyper-RNN was trained independently without cross-task information and used a four-dimensional participant embedding to generate participant-wise adjustments to the recurrent weight matrix. Compared to baseline RNNs, the hyper-RNNs substantially improved predictive accuracy across all tasks. Participant embeddings from independently trained hyper-RNNs showed significant cross-task convergence, suggesting that they captured shared participant-level cognitive structures. Averaged embeddings significantly predicted cross-task behavioral performance and revealed distinct dimensional profiles for each task. Overall, our work provides a cutting-edge computational framework for discovering task-general cognitive structures and explaining weak task-level correlations.

12:00-1:30 PM (II-177)

Modeling the Interplay of Ingroup Favoritism and Societal Status in Children's Racial Playmate Preferences. MEICHAI CHEN, *University of Illinois Urbana-Champaign*, VICTOR CERVANTES, *University of Illinois Urbana-Champaign*, MICHAEL RIZZO, *University of Illinois Urbana-Champaign* — Researchers often theorize that two primary factors drive children's racial playmate preferences: Ingroup Favoritism (IF), based on Social Identity Theory, and Societal Status (SS), based on Developmental Intergroup Theory. We formalized the preference relations these theories predict separately and in interaction, and derived constraints on probability parameters within an axiomatic framework. Using formal quantitative modeling, we tested these competing models on partial ranking data from monoracial Asian, Black, Latin, and White children. Bayes factor model comparison revealed a heterogeneous pattern. We found decisive support for the IF Only model for Asian and Black children, indicating ingroup preference paired with outgroup indifference. The equal preference model best accounted for Latin children, while White children showed support for a less restrictive IF Only variant with ingroup preference but no outgroup indifference. Across all groups, evidence decisively rejected the SS Only model, revealing nuanced, group-specific preference patterns.

12:00-1:30 PM (II-178)

Scaling Up Minds: From APA Guidelines to Community College Pathways in Cognitive Science. ALISA BEYER, *Chandler-Gilbert Community College*, DAVID KREINER, *University of Central Missouri* — The Psychonomic Society advances research on how the mind works using behavioral methods (Psychonomic Society, 2025). APA Guidelines 3.0 emphasize that undergraduate psychology students, including those at the associate level, should be able to interpret, design, and evaluate research and apply statistics (APA, 2023). Yet students who begin in community colleges—about 39% of U.S. undergraduates, many of whom are first-generation—often have fewer opportunities to develop

these skills (AACC, 2025). Although community college students make up a substantial transfer population, many lack access to mentored research experiences prior to transfer, limiting participation in behavioral science pathways (AACC, 2020; Goodwin et al., 2024; Stringer, 2022; NCSES, 2021). This presentation synthesizes national data and APA/Committee on Associate and Baccalaureate Education recommendations to examine barriers to quantitative training, highlight examples of community college students engaged in publishable research, and propose models for university–community college partnerships to expand access and strengthen the psychological science pipeline.

12:00-1:30 PM (II-179)

From Pings to Pipelines: Samply as a Tool for Smartphone-Based Research. YURY SHEVCHENKO, *University of Konstanz*, ULF-DIETRICH REIPS, *University of Konstanz* — Smartphone-based experience sampling is technically demanding. To help investigators design and run studies without writing custom mobile software, we developed Samply: a researcher web dashboard paired with the Samply Research participant app. Samply supports interval, signal, fixed-time, and enrollment-relative schedules, with optional yoked group designs in which all members are pinged together. Notifications link to surveys on Qualtrics, REDCap, lab.js, or any URL, with per-participant placeholders filled in automatically. Event-contingent notifications let participants self-initiate reports via a permanent in-app link; geofencing enables location-triggered prompts; action buttons and completion-aware reminders are also supported. Since Psychonomics 2024, we rebuilt the dashboard, added live analytics for compliance and dropout, introduced a Stream API that pushes participant events to external infrastructure via webhooks, and expanded the REST API for programmatic study management. The interface is now available in fourteen languages. Samply is open-source and free at https://samply.uni-konstanz.de. At the conference, we will demonstrate these features for longitudinal, clinical, and ambulatory research.

12:00-1:30 PM (II-180)

Off-task Behavior Negatively Impacts Performance. JOSHUA L. FIECHTER, *Wright State University*, DANIEL PETERSON, *Skidmore College*, RILEY FILISTER, *Skidmore College*, SARA DAVIS, *University of North Florida* — Remote data collection has become more common in psychological research on human participants due to the large, diverse participant pool available at relatively inexpensive costs. This shift, however, comes at the expense of the oversight and carefully controlled setting found in the laboratory. The present study examined the off-task behavior of participants hired through Amazon's Mechanical Turk (MTurk) and its impact on memory performance across two pre-registered experiments. In Experiment 1, we found roughly one third of participants went off task during the encoding portions of a memory study and that this off-task behavior predicted poorer performance on the memory test. In Experiment 2, we replicated this outcome and further demonstrated that an explicit warning to stay on task reduced page switching but did not reduce the proportion of time spent off task. These results suggest the ease of remote data collection comes at a cost: a small but sizeable minority of MTurk participants voluntarily navigate away from their study tasks, which negatively impacts performance. Further research is necessary to better understand how researchers might mitigate such behavior.

12:00-1:30 PM (II-181)

Methodological Idiosyncrasies in Content Analysis: A Measurement Perspective. NATHAN GILLESPIE, *University at Albany, State University of New York*, GREGORY COX, *University at Albany, State University of New York* — Inferring individual difference characteristics from free-response text data, a process commonly known as content analysis, is a foundational research technique across the behavioral and social sciences. Yet, the methods used to conduct it are strikingly varied. Research practice highlights three distinct styles of content analysis: 1) human-centered content analysis, 2) dictionary-centered content analysis, and 3) machine-learning-cen-

tered content analysis. Across these approaches, it is unclear how useful and generalizable the results of any given content analysis are—leaving open the question of how suitable content analysis really is at informing and testing hypotheses about individual differences. While much has been said about ways to measure the empirical reliability of a content analysis, there is little theory regarding the cognitive processes—those of both the people producing the text, and those of the researchers interpreting the text—that generate its output. This review triangulates perspectives from generalizability theory, latent variable theory, and cognitive psychometrics to clarify the unique inferential strengths and limitations of each style of content analysis.

12:00-1:30 PM (II-182)

Accounting for Censored Data in Horse-Race Models of the Stop-Signal Paradigm. LARS KULBE, *University of Amsterdam*, ANDREW HEATHCOTE, *University of Amsterdam*, ZACHARY L. HOWARD, *University of Western Australia*, DORA MATZKE, *University of Amsterdam* — The stop-signal task (SST) is a widely used paradigm and the benchmark for measuring response inhibition. Because successfully inhibited trials run until the response deadline expires, short deadlines reduce experiment duration, maintain engagement, and enforce fast responding while discouraging strategic slowing. But such deadlines risk losing slow but valid responses, biasing parameter estimates of the underlying RT distribution. We extend existing Bayesian parametric models of the SST to account for such upper response censoring. Simulation-based calibration confirms the procedure is well calibrated, and individual-subject parameter recovery is unbiased at near-asymptotic trial counts across a wide range of censoring levels, whereas models that ignore censoring grow increasingly biased as censoring increases. Hierarchical estimation with realistic trial counts shows unbiased recovery of population-level means, with largely unbiased population variances. Our approach underscores the need to account for slow but valid responses and provides a model that does so, implemented in the EMC2 R package. This enables researchers to employ strict response deadlines strategically, or for principled post-hoc exclusion of slow outliers.

12:00-1:30 PM (II-183)

The Average Usually Wins: Attention-Related Individual Differences in Visual Ensemble Perception. SARAH M. HACKENKAMP, *Colorado State University*, JESSICA K. WITT, *Colorado State University* — The visual system summarizes groups of objects by extracting ensemble statistics, but how do attention-related traits influence reliance on these summaries? In ensemble perception tasks, reports for individual items are often biased toward the group average. Prior work found that higher autistic-trait scores predicted weaker bias toward the mean, suggesting reduced reliance on global summaries. ADHD traits may also be relevant because attentional variability could alter ensemble integration. We tested whether autistic and ADHD traits independently predict ensemble bias. Participants completed a size-recall task adapted from Brady and Alvarez (2011): they viewed nine colored circles, remembered two color groups, ignored a third, and adjusted a probe to match one item. Ensemble reliance was indexed by bias toward the mean of the probed color group. Participants completed autistic and ADHD trait measures. Contrary to predictions, higher autistic-trait scores were associated with increased ensemble bias, indicating greater reliance on global summaries, while ADHD traits were not significantly related. These findings suggest that attention-related traits may differentially influence global visual integration.

12:00-1:30 PM (II-184)

The Role of Avatar Motion Direction and Ground Contact in Near-Space Distance Perception in Real and Immersive Virtual Environments. MAISHA TAHSIN ORTHY, *University of Utah*, DIVITH TAHSIN NAGARAJ REDDY, *University of Utah*, LAUREN BUCK, *University of Utah* — In immersive virtual reality (VR), spatial perception often differs from the physical world, with egocentric distance misperception emerging as a consistent issue. This is particularly important in near-space,

where accurate distance judgments support action coordination and social interaction. This research examines how motion direction (looming) and avatar grounding influence egocentric distance perception in real and virtual environments. In Experiment 1, participants judged the distance of a moving human, with approaching individuals perceived as closer than departing individuals. In Experiment 2, the same task was conducted in VR using a virtual avatar, with ground contact cues manipulated by rendering or omitting lower limbs. Distances were overestimated in VR, and the directional bias reversed, with approaching avatars judged as farther away. Ground contact did not affect overall estimates but increased sensitivity to motion direction. These findings highlight how motion and grounding cues interact to shape near-space spatial perception in immersive virtual environments and have implications for avatar representation and social interaction in virtual reality systems.

12:00-1:30 PM (II-185)

Models of object recognition can predict brain activation in visual cortex without identifying objects like brains. JEFFREY S. BOWERS, *University of Bristol*, GAURAV MALHOTRA, *University At Albany, State University Of New York* — A standard method of comparing artificial neural network (ANN) and human vision is to assess how well ANNs predict behavioural and brain responses to naturalistic images of objects and scenes. For example, the influential Brain-Score benchmark includes multiple neural and behavioural benchmarks that score any ANN on how similar it is to the brain's mechanisms of "core object recognition" – that is, our ability to rapidly identify objects independent of their pose and background, etc. Here we take a brain benchmark from Brain-Score that measures neural responses in macaque V4 and IT in response to images of objects presented in random poses on random backgrounds. We show that predictions are largely driven by the backgrounds rather than the objects, undermining the claim that these predictions provide a measure of alignment to core object recognition. While tempting to infer ANN-Brain mechanistic similarity from strong predictions, these predictions could also be driven by confounds present in high-dimensional spaces. Consequently, our research underscores the necessity of carrying out controlled experiments for testing specific hypotheses and eliminating potential confounds.

12:00-1:30 PM (II-186)

Aging and Food Perception: A Normative Study. AHU GOKCE, *Kadir Has University* — Investigating cognitive processing of food stimuli in lab setting relies on food image databases created in North American and European cultures. However, not all food items in such databases are available in each culture and geography. The current study is designed to collect normative ratings of stimuli from Food-pics database in Turkey sample. Data were collected from 478 people aged 26-75. 110 food items were rated on valence, arousal, liking, palatability, craving, desire to eat, consumption rate, familiarity, visual complexity, transformation, perceived calorie level and healthiness norms. All ratings significantly differed between low and high calorie items. While ratings of arousal, craving, and perceived calorie level ratings increased with age; desire to eat and consumption rate declined with age. Moreover, positive correlations were observed between valence, arousal, liking, palatability, craving and desire to eat. Familiarity and visual complexity showed weak-to-negative correlations. The results reveal age-related shift in perceptual and consummatory food representations with implications for aging populations.

12:00-1:30 PM (II-187)

Who Made This? Artistic Experience, Drawing, and Psychoemotional Factors in AI Art Discrimination. GIA M. MACIAS, *Saint Xavier University*, ALYSSA SALVADOR, *Purdue University Global*, LEBRON LANIER, *Saint Xavier University*, DEONTE CZUBIAK, *Saint Xavier University*, ANDREA KIM, *Saint Xavier University*, OLIWIA KRUCZEK, *Saint Xavier University*, JOCELYN SANCHEZ, *Saint Xavier University* — Current generative AI models produce visual media by adapting to algorithmic prompts. Earlier studies assessed aesthetic qualities of AI-generated art and faces. This

study investigated face perception in AI-generated artwork across three experiments. In Experiment 1, participants reported artistic experience before identifying human faces in AI-generated artworks. In Experiment 2, participants drew a human face, drew an inanimate object, or completed no drawing task before discriminating between human-created and AI-generated portrait pairs. In Experiment 3, participants completed measures of their emotional states and adverse childhood experiences before viewing AI-generated and human-created portraits depicting emotional or neutral faces while physiological responses were recorded. Results and implications regarding artistic experience, drawing condition, and the relationship between psychoemotional background and physiological responses to emotional versus neutral AI-generated content will be discussed. Future research should examine semantic memory and cortical activation patterns in evaluating AI-generated artworks.

12:00-1:30 PM (II-188)

Item Analysis of the Prosopagnosia Index 20 Items (PI20) to Improve the Assessment of Face Recognition Impairments. AGUSTÍN CARDOSO, *Universidad Autónoma de Baja California*, ALAM IBARRA, *Universidad Autónoma de Baja California*, MANUEL ALEJANDRO MEJIA, *Centro de Enseñanza Técnica y Superior (CETYS) University* — The Prosopagnosia Index 20-items (PI20) is a widely used tool to assess self-reported lifelong impairments of face recognition. Yet, several items have shown results inconsistent with the construct in previous adaptations, potentially increasing false positives detecting developmental prosopagnosia. This study analyzed data from 302 adults who completed the original scale adapted to Spanish, and 5 new items were developed to more closely align with the construct. The original set was compared to three additional ones derived from substituting the new items. Overall, model 3 (all 5 items replaced) showed better interrelation with the latent factor, and the 5 new items showed higher factor loadings (Items: 21, 22, & 25>.40; 23 and 24>.30) than the replaced ones. Model 3 had higher internal consistency (α=.876; ω=.882), yielded slightly higher temporal stability (ICC2,1=.848, n=31), while maintaining similar convergent (CFMT's r=-.23, p<.001) and discriminant (CCMT's r=-.11, p=.07) validity with an objective face battery. The relation of the 5 new items to the developmental prosopagnosia construct and the implications for the improved psychometric properties of the PI20 are discussed.

12:00-1:30 PM (II-189)

Color commentary on a case study: Using afterimages to locate maximum wavelength sensitivity of fourth color cone in tetrachromats. KRISTOPHER J. PATTEN, *Arizona State University*, MICHAEL K. MCBEATH, *Arizona State University* — Some individuals are tetrachromatic: they have four color cones instead of three. Genetic testing can reveal if a person has the genotype for this mutation but not if it is functionally expressed. Genetic testing is also expensive and not readily available to most people. In theory, a behavioral test for functional tetrachromacy should be possible by stimulating the fourth cone, which is likely near yellow. This has proven difficult as most printing and display techniques use trichromatic methods, and tasks utilizing natural pigments like oil paints are time intensive to produce. Afterimages offer a promising alternative for cheaper and more widespread testing. Here we report a case study in which a functional tetrachromat indicates afterimage colors generated on a computer displaying disks that appear either yellow or blue. After seeing yellow, the tetrachromat reported an afterimage color within the 95% CI of 258 trichromats, but after seeing blue, the afterimage color is outside the CI of the trichromats. This finding is consistent with the tetrachromat possessing a blue-yellow system with a unique yellow cone type, and a larger L*a*b* distance that has promise as a reliable, inexpensive behavioral test for tetrachromacy.

12:00-1:30 PM (II-190)

Constraints for Information Compression in the Human Visual System: Evidence from Amblyopia. BILGE SAYIM, *Ecole Normale Supérieur, CNRS*, TAYLOR LUI, *University of California, Berkeley*, DENNIS M. LEVI, *University of California, Berkeley*, ANGELA GOMES TOMAZ, *University of California, Berkeley* — Redundancy masking (RM) is a perceptual phenomenon in which fewer items are perceived than are presented. It is stronger for regular than irregular stimulus arrangements, and has atypical visual field asymmetries, with strongest RM (poorest performance) along the horizontal meridian, in contrast to other spatial vision tasks. As most spatial vision tasks show best performance along the horizontal meridian, we hypothesized that this asymmetry in RM may be due to the accurate extraction of spatial regularity. In amblyopia, a neurodevelopmental disorder of spatial vision, observers show impairments in most spatial vision tasks. We therefore hypothesized that RM would be reduced in amblyopia. Six observers with amblyopia and twelve controls were presented with arrays of 3-5 lines for 150 ms at 8° eccentricity. Line arrays were presented binocularly, and monocularly to either eye. The task was to report the number of lines perceived. Results showed weaker RM for observers with amblyopia compared to controls. This finding supports the notion that RM may be positively associated with the accuracy of extracting spatial regularity. We suggest that the (in)accuracy of extracting regular patterns constrains visual information compression.

12:00-1:30 PM (II-191)

The Environmental Vertical and Descent Illusions Replicate in Immersive Virtual Reality. CHELA WILLEY, *Loyola Marymount University*, MEHMET ÇOLAKOĞLU, *Loyola Marymount University* — The environmental vertical illusion (EVI) is the tendency to overestimate vertical environmental surfaces relative to horizontal surfaces, predicted by Evolved Navigation Theory (ENT) to arise from mechanisms sensitive to falling costs. Early, low-immersion virtual reality (i.e., without head-tracking) failed to elicit the EVI. We tested the EVI in a real outdoor environment and in a matched, to-scale VR replica with full immersion. Participants (N=53) completed a distance-matching task across three surfaces: horizontal, vertical viewed from bottom, and vertical viewed from top. We replicated the EVI in VR with equivalent magnitude to the real environment, such that all vertical surfaces were significantly overestimated compared to horizontal surfaces. Further, vertical-top estimates exceeded vertical-bottom estimates in both environments, replicating the descent illusion. Simulator sickness did not confound results. Fear of heights did not correlate with distance estimates. These findings suggest immersive VR provides sufficient perceptual fidelity to engage the mechanisms underlying the EVI and the descent illusion.

12:00-1:30 PM (II-192)

The Only Face in the Crowd: Dissociating Social Signaling and Ensemble Coding in the Cheerleader Effect. ALI RADHI, *University of California, San Diego*, BRENT M. WILSON, *University of California, San Diego*, DREW WALKER, *University of California, San Diego* — Faces are judged as more attractive when viewed in a group than in isolation, a phenomenon known as the cheerleader effect. Although this effect has been robustly replicated, its underlying mechanism remains debated. Ensemble-coding accounts propose that observers average grouped faces, biasing evaluations toward a more attractive group representation. Alternatively, social-signaling accounts suggest that the presence of others conveys positive cues about social acceptance and likability. To dissociate these explanations, 42 participants rated 291 faces in a fully within-subjects design across three conditions: Single (target face alone), Emoji (target face flanked by individuals whose faces were occluded with emojis), and Group (all faces visible). The Emoji condition preserved social context while eliminating facial information necessary for ensemble coding. Attractiveness ratings differed significantly across all conditions ($ps < .001$), with faces rated least attractive in the Single condition, more attractive in the Emoji condition, and most attractive in the Group condition.

These findings suggest that both social-signaling and ensemble-coding processes contribute to the cheerleader effect.

12:00-1:30 PM (II-193)

Interference between Visuospatial Imagery and Working memory: The Result of Representational Overlap or a Shared Resource? HAMID NOURBAKHSHI, *University of Missouri*, NELSON COWAN, *University of Missouri*, HAMID NOURBAKHSHI, *University of Missouri* — To determine whether imagery and working memory interfere through representational overlap or shared resources, we examined whether maintaining a visuospatial mental image disrupts encoding into visuospatial working memory. Ninety-two participants maintained a mentally rotated spatial pattern while encoding icons and their locations. Imagery probes appeared at locations that either overlapped or did not overlap with memorized items. Dual-task performance was compared with memory-only and imagery-only baselines. We assessed spatial specificity of interference, item-location binding, and within-trial temporal dynamics. Results showed bidirectional dual-task costs: memory accuracy declined in the dual-task condition, and imagery judgments were slower, although imagery accuracy remained high. Interference was unaffected by spatial overlap and did not selectively impair item-location binding. Items encoded after an imagery probe, when imagery demands could be discontinued, were remembered more accurately than items encoded while imagery remained necessary. These findings support a shared, capacity-limited resource account rather than one based on spatially localized representational overlap.

Poster Session III

Friday, November 20, 2026, 6:00-7:30 PM PST

6:00-7:30 PM (III-001)

Letter-Probe Effects are Due to Feature-Based Gain Rather than Proactive Suppression. MARK W. BECKER, *Michigan State University*, MORGAN DODD, *Michigan State University* — Over the past decade, research has examined the role of suppression in attentional allocation, but debate remains over how flexibly it can be applied. Clarifying these limits is critical for evaluating its role in attention. Using the letter probe paradigm, Gaspelin and Luck found poorer letter report at the irrelevant color singleton than other distractor locations. They interpreted this pattern as evidence for proactive suppression of the singleton color. However, because the target color was typically held constant, this effect could instead reflect feature based gain for the target, which would globally benefit non singleton distractors. Experiment 1 varied target and matching distractor color across trials while holding the singleton color constant, permitting proactive suppression but not gain; no effect was observed. Experiment 2 held the target and matching distractor color constant and varied the singleton color, permitting gain but not suppression; the original pattern was replicated. Thus, the effect emerges when only gain is possible, but not when only suppression is possible, indicating that letter probe findings reflect feature based gain rather than proactive suppression.

6:00-7:30 PM (III-002)

How Selection History Shapes the Processing of Unexpected Stimuli: Evidence from Single-Prime Negative Priming. HSUAN-FU CHAO, *National Tsing Hua University*, CHIA-YING LIN, *National Tsing Hua University* — In the present study, we investigated the influence of selection history on prime processing. Target color probability (high vs. low) was manipulated in Experiments 1 and 3, whereas distractor color probability was held at a medium

level. Conversely, distractor color probability (high vs. low) was manipulated in Experiments 2 and 4, whereas target color probability was held at a medium level. Primes could be presented in a high- or low-probability target color, a high- or low-probability distractor color, a medium-probability target color, a medium-probability distractor color, or a neutral color. Prime processing was assessed using a priming paradigm. The results revealed a robust influence of selection history on prime processing. Specifically, primes presented in target colors produced negative priming effects regardless of target color probability. In contrast, primes presented in high-probability distractor colors produced stronger negative priming effects than those presented in low-probability distractor colors.

6:00-7:30 PM (III-003)

The Multi-Phase Congruency Sequence Effects in Stimulus-Stimulus Conflict. YEONGSUN HEO, *Korea University*, MINWOO JB KIM, *Ulsan National Institute of Science and Technology*, YANG SEOK CHO, *Korea University* — How does cognitive control reshape unfolding movement when conflict arises? Although theories propose multiple dissociable control loci, conventional reaction times collapse these dynamics into a single endpoint. We tracked mouse kinematics during a color-Stroop task to characterize the temporal unfolding of the congruency sequence effect (CSE). Stimulus-Stimulus CSEs emerged as a multi-phase cascade targeting distinct conflicts. Prior conflict shortened movement initiation by 7 ms, consistent with proactive resolution of task conflict between reading and color-naming sets. It also advanced peak-velocity timing by 15 ms without altering peak-velocity magnitude, indicating temporally localized acceleration of informational selection rather than generalized motor inhibition. Although overall movement times were unchanged, time-resolved analyses revealed reduced late compensatory acceleration between 578 and 662 ms, aligning with trajectory straightening in grand averages, an effect not detected by conventional scalar spatial measures. These findings indicate that congruency sequence selectively modulates distinct temporal and structural movement parameters through a granular control architecture.

6:00-7:30 PM (III-004)

From representation to action: How task representations shape voluntary task choice. GESINE DREISBACH, *University of Regensburg*, JONATHAN MENDEL, *University of Regensburg* — A key question in cognitive psychology is how mental representations guide behavior during task switching. This study examines how task representation—either as specific stimulus-response (SR) rules or abstract categorization rules (TR)—influences both task switching ability and voluntary task choice. Participants responded to eight colored words (four red, four green) with left/right key presses. The SR group learned direct mappings; the TR group applied color-based rules. After practice, a hybrid task phase introduced forced and free-choice trials: on half, one stimulus was presented; on the other half, participants first selected a preferred stimulus (left hand) then responded (right hand). Reaction times and switch rates were measured. As predicted, switch costs emerged only in the TR group. Additionally, the TR group showed a repetition bias in voluntary choices, while the SR group chose color switches and repetitions equally. These findings demonstrate that task representations not only affect switching performance but also shape voluntary task selection, highlighting the role of representation type in cognitive control.

6:00-7:30 PM (III-005)

Alerting Cues and Automatic Response Activation: Evidence from Vocal and Manual Stroop Tasks. LYDIA BARKER, *Bates College*, LOWELL HAIRSTON, *Bates College*, WANGTIANCHENG ZHU, *Bates College*, TODD A. KAHAN, *Bates College* — Selective attention tasks yield slower and less accurate responses when distractors are incongruent rather than congruent with the required response. Previous research has shown that alerting cues can magnify this congruency effect. This alerting–congruency interaction is robust in Eriksen's

arrow flanker task but is generally absent in the Stroop task. Alerting cues may enhance perceptual and response readiness, accelerating automatic response activation. Because arrows possess strong stimulus–response associations, alerting cues may amplify interference in the flanker task. In contrast, words in keypress Stroop tasks do not automatically activate keypress responses. The present study tested whether an alerting–congruency interaction would emerge in the Stroop task when responses were vocal rather than manual. Participants (N = 69) completed Stroop tasks using both vocal and keypress responses, with response modality counterbalanced. Results were consistent with the hypothesis that alerting cues increase the influence of automatically activated responses in vocal but not keypress Stroop tasks. These findings suggest that the impact of alerting cues depends on the extent to which stimuli automatically activate response codes.

6:00-7:30 PM (III-006)

Proactive Cognitive Control is Not Unitary: Gaze-Based Evidence for Dissociable Implementation Strategies. JASON F. REIMER, *California State University, San Bernardino*, KEVIN P. ROSALES, *California State University, San Bernardino*, JONATHAN MARTINEZ, *California State University, San Bernardino*, DYLAN M. DIAZ, *California State University, San Bernardino*, GABINO HERNANDEZ, *California State University, San Bernardino*, SARAH KUHLMAN, *California State University, San Bernardino*, SAMANTHA ZAVALA, *California State University, San Bernardino*, VALERIE ARRIZON, *California State University, San Bernardino*, ISAIAH CRAWFORD, *California State University, San Bernardino*, TALEEN ZAIT, *California State University, San Bernardino*, KATELYN MENDEZ, *California State University, San Bernardino*, VENKATA NAGA PRADEEP AMBATI, *California State University, San Bernardino* — Proactive control is typically assessed using behavioral indices such as the Proactive Behavioral Index (PBI), which indicate whether performance reflects proactive control but provide limited information about how that control is implemented. The present study used a spatial AX-CPT to test whether proactive control implementation reflects a unitary process varying in degree or a flexible configuration of gaze-based strategies. Participants completed baseline, proactive, and reactive task conditions while eye movements and pupil dilation were measured during the cue-probe delay. Control-mode induction dissociated two delay strategies: cue-directed gaze and cue-congruent anticipatory spatial orienting. Specifically, the reactive condition reduced cue-directed gaze but preserved cue-congruent orienting, despite lower PBI scores. Regression analyses showed that the two gaze strategies predicted distinct aspects of proactive performance. Working memory capacity did not predict PBI, but selectively predicted cue-congruent anticipatory orienting. These findings suggest that proactive control implementation is not unitary. Instead, gaze measures revealed two forms of proactive implementation obscured by aggregate behavioral indices.

6:00-7:30 PM (III-007)

Auditory Cognitive Training, Spatial Listening, and Attentional Cuing in Children. CHRISTOPHER ANAGI 🎗, *University of Washington*, ERIN INGVALSON, *University of Washington* — This study examined whether auditory cognitive training (ACT) differentially improves children's speech perception in noise across colocated and spatially separated listening conditions, and whether attentional cueing modulates working memory span as a function of training. Eighty school-aged children were randomly assigned to a targeted auditory training group (TAT; n = 39) or an active control group (AC; n = 41) and assessed at baseline and post-training on target-to-masker ratio (TMR) thresholds and working memory span across colocated and separated spatial arrangements with and without attentional cues. A robust spatial release from masking effect was observed across groups, but training did not differentially improve TMR in either condition. Attentional cueing significantly benefited working memory span, and TAT children showed reduced cue dependence post-training, suggesting internalization of attentional orienting strategies through targeted practice.

6:00-7:30 PM (III-008)

Consistency of reward relationships shapes the flexibility of learned attentional biases. SARAA AL-SADDIK, *University of New South Wales*, MIKE LE PELLEY, *University of New South Wales*, KELLY GARNER, *University of New South Wales*, JULIE CHOW, *University of New South Wales*, BEN R. NEWELL, *University of New South Wales* — Learning about relationships between events lets us "offload" and automatise patterns of attentional control (AC), reducing demand on executive resources. But offloading may be detrimental if relationships change, requiring us to flexibly update AC. Here, we investigated whether attentional flexibility is influenced by the consistency of reward relationships. For the 'Constant' group, reward relationships were consistent (high-reward targets yielded 500 points; low-reward targets yielded 150 points). For the 'Variable' group, noise was applied to these rewards (e.g., a high-reward target might yield 495 points on one trial, and 508 points on another), but expected values matched those in the Constant group. Both groups developed a reward-related attentional bias, shown by faster responses to high-reward than low-reward targets. We then reversed reward relationships: targets that had earlier signalled high reward now signalled low reward, and vice versa. Critically, the Variable group showed greater updating of reward-related attention in response to this change, in line with the idea that experience of variable stimulus–reward relationships inhibits the transition to automatic—and hence inflexible—attentional control.

6:00-7:30 PM (III-009)

Learning what matters: Goal certainty shapes working memory prioritization. CATHY K. ZHANG, *Washington University in St. Louis*, WOUTER KOOL, *Washington University in St. Louis*, ATA B. KARAGOZ, *University of Chicago* — Attentional resources are limited, yet people face an abundance of information. Thus, resources must be adaptively allocated to support current goals. However, goals are often latent and must be inferred from experience. This creates a dynamic prioritization problem: before the goal is known, people must maintain multiple information sources. As certainty about the goal increases, they can allocate more selectively. How do people shift attentional priorities in this process? Working memory (WM) provides a way into the question: as people maintain information to support goal inference, differences in priority should be reflected in WM precision. We developed the Continuously Assessed Rule Inference Task to examine how WM changes during goal inference. Participants (N = 66) viewed multi-feature stimuli, inferred hidden active rules, and completed intermittent WM probes. A reinforcement learning model estimated trial-by-trial rule certainty. As certainty increased, WM improved for relevant information, suggesting prioritization, but declined for irrelevant information, indicating degradation. Our findings reveal that WM is not a static outcome of top-down control, but a dynamic process organized in tandem with learning.

6:00-7:30 PM (III-010)

Oscillatory EEG dynamics associated with anticipatory attention to auditory and tactile stimuli. RICARDO CASTAÑEDA OLAYO, *Kansas State University*, MATTHEW G. WISNIEWSKI, *Kansas State University* — Alpha band (~8 - 13 Hz) oscillations apparent in electroencephalograms (EEG) stem from multiple brain sources including auditory (tau rhythm) and somatomotor (mu rhythm) sources. In this ongoing study, we assess the prediction that alpha dynamics for tau and mu sources will be modulated in opposition to each other in anticipation of auditory and tactile stimuli. Participants are presented with sounds over insert earphones, and vibrations via a coin exciter to the left index finger. Stimuli are amplitude modulated at a rate of 16 Hz in a two-alternative forced choice task (2AFC), where participants indicate which interval contained deeper depth. Listeners are asked to attend to sound or tactile stimuli (within-participants). High density EEG is collected and processed with independent component analysis (ICA) to separate tau and mu rhythm sources. Based on inhibition timing theories of alpha, we hypothesize that in the "attend auditory" condition, prestimulus ~8-13 Hz power for tau inde-

pendent components (ICs) will suppress, while mu ICs show enhancement and vice versa for the "attend tactile" condition. Results will inform theory on the functional role of alpha in the brain and inform development of sensory substitution devices.

6:00-7:30 PM (III-011)

The Cueing Order Problem: Why the Standard Design Masks Benefits of Congruency Pre-Cues. CHRISTOPHER O. NUÑO, *Washington University in St. Louis*, UMA BHOOT, *Washington University in St. Louis*, LENA STERN, *Washington University in St. Louis*, MAYS MALLAH, *Washington University in St. Louis*, ZOË LESTER, *Washington University in St. Louis*, VAIBHAV AGGARWAL, *Washington University in St. Louis*, LEAH WASSERSTEIN, *Washington University in St. Louis*, MÁTÉ GYURKOVICS, *University of East Anglia*, JULIE M. BUGG, *Washington University in St. Louis* — Evidence that individuals adjust cognitive control in response to valid pre-cues signaling upcoming distraction is surprisingly limited. In two pre-registered experiments, we examined whether weak evidence of pre-cue benefits reflects limits in proactive control or methodological constraints of the commonly used design. Experiment 1 examined the role of cueing order (i.e., whether participants first completed informative or uninformative pre-cue blocks). Replicating the standard analytical approach, collapsing across cueing order produced no pre-cue benefit. However, an interaction emerged such that benefits were observed for participants that encountered informative pre-cues first. Experiment 1 also demonstrated that intermixing informative and uninformative pre-cues produced reliable pre-cue benefits. Experiment 2 replicated and extended the results, suggesting that limited evidence for pre-cue benefits may reflect design-related constraints rather than limits in proactive control. The findings point to a solution to the cueing order problem—the intermixed design—affording researchers with an effective tool to further understanding of the willful heightening of control.

6:00-7:30 PM (III-012)

Capacity of attentional templates varies with feature dimensions: color vs. orientation. SYDNEY GEORGE, *Michigan State University*, BRENDAN VALENTINE, *Michigan State University*, TAOSHENG LIU, *Michigan State University* — Visual working memory can hold attentional templates that bias perceptual selection. A central debate concerns whether attention can be guided by only a single active template or by multiple templates concurrently. Although recent findings have favored the multiple template model, a switching version of the single template model, in which templates are sequentially activated, remains viable. To adjudicate between these models, we conducted two experiments using brief (33 ms) masked displays to minimize the contribution of template switching in a cued signal detection task. Participants were instructed to maintain one or two feature cues while detecting a coherence signal (color in Experiment 1 and orientation in Experiment 2). Critically, we introduced two types of noise displays: either one of the cued features was present or both were present. Analysis of the false alarm pattern suggests that two weak color templates are currently active, but only one orientation template can be active at a time. These results suggest that there is not a universal capacity limit for attentional templates. Instead, capacity is modulated by perceptual and neural coding mechanisms, which could vary for different feature dimensions.

6:00-7:30 PM (III-013)

From Retinal Size to Semantics: Integration of Size Information into Object Representations. KELLY MCEVOY, *George Washington University*, DICK DUBBELDE, *Georgetown University*, SARAH SHOMSTEIN, *George Washington University* — Semantic knowledge of an object's real-world size (semantic size) affects how attention interacts with objects in spatial cuing and visual search, but underlying mechanisms remain unclear. We hypothesize that real-world size is encoded into object representations such that behavioral effects of retinal size are mirrored by semantic size. Experiment 1 established that targets within retinally larger ob-

jects are processed less efficiently than those within smaller objects. Experiment 2 tested whether this cost emerges when only inferred size differs while. Using line drawings equated in retinal extent, responses were slower for semantically large objects, indicating that a size effect originally arising from low-level input manifests when size is defined by semantic knowledge. Experiment 3 used the same line drawings to show that object-based attention is modulated by inferred size, with a greater attentional cost for semantically large than small objects. This result suggests that semantic size is encoded within object representations. Together, these findings suggest that inferred real-world size is baked into object representations, governing the speed and efficiency with which attention is deployed.

6:00-7:30 PM (III-014)

The Influence of Emotion on Object Based Attention. SANWEDA MAHAGABIN, *George Washington University*, SARAH SHOMSTEIN, *George Washington University* — Object-based attention is the enhanced processing of features within an attended object. While emotion is known to influence attentional prioritization, less is understood about how emotional information interacts with object-based organization. Across two experiments, we examined whether emotional scene context and emotional target stimuli modulate object-based attention. In the first experiment, emotional scenes were presented as backgrounds while participants completed a two-rectangle paradigm. Results showed that emotional scene context eliminated the object benefit, suggesting that background emotional information competes with or overrides object-based guidance during attentional selection. In the second experiment, emotional valence was embedded into targets using happy and sad faces. Unlike the scene experiment, object-based attention remained intact, with no modulation by emotion. Together, these findings suggest that emotion influences attention differently depending on whether it competes for task-related resources. Follow-up manipulations examined whether emotion-dependent modulation of object-based effects depends on scene type and more realistic emotional targets selected from the THINGS+ Database.

6:00-7:30 PM (III-015)

Predicting Sustained Attention from Working Memory Capacity, Anxiety, and Heart Rate Variability. MARIA M. HICKEY, *Montana State University*, AUDREY HOOD, *University of Portsmouth*, JOSEPH OBINECHE, *Montana State University*, EVAN M. BRENNAN, *Montana State University*, BRANDON G. SCOTT, *Montana State University*, KEITH A. HUTCHISON, *Montana State University* — Parallel literatures focusing on working memory capacity (WMC) and heart rate variability (HRV) have independently shown relationships with both emotion regulation and controlled attention. Further, both HRV and WMC are indicators of self-regulation and may attenuate the effects of anxiety on sustained attention. The current study aimed to test how WMC and HRV relate to each other, emotion regulation, and sustained attention. Participants completed measures of HRV, WMC, anxiety and mindfulness questionnaires, and a psychomotor vigilance task (PVT) of sustained attention. Results showed that WMC/HRV and anxiety/mindfulness loaded on separate factors representing self-regulation and anxiety/mindlessness, respectively. Further, anxiety/mindlessness significantly predicted mind wandering during the PVT, but only among those low in self-regulation. In turn, greater mind wandering significantly predicted poorer sustained attention during the PVT. Thus, cognitive and physiological self-regulation may protect again anxiety-related disruptions in sustained attention. These findings support integrating cognitive and physiological models of controlled attention.

6:00-7:30 PM (III-016)

Ideological Stroop Interference. CHRIS KOCH, *George Fox University* — The Stroop task has been modified to examine disorders, emotions, and interests. In this study, the Stroop task was modified to examine ideological preferences. Participants completed two experimental tasks. The first task was a

standard color-word Stroop task using red, green, yellow, and blue as colors and words. The results show typical Stroop interference with a large effect size (eta-squared = .53). The second task was identical in format and number of trials. However, the color words were replaced with liberal and conservative words. Participants also completed the Ideological Consistency Scale developed by the Pew Research Center. Based on the scale scores, participants were categorized as liberal, moderate, or conservative. There was an interaction between ideology and word type. Liberals took slightly longer to name the colors of conservative words compared to liberal words. Conversely, conservatives took much longer to name the colors of liberal words compared to conservative words. Although significant, this effect was smaller than for typical color-word Stroop interference (eta-squared = .03). The results indicate that preferences can produce Stroop-like interference.

6:00-7:30 PM (III-017)

Performance Style Predicts Use of Inopportune Future-Relevant Peripheral Cues Despite Manipulations Targeting Strategy Adjustment. TRAVIS L. SEYMOUR, *University of California, Santa Cruz*, KAELYN LUEBKE, *University of California, Santa Cruz*, ANUSHA A. KSHIRSAGAR, *University of California, Berkeley* — Everyday tasks often present information relevant to future actions at inopportune times. Using a modified Posner cueing paradigm, we investigated whether participants use a briefly-flashed (100 ms) peripheral warning cue that predicted the next trial's target location while they were engaged with the current trial. Across four experiments, about half of participants reported using the warning cue and showed classic cueing effects (faster RTs for valid, slower for invalid warnings), whereas other participants, who reported no such use, showed no such warning-based effects. Critically, manipulations designed to encourage strategic adjustment, such as reducing arrow cue reliability (Expt. 2) and replacing arrows with harder-to-decode text cues (Expt. 3), did not significantly alter the proportion of warning users. Visual-spatial working memory capacity also did not differ between users and non-users (Expt. 4). These findings suggest that use of inopportune future-relevant peripheral cues reflects a stable individual performance style rather than strategic adaptation or automatic attentional capture. Computational cognitive modeling using the EPIC architecture supports this conclusion.

6:00-7:30 PM (III-018)

Investigating the Role of Cognitive Control Constructs in Sonar Monitoring Performance. LOGAN C. GIBSON, *Michigan State University*, DAVID Z. HAMBRICK, *Michigan State University*, ERIK M. ALTMANN, *Michigan State University*, KIMBERLY M. FENN, *Michigan State University* — There is increasing interest in using measures of cognitive constructs to predict individual differences in real-world performance. In this study, participants completed the Armed Forces Qualification Test (AFQT), tests of reasoning and perceptual speed, and tasks designed to measure two aspects of cognitive control: attending to task-relevant information in the presence of distraction/interference (attention control) and performing a sequence of mental operations in a specified order (placekeeping). Participants then performed a simulation of a Navy sonar monitoring task. The task involves both vigilance and perceptual classification, as the participant's goal is to monitor a display for signals representing vessels and then use auditory and visual information to classify the signals. Regression analyses indicated that only reasoning ability uniquely predicted sonar performance over and above the AFQT. The results reinforce the predictive power of reasoning measures, and point to limits on task analysis and the need for empirical studies to identify cognitive mechanisms at play in complex task performance.

6:00-7:30 PM (III-019)

Migraine Symptoms and Neurodivergent Traits Predict Visual Search Performance in Virtual Reality. LINDSAY A. HOUCK, *Rhode Island College*, LEX STINSON, *Rhode Island College* — Sensitivity to bright light and high color saturation are often seen in conditions like migraines, ASD, and ADHD, yet how these sensitivities impact every-day visual tasks is still unknown. We conducted a visual search

task in virtual reality while changing the room's brightness and color saturation. Participants then completed trait measures of ASD, ADHD, migraines, and sensory sensitivity. Higher sensory sensitivity predicted better visual search performance (d') (p=.02), and more ADHD traits predicted worse d' (p=.01). More ADHD traits predicted faster response times (RT) (p=.03), while more ADHD traits (p<.001), more severe migraine symptoms (p=.001), and more days with migraines (p=.003) all predicted faster dismissal of absent targets. ASD trait subscore analyses found that more attention to detail predicted better d' (p< 0.001) and slower dismissal of absent targets (p=.03), while higher attention switching predicted better d' in the low and medium intensity conditions, but not high intensity (p=.047). These results suggest that migraines and some neurodivergent traits may impact every-day visual tasks, but how they impact visual performance in high intensity brightness and color saturation conditions is an ongoing endeavor.

6:00-7:30 PM (III-020)

Bigger between-language than within-language Stroop effects in young and older deaf American Sign Language-English bilinguals. SADIE CAMILLIERE, *San Diego State University*, KAREN EMMOREY, *San Diego State University*, PETER HAUSER, *Rochester Institute of Technology*, JESSICA CONTRERAS, *Rochester Institute of Technology*, MICHAEL M. MCKEE, *University of Michigan*, TAMAR H. GOLLAN, *University of California, San Diego* — Spoken-language bilinguals often show bigger within-language than between languages Stroop effects (e.g., written Spanish words, color responses in English). We investigated Stroop performance in 65 deaf bilinguals who use American Sign Language (ASL) and English (age 20-84). Participants signed their responses in two computerized Stroop tasks, one with ASL videos of color signs and one with printed English color words. Even though participants responded in ASL in both tasks, Stroop effects were larger with English than with ASL stimuli (in both RTs and errors), a pattern of results not typically seen in spoken-language bilinguals. Older participants showed larger Stroop effects than younger participants in RTs, but not in errors, and the between-language Stroop effect increased continuously with age. The finding of larger Stroop effects in deaf signers with English rather than ASL stimuli suggests a possibly critical role for modality of presentation in eliciting Stroop effects. Additional work is needed to determine if the Stroop task may also be most sensitive to cognitive impairment in deaf bilinguals when assessed with English stimuli and signed responses.

6:00-7:30 PM (III-021)

The Bilingual Cocktail Party: Can Bilinguals Prepare to Select Among Simultaneous Speakers by Language? SRIMOYEE CHATERJIE, *University of Exeter*, STEPHEN MONSELL, *University of Exeter*, AURELIU LAVRIC, *University of Exeter* — We know that shifting attention between simultaneous voices incurs a performance cost relative to maintaining attention to the same voice. This "switch cost" can be reduced by cueing in advance the gender or location of the target speaker, indicating preparatory tuning to voice or location. We investigated whether bilingual listeners can also prepare for the language spoken by one of two simultaneous speakers. In two experiments, Cantonese-English bilinguals heard simultaneous voices – one female and one male, one speaking Cantonese and the other English; the language spoken by each speaker varied unpredictably. A visual cue specified the language (in one session) or the gender (in another session) of the target voice at a cue-stimulus interval (CSI) which either permitted preparation (1400ms) or did not (50ms). Participants categorized the word spoken by the target voice (Exp. 1: one of eight digits; value < 5/>5; Exp. 2: one of sixty object names; bigger/smaller than a football). A longer CSI substantially reduced the language switch cost by ~50% – a reduction comparable to that observed for gender cueing. Thus, preparatory tuning for language is as effective as for gender-related perceptual attributes, such as pitch.

6:00-7:30 PM (III-022)

Do bilinguals use similar control mechanisms to resolve between-and within-language interference? ANDREA F. GALVEZ-MCDONOUGH, *San Diego State University*, VALERIE M. IBARRA, *San Diego State University*, KATHERINE DIANE ANDRADE, *San Diego State University*, CLARA D. MARTIN, *Basque Center on Cognition, Brain and Language*, STEPHANIE K. RIES, *San Diego State University* — Interference effects have been shown to arise during word retrieval. However, it is unclear whether similar control mechanisms are used to resolve within- and between-language interference. In this study, Spanish-English bilinguals complete an auditory picture-word interference task. They name images in Spanish (e.g., Aceite - oil) while ignoring Spanish distractors. We elicit between-language interference through false cognates, words similar in form with dissimilar meanings (e.g., distractor: OLA - wave), and within-language interference through words phonologically related to categorically related words (e.g., distractor MANTEL is phonologically related to Manteca - lard, which is semantically related to target Aceite). Preliminary analyses (n = 9) show the expected between- and within-language interference effects on accuracy. We also found that bilinguals that experienced greater between-language interference experienced less within-language interference. These results may be modulated by language dominance, which we will investigate with a larger sample. These findings will contribute to our understanding of how bilinguals flexibly manage two active languages and resolve both between- and within-language interference.

6:00-7:30 PM (III-023)

Which Word Comes Siguiente? The Role of Domain-General Inhibitory Control in Resolving Prediction Errors Following Semantic Shift and Language Switch. YIFEI GONG, *Pennsylvania State University*, ZACHARY MAHER, *Virginia Polytechnic Institute and State University*, JANET VAN HELL, *Pennsylvania State University* — The human brain continuously generates predictions during sentence processing, but how does it react when these predictions are violated? Here, we examined whether domain-general inhibitory control supports rapid reconciliation to prediction errors—through an unforeseen twist in meaning or a shift in language. Forty-three Spanish-English bilinguals completed a stop-signal task combined with a sentence comprehension task, in which highly constrained sentences ended with a semantic violation, a language switch, or both. Behaviorally, both semantic violation and language switching prolonged the stop signal reaction time, suggesting that both forms of prediction error engage inhibitory control. The ERP data, in contrast, revealed that whereas semantic violation modulated the stop-signal P3, language switching did not produce corresponding neural effects. Together, the convergence of behavioral and neural evidence for semantic violation, but not language switching, suggests that different forms of linguistic prediction error recruit (partially) distinct inhibitory control mechanisms.

6:00-7:30 PM (III-024)

Language at the Border: Characterizing Language and Cognitive Dynamics in Transborder Bilinguals. JASMIN HERNANDEZ SANTACRUZ, *University of California, Irvine*, JUDITH F. KROLL, *University of California, Irvine* — Research on bilingualism has increasingly emphasized experience-based approaches to language use across dynamic sociolinguistic environments. Transborder college students—individuals who regularly cross an international border for schooling—provide a unique opportunity to examine how sustained binational mobility shapes language regulation and cognitive control. This study combined measures of language experience, semi-structured interviews, and experimental assessments of bilingual language regulation and cognitive control in transborder students enrolled in U.S. institutions along the San Diego–Baja California border. Participants included bilingual students with sustained experience navigating academic contexts across national and linguistic boundaries. Preliminary analyses indicate patterns of flexible language use, strategic regulation across single- and dual-language contexts, and adaptive responses to variable linguistic demands. These findings suggest

that transborder experience may shape context-sensitive language control processes and contribute to current efforts to characterize bilingual experience beyond static or nationally bounded frameworks.

6:00-7:30 PM (III-025)

Lexical Overlap and Neighborhood Effects in Bilingual Cognate Processing: Behavioral and Neural Representational Evidence. LUCIA Z-RIVERA, *University of Maryland, College Park*, MICHAELA BROOKS, *University of Maryland*, CORY MCCABE, *Rutgers University*, WILLIAM W. GRAVES, *Rutgers University*, JEREMY J. PURCELL, *University of Maryland*, DONALD J. BOLGER, *University of Maryland* — Bilingual word recognition involves activation from both languages, creating competition between lexical representations. Cognates, which share orthography and phonology, provide a useful way to examine this cross-language activation. We tested monolinguals and early and late bilinguals in two tasks. First, participants completed a lexical decision task including cognates, non-cognates, and pseudowords that varied in Spanish orthotactic legality. We examined whether cognate processing was modulated by language proficiency, orthographic and phonological similarity, and neighborhood density. Late bilinguals showed stronger cognate facilitation, with faster responses to words that had greater overlap with their Spanish translations. Pseudoword rejection was also shaped by Spanish-like lexical structure, but in different directions across bilingual groups. Second, in a complementary fMRI reading task, we used representational similarity analysis with a semantic dissimilarity matrix to compare brain representations of cognates and non-cognates. Together, these findings suggest that bilingual lexical processing depends on both language experience and the structure of cross-language overlap.

6:00-7:30 PM (III-026)

Timecourse and Loci of False Cognate Processing in Spanish-English Bilingual Heritage Speakers. LAURA P. FITZGERALD, *San Diego State University*, HENRIKE K. BLUMENFELD, *San Diego State University*, JAIME ANTOSHAK, *San Diego State University; University of California, San Diego*, TOBIAS KUHLMEIER, *San Diego State University*, STEPHANIE K. RIES, *San Diego State University* — When bilinguals encounter false cognates (Spanish pluma means feather but resembles plum), joint language activation can lead to crosslinguistic interference. Examining this effect in multimodal text-image combinations presents an opportunity to elucidate the loci and timecourse of false cognate (FC) processing. We manipulated the FC status of text-image combinations during a Spanish picture-word matching task. Participants judged whether the image and text matched given images with Spanish text superimposed (Study 1) or a visual world eye-tracking task with images and text in opposing quadrants (Study 2). Accuracy was significantly lower and reaction times were significantly longer when text-image pairs were FCs than when they were unrelated (Studies 1-2). Growth curve eye-tracking analyses revealed increased attention to images in FC trials versus unrelated trials starting at 500ms post-stimulus onset, suggesting a shift to semantic content to resolve FC competition prior to the picture-word matching response (Study 2). Findings support ERP-based accounts of semantic components associated with crosslinguistic processing and extend this to multimodal processing where attention directed at text versus image can be teased apart.

6:00-7:30 PM (III-027)

Speech Accommodation in the Healthcare Setting: What impression are providers leaving? SUSAN C. BOBB, *Gordon College*, MORITZ DANNHAUER, *East Carolina University*, JORDAN L. ZACK, *East Carolina University*, CASSANDRA BUCCI, *Gordon College*, RUBY M. GEORGE, *East Carolina University*, KATHERINE PALIN MONTERO, *East Carolina University*, ANNA BATCHELDER, *Gordon College*, CULLEN DAVEY, *Gordon Col-*

lege, ARWEN HEFNER, *Gordon College*, JOSEPHINE M. OBERTON, *Gordon College*, RACHAEL WALSH, *Gordon College*, JOSEPH G. L. LEE, *Wake Forest University School of Medicine*, ROSE P. BAKER-IYORE, *East Carolina University*, KATHRIN ROTHERMICH, *East Carolina University* — When people interact in a shared language but differ in proficiency, they adjust their speech to make sure they communicate clearly. We were interested in how people perceive healthcare interactions where a provider was either highly accommodating or less accommodating, and a standardized patient spoke accented English with either limited or high proficiency. Participants (n = 39) listened to four previously recorded interactions and rated the providers' clarity, trustworthiness, patience, friendliness, care, and fairness during the interaction while we recorded biophysiological data (heart rate, respiratory rate, and skin conductance). Preliminary results from a linear mixed-effect model (REML) for heart rate data with baseline-corrected change scores found a significant Provider Accommodation x Patient Proficiency interaction ($\beta = -2.20$, $p = .034$), suggesting that the combination of reduced accommodation and low interlocutor proficiency elicits a distinct cardiac response that may point to processing difficulty during speech perception of less-proficient English.

6:00-7:30 PM (III-028)

Multi-level Switch Costs in Connected Speech: Phrasal Lexical Costs and Local Acoustic Prominence. YUAN CHAI, *University of California, San Diego*, CHUCHU LI, *University of California, San Diego* — Language switching in connected speech may elicit costs at multiple linguistic levels. Li et al. (2022) found that switching slows speech at the beginning of the phrase containing the switch word, revealing lexical level switch costs that follow phrasal planning. Reanalyzing the same dataset, we investigated language switch effects at the phonetic level, relying on a broad set of prominence-related acoustic cues. Spanish-English bilinguals described moving-picture arrays with three objects in English, with the second object named in English or Spanish according to color cues: [The shoe and the mesa/table] moved above the cloud OR [The shoe] moved above the mesa/table and the cloud. Unlike word production duration, analyses of acoustic prominence suggested that phonetic-level switch costs were local and structure-independent: the switch word and/or its preceding determiner had higher energy, more periodic voicing, and greater glottal constriction than in the non-switch condition. These results suggest multi-level bilingual language control: lexical level control is coordinated with phrasal planning, whereas phonetic level control emerges locally near the switch.

6:00-7:30 PM (III-029)

Same Sentences, Different Senses: How Input Modality Shapes Comprehension. FELICITY F. FRINSEL, *State University of New York at Plattsburgh*, FALINE H. YANG, *State University of New York at Plattsburgh*, EMILY MCARDLE, *State University of New York at Plattsburgh* — Previous research has shown that language learners can use cross-situational statistics to acquire simple sentences, but this work has overwhelmingly focused on auditory input and comprehension-based outcomes. It therefore remains unclear whether cross-situational sentence learning is modality-specific or modality-independent. We investigated whether input modality (auditory vs. orthographic) affects cross-situational learning of simple sentences. During training, participants viewed two animated scenes and selected the scene that best matched an auditory or written sentence. Learning was assessed via a comprehension test in which participants judged whether scenes matched sentences presented auditorily or orthographically. Participants trained in either modality showed reliable learning. Notably, performance did not differ by training modality, and learners generalized fully across modalities: training in one modality conferred no advantage when tested in that same modality. These findings suggest that cross-situational learning supports modality-independent sentence learning, even when input is exclusively spoken or written, and raises the question of whether such learning also supports language production.

6:00-7:30 PM (III-030)

Effects of Category Similarity on Category Learning and Item Memory Across Learning Schedules: Interleaved vs. Blocked. EZGI YUKSEL, *University of Chicago*, C. SHAWN GREEN, *University of Wisconsin - Madison*, HALEY VLACH, *University of Wisconsin - Madison* — Research has demonstrated that mixing exemplars from different categories during study improves category learning compared with presenting same-category exemplars consecutively. Discriminative contrast theory attributes this benefit to the contrast created when competing categories appear in succession, predicting that interleaving should be most effective when categories are highly similar. Although prior work has examined how category similarity moderates the interleaving effect, these studies have relied on artificial stimulus sets that confound within- and between-category similarity. Critically, naturalistic materials that produce robust interleaving effects have not been formally characterized by their similarity structure. This study examined how category similarity impacts painting style learning and memory for individual paintings. The results challenged common predictions about the interleaving effect: benefits were not driven simply by how similar categories were to one another. Instead, they depended on how coherently each category was structure. The results point to a broader account of when and why interleaving enhances learning that highlights the different underlying processes that may support its benefits.

6:00-7:30 PM (III-031)

Characterizing the Developmental Trajectory of Semantic Knowledge in Young Children. JUNYI CHEN, *University of California, San Diego*, MARTIN ZETTERSTEN, *University of California, San Diego* — Semantic knowledge develops gradually, with children making finer semantic distinctions as experience grows. However, our understanding of the mechanisms and timing of this within-domain refinement remain limited, because most developmental studies probe small sets of stimulus items. We report ongoing work collecting a large developmental dataset of semantic similarity judgments across a wide range of items in early-developing categories. We adapted the spatial arrangement task for children ages 3–8 years (N = 38; target N = 150) in three domains: animals, plants, and emotions. Children completed two trials per domain using distinct image sets of the same concepts. We computed consistency in children's arrangements by computing the test-retest correlation of pairwise distance vectors for items instantiating the same concepts. Children showed modestly consistent within-domain concept sorting (animals: M = 0.14, 95% CI [0.04,0.25]; emotions: M = 0.18, CI [0.05, 0.30]; plants: M = 0.21, CI [0.12, 0.29]). Moreover, consistency increased gradually across age (linear mixed-effects model; t(36)= 2.50, p = .02). Results from the full sample will allow us to trace reliable changes in within-domain semantic organization across childhood.

6:00-7:30 PM (III-032)

Inside blocked practice: Verbal evidence for the attentional mechanisms driving category learning. JULIA J. CONTI, *Carnegie Mellon University*, ABIGAIL LO, *Carnegie Mellon University*, KEN R. KOEDINGER, *Carnegie Mellon University*, PAULO F. CARVALHO, *Carnegie Mellon University* — Blocked presentation of information is thought to provide benefits over interleaving by directing attention to commonalities. However, most current evidence is indirect, in the form of posttest performance and eyetracking. In this study, participants learned to classify bugs organized around a relational rule in a 2x2 design manipulating blocked vs. interleaved presentation and example presence vs. absence. Throughout the task, we ask participants to make predictions about the organizing rule. Blocked presentation promoted better post-test performance and more relational feature verbalizations than interleaved; removing examples amplified feature use in both conditions. Moreover, greater increases in relational verbalizations during training positively predicted posttest performance, particularly for blocked learners, suggesting presentation format shapes reasoning trajectories.

6:00-7:30 PM (III-033)

Insight-Based Processes During Classification and Inference Learning as a Function of Category Structure. MACI DELFAVERO, *Syracuse University*, DANIEL CORRAL, *Syracuse University* — We report an experiment that investigates insight and analytic processes during featural category learning. Specifically, we manipulated learning mode, where subjects either learned (a) exclusively through classification, (b) exclusively through inference, (c) through inference followed by classification, or (d) through classification followed by inference. Additionally, subjects either learned a category structure defined by XOR or by rule-plus-exception. On each trial, subjects were presented a stimulus and were asked to make a classification or inference judgment, depending on the condition. Following each response, subjects were provided corrective feedback (correct answer and whether the response was correct). To assess insight, subjects made warmth judgments after every eighth trial. Warmth judgments were highest and increased gradually for inference judgments, particularly for the rule-plus-exception structure. In contrast, warmth judgments were lowest for classification judgments, particularly for the XOR structure. Inference might thus be driven by analytic processes, especially for rule-plus-exception structures. However, insight might not readily arise during classification for XOR or rule-plus-exception structures.

6:00-7:30 PM (III-034)

Conceptual Diversity: Does political identity shape concepts of masculinity and femininity? KYLER JONES, *University of Connecticut*, EMMA WEDELL, *University of Connecticut*, EILING YEE, *University of Connecticut*, NAIRAN RAMIREZ-ESPARZA, *University of Connecticut* — How do people's political identity and gender shape their ideas about masculinity and femininity? We analyzed participants' (N=709) open-ended descriptions of masculinity and femininity using LIWC-22 text analysis software to identify unique and shared vocabulary across political (Democrat vs. Republican) and gender (female vs. male) groups. All groups shared a common core vocabulary within each concept. However, notable differences emerged in how sharply groups distinguished masculinity from femininity: Republicans' masculinity and femininity descriptions overlapped less than Democrats' descriptions did, and male participants' descriptions overlapped less than female participants' descriptions did. Across both concepts, Republican descriptions featured greater internal character-based language (e.g., resilience, integrity, vulnerability), while Democratic descriptions more frequently referenced external presentation and appearance (e.g., clothes, makeup, hair). These findings suggest that political identity and gender may be associated with meaningful differences in the concepts of masculinity and femininity, with implications for understanding social group membership's role in shaping gender cognition.

6:00-7:30 PM (III-035)

Generating Explanations Improves Category Learning when Classifying or Observing Natural Stimuli. KATE KATHMAN, *Syracuse University*, JEFFREY C. ZEMLA, *Syracuse University*, RACHEL L. PERRI, *Syracuse University*, DANIEL CORRAL, *Syracuse University* — Previous work has found that generating explanations during category learning helps generalization (Williams & Lombrozo, 2010), but the mechanisms underlying this effect are not well established. We examined whether explanation interacted with two learning modes: classification and observation. We hypothesized that explanation and classification would perform best because both keep participants engaged, encourage hypothesis testing, and focus attention on discriminative features. Participants (n = 105) were shown satellite images of France and Poland during a learning phase, and were either presented with the correct label (observation) or asked to classify the image before the answer was shown (classification). Every 10 trials, participants completed an endorsement trial and either explained their answer or were presented with a distractor question. Following the learning phase, participants completed a test phase in which they classified images without feedback. We found that explaining improved post-test accuracy regardless of learning mode, while an observation

advantage was found during learning. Our results suggest that explanation, classification, and observation rely on distinct mechanisms that impact category learning.

6:00-7:30 PM (III-036)

A Parameter Recovery Analysis of the Generalized Context Model Using Natural and Artificial Category Structures. YONGFU LIAO, *Syracuse University*, M. L. KALISH, *Syracuse University*, DANIEL CORRAL, *Syracuse University* — We report a series of parameter-recovery simulations on the Generalized Context Model (GCM), using category structures derived from natural and artificial stimuli, which tested whether GCM could recover its parameters from response data. The first set of simulations involved 435 rock-category pairs, and the second set involved two-dimensional artificial stimuli. Simulation conditions were designed to reflect typical category-learning experiments and varied the number of exemplar presentations from typical to near-ideal levels (e.g., 1 vs. 2 vs. 100,000 presentations per exemplar). In the first set of simulations, parameter recovery varied systematically with the distance between category centroids in a multidimensional scaling space, with greater category separation producing poorer recovery. The number of exemplar presentations also impacted recoverability, with few exemplar presentations producing poor recovery. In the second set of simulations, category structures involving both dimensions produced notably better recovery than unidimensional structures. Critically, these findings highlight the importance of evaluating parameter recovery when designing experiments intended to support inference from category learning models.

6:00-7:30 PM (III-037)

The Effects of Category Confusability in Classification Versus Observation Training. RACHEL L. PERRI, *Syracuse University*, YU-WEI CHANG, *Syracuse University*, M. L. KALISH, *Syracuse University*, DANIEL CORRAL, *Syracuse University* — Concept learning can occur through classification (classifying stimuli with feedback) or observation (studying stimuli with category labels). Extant work shows contradictory findings, with some studies favoring classification over observation and others showing the opposite pattern. Recent work posits that category confusability might explain these discrepancies. We present three experiments that investigate this question by manipulating category confusability (within-subjects), where subjects learned through either classification or observation (between-subjects). In all experiments, subjects learned three pairs of natural rock categories varying in similarity (low vs. moderate vs. high). In Experiment 1, all subjects completed an endorsement judgment every fourth trial. Experiment 2 added a pure observation condition without embedded endorsement. Experiment 3 included pure classification and pure observation (i.e., no embedded endorsement). All subjects completed a final endorsement task with both old and new items. Our results show that the benefits of classification were restricted to highly confusable, new items, whereas no learning-mode differences were observed across all other item types and levels of confusability.

6:00-7:30 PM (III-038)

Follow the Leader: People Judge Groups Will Defer to Leaders' Perception of Threat, but not Safety, in Intragroup Decision-making. RODNEY TOMPKINS, *University of California, San Diego*, JACK MEACHAM, *University of California, San Diego*, AMY NGUYEN, *Princeton University*, ADENA SCHACHNER, *University of California, San Diego* — How do hierarchical roles and perceived expertise shape predictions about group decision-making under perceived threat? Participants were presented with novel groups, composed of two leaders and two followers who held conflicting views of another nearby group as safe vs. threatening; and predicted whether the group would settle in a protected and hidden vs. vulnerable and nearby location. When leaders perceived the group as threatening and followers perceived safety, participants selectively predicted settlement in the protected location, $\chi^2 = 21.63$, $p < .001$, whereas predictions were at chance when leaders perceived safety while followers perceived threat. This effect was qualified by an

interaction: Participants who more strongly viewed leaders as experts increasingly made settlement predictions that aligned with leaders' threat perceptions, while those who viewed leaders as non-experts made mixed predictions, $\chi^2 = 8.09$, $p = .004$. In ongoing work, we will compare adults to children, to characterize the development of reasoning about how hierarchical roles and perceptions of leaders' competence guide collective decision-making under threat.

6:00-7:30 PM (III-039)

Prototype and Exemplar Categorization Strategies Involves Distinct Network Interactions during Categorization. SHIJING ZHOU, *University of Oregon*, TROY HOUSER, *University of Oregon*, DAGMAR ZEITHAMOVA, *University of Oregon* — The human brain is organized into large-scale functional networks that support distinct cognitive operations. Categorization, the process of assigning experiences to meaningful groups, often involves retrieval of specific past category exemplars and/or extraction of abstract category representations (prototypes). While prior research identified that distinct regions support exemplar vs. prototype representations, less is know how interregional interactions support these processes. Here we compared task-based connectivity across seven large-scale functional networks between individuals identified as prototype versus exemplar strategy users during a categorization task. While overall accuracy was similar in the two groups, those using exemplar strategy showed greater within-network connectivity in the dorsal attention network, and greater interactions among networks. These findings provide preliminary evidence that prototype and exemplar categorization strategies may be associated with distinct patterns of large-scale functional network organization, with exemplar-based categorization engaging a more broadly integrated network architecture that engages more widespread network communication.

6:00-7:30 PM (III-040)

The Role of Anxiety in Prosocial Decision-Making. SKYE CANCEL, *University of Southern California Upstate*, CHRISTA CHRIST, *University of Southern California Upstate* — Prosocial behavior is essential for social relationships, yet anxiety may influence individuals' willingness to engage in helping behaviors. Previous research suggests that anxiety is associated with a reduction in trust, reciprocal giving, and charitable behavior. The present studies aim to replicate and extend these findings across multiple contexts. Study 1 examines whether naturally occurring differences in social and generalized anxiety predict prosocial behavior using the Trust Game. It is hypothesized that higher anxiety will predict lower social risk and prosocial behavior. Study 2 examines whether recalling an anxious versus happy experience influences prosocial responding. Participants are randomly assigned to write about either an anxious or happy memory before completing a charitable donation scenario and prosocial behavior questionnaire. It is hypothesized that participants in the anxious recall condition will donate less money and report lower prosocial behavior. Data collection for both studies is ongoing. Together, these studies aim to improve understanding of how anxiety influences social functioning and helping behavior.

6:00-7:30 PM (III-041)

Examining Age Differences in Moral Information Search. MANE KARA-YAKOUBIAN, *Toronto Metropolitan University*, JULIA SPANIOL, *Toronto Metropolitan University* — Past research on moral decision making suggests that older adults are more deontological and less utilitarian than younger adults, but the boundary conditions for these age differences have not been explored to date. In the current study, we examined how younger and older adults search for information before making moral decisions, and whether age differences are stable across dilemma types. In Study 1 (N = 130), younger adults (18-35) and older adults (60+) encountered everyday moral dilemmas (e.g., workplace-related) and had the opportunity to reveal relevant information before rating their moral concern and their behavioral preference.

Older adults spent more time searching for information, reported greater moral concern, and showed more deontological preferences. Two follow-up studies (N = 128 per study) tested the generality of these age differences. Results suggested that age differences were influenced by the format in which information was encountered (presented upfront vs. explored through information search) and by the ecological validity of the dilemmas (everyday vs. sacrificial). Together, these studies indicate that age differences in moral judgment depend on the content and the framing of the decision dilemma.

6:00-7:30 PM (III-042)

The Effect of Mood States on Precrastination. ERIKA KRAUSE, *Illinois State University*, DAWN M. MCBRIDE, *Illinois State University* — Precrastination refers to the tendency to complete a task as early as possible, even if it requires additional effort. This study investigated the effect of mood states on the tendency to precrastinate, specifically the effect of arousal within positive emotional states. Mood states have been shown to affect cognitive processing in a number of ways, and examining their effect on precrastination can clarify the level of controlled processing involved in this behavior. Mood state was induced using film clips corresponding to one of two conditions: high arousal (happiness) or low arousal (calm). Participants then completed a bucket-moving task to measure precrastination. Results indicated significant precrastination for both mood conditions, with similar rates across groups. These findings suggest that precrastination occurs regardless of arousal level within positive valence mood states. Further research examining arousal and valence may help clarify the role of affect in precrastination and expand the limited literature on this phenomenon.

6:00-7:30 PM (III-043)

Preview and Performance: To Memorize or "PEEK"? ARINEH MORADIAN, *University of California, Riverside*, RYAN LIEW, *University of California, Riverside*, DOMINIC A. SIMON, *New Mexico State University*, DAVID A. ROSENBAUM, *University of California, Riverside* — This study explored the mechanisms underlying preview in ongoing performance. We determined whether preview benefits come from upfront memorization of decisions or perceptual sampling of stimuli, as per the Prioritized Evaluation of Evidence for Knowledge (PEEK) model. In Experiment 1, college-student participants judged whether strings of numbers contained more even or odd values. In Experiment 2, participants judged whether a target digit was present or absent. In the control condition, all strings remained visible; in the experimental condition, all strings disappeared after the first response. First response times were longer and accuracy was lower in the disappearing condition than in the control condition. The results contravene the memorization hypothesis. If participants had memorized by default, performance would not have changed when memorization was required rather than optional. The results support the PEEK model, which has explained preview benefits when stimuli are seen in advance rather than one at a time.

6:00-7:30 PM (III-044)

Mental Simulation Promotes Conjunctive Action Representations. NEHA NARGARKAR, *University of Oregon*, ULRICH MAYR, *University of Oregon* — Conjunctive representations that non-linearly integrate action-relevant features may promote quasi-automatic, efficient action, whereas additive representations of constituent features facilitate flexibility, but at a cost to efficiency. We probe here whether people can be instructed in a top-down manner to adopt either conjunctive, "efficiency" or additive, "flexibility" modes. Using a new planning/implementation version of the Spatial Rules task (Kikumoto & Mayr, 2020), we asked participants to plan in one of two ways for an upcoming action based on a given rule-stimulus combination by (1) mentally simulating the planned action or by (2) planning for the rule and the stimulus separately. The simulation instruction led to stronger partial-overlap costs (index for conjunctive representations) as well as more efficient and less flexible performance than the "separate-elements" instruction. These findings suggest that people can position themselves on the efficiency-flexibility dimension by biasing action-rel-

evant representations to be either conjunctive or additive.

6:00-7:30 PM (III-045)

Reward-independent imitation in humans and language models. ANER ZHENG, *Korea Advanced Institute of Science & Technology*, WOOCHUI CHOI, *Korea Brain Research Institute*, HYEON-BO YANG, *Korea Advanced Institute of Science & Technology*, SE-BUM PAIK, *Korea Advanced Institute of Science and Technology* — Imitation, the tendency to copy others' behavior, is widespread in human decision-making. However, whether imitation reflects reward maximization or a genuine social bias remains unclear because reward and popularity are often correlated. To dissociate these factors, we designed a binary-choice task, in which popularity and reward were manipulated orthogonally. Human participants (n = 37), instructed solely to maximize reward, showed a strong preference for popular options despite popularity being unrelated to reward. Notably, this bias persisted on conflict trials, where the popular option yielded lower reward. Large language models (LLMs) tested on the same task exhibited a robust preference for popular options that closely mirrored human behavior. This imitation bias remained evident even when the models were explicitly instructed to disregard social information and focus on reward. A reward-based learning model lacking social information failed to reproduce this pattern. Together, these findings demonstrate reward-independent imitation in both humans and LLMs.

6:00-7:30 PM (III-046)

Working Memory Shapes Motor Preparation During Delayed Decisions. JOHAN A. ACHARD, *Université Marie et Louis Pasteur*, PIERRE BARROUILLET, *University of Geneva*, VALERIE CAMOS, *Universite De Fribourg*, MATHIEU SERVANT, *Université Marie et Louis Pasteur* — In delayed perceptual decisions, participants select a response during stimulus presentation but postpone its execution over a short delay. Previous work from our lab challenged a simple storage-and-release account, suggesting instead that the selected response is maintained through persistent motor preparatory activity until action is permitted. We also established covert muscle activation (CMA) rate during the delay, measured using electromyography, as a sensitive marker of sustained motor preparation. Here, we tested whether this sustained preparation depends on working memory. In a random-dot task, our participants judged motion direction while memorizing 0, 3, or 7 letters presented during the delay. CMA rate steadily decreased with memory load. Similar findings were obtained in a second experiment when presenting the letters before the motion stimulus. These findings suggest that delayed decisions are maintained in action-ready motor states that depend on working memory, bridging thought and action before movement even begins.

6:00-7:30 PM (III-047)

Modeling Fairness Preferences in Resource Allocation Decision-Making. YARA AL-NOURI, *Georgia Institute of Technology*, RICK THOMAS, *Georgia Institute of Technology* — We use a two-group simulated loan-allocation task designed to test how subtle equity versus fairness instructions shape resource-allocation decisions. This exploratory study has important societal implications. Acting as loan officers, participants approved or rejected applicants whose profiles varied in race and financial cues. We used Federal Reserve data and other authoritative sources to model the underlying creditworthiness signals across racial strata, creating an ecologically valid task. One important consideration was the adaptation of fairness-optimization methods from the supply-chain literature and reformulating them as cognitive models to capture participants' decision strategies. Observed choices were compared with global merit, group-relative fairness, and tokenistic allocation models, while participant-level policy regressions estimated cue weights for credit score, debt-to-income ratio, income, net worth, and race. Results suggest that most participants approximate global merit allocation, but equity instructions reduce creditworthiness-based separation while increasing reliance on race, indicating that even subtle framings can alter resource allocation strategies.

6:00-7:30 PM (III-048)

Stick-to-it-iveness, or Stuck-to-it-iveness? Investigating Relations between Grit and College Major Planning. MARIEL K. BARNETT, *Purdue University*, ALEXANDER P. BURGOYNE, *Human Resources Research Organization*, DAVID J. FRANK, *Youngstown State University*, BROOKE N. MACNAMARA, *Purdue University* — Grit is a non-cognitive trait defined as passion and perseverance for long-term goals (Duckworth et al. 2007). Research has demonstrated grittier people change careers less frequently (Duckworth et al., 2007). However, there is emerging interest in grit's association with perseveration, a maladaptive trait where one continues pursuing a direction even when no longer advantageous to, or preferred by, the individual. It may be that higher levels of grittiness lead college students to avoid changing their major, even when they find a different career path they would prefer. Further, if they do change majors, gritty individuals may feel regret about not sticking to their previous plans. Across 3 institutions (N = 884; preregistered), we investigate whether grittier students 1) change their major less often, 2) are less likely to change their major plans, even if they found they prefer another major, and 3) feel regret about not sticking to previous plans when they do change majors. We contextualize why gritty students might be inflexible in their goal pursuits, by examining associations with intolerance of uncertainty. Implications for these findings are discussed.

6:00-7:30 PM (III-049)

People place larger bets when they can control the decision to 'cash out' of a risky choice. ANDREW CAMARA, *University of Warwick*, LUKASZ WALASEK, *University of Warwick*, TY HAYES, *University of Warwick*, DANIEL BENNETT, *University of Melbourne*, ELLIOT A. LUDVIG, *University of Warwick* — People derive utility from feelings of control over their decision-making process and prefer environments which allow them to revise an initial risky choice. This preference is exploited by the cash-out feature in sports betting platforms, which allows users to settle their bet early in exchange for a discounted but guaranteed payout. Experimental research indicates that cash-out makes people more risk-tolerant, such that they place larger bets when it is available. The current research explores whether this effect is due to an increase in perceived control. Across two experiments, participants completed an online card-betting task; on some trials, cash-out was available but the decision to accept or reject the offer was pre-determined by the experiment's programming. Participants placed smaller bets on these trials relative to when they could control the decision to cash out. Post-task surveys suggested that control over cash-out increased participant enjoyment and fostered the (erroneous) belief that they could use cash-out to increase their winnings. Overall, these results suggest that control over revising an initial risky choice increases people's risk tolerance, potentially due to enjoyment or an illusory sense of control.

6:00-7:30 PM (III-050)

Taste Preference Asymmetrically Modulates Taste Profile Weighing in Coffee Choice. KAI CHANG, *Ohio State University*, GUILHERME SIGNORINI, *Ohio State University*, TRISHA VAN ZANDT, *Ohio State University*, AISHWARYA BADIGER, *Ohio State University*, CHRISTOPHER SIMONS, *Ohio State University* — Food purchase decisions rarely depend on sensory experience alone; intrinsic and extrinsic-contextual cues jointly shape value-based choice. Coffee consumers completed two lab sessions two weeks apart, one in a sensory booth and one in an immersive VR café context. In each session, they evaluated paired coffee options by tasting specialty- and commodity-grade coffees while viewing product information, then chose between paired options or opted out. Product information included price, sourcing, certification, roaster scale, and origin/blend format. We fit Bayesian hierarchical models to trials where a valid choice was provided. Higher price reduced choice odds. Specialty coffee grade and several extrinsic informational quality cues increased choice odds. The VR context did not show a clear modulation pattern. Baseline sensory preference showed an asymmetric effect: participants who preferred the tasted specialty-grade sample

were more likely to choose specialty-grade options, whereas those who preferred the commodity-grade sample did not show a corresponding shift toward commodity-grade options. These findings suggest that prior preferences gate the integration of taste-related value information during choice.

6:00-7:30 PM (III-051)

Examining Differences in Emotion-Laden and Non-emotion Word Processing during Second Language Acquisition via the Survival Processing Paradigm. SARAH N. JONES, *University at Albany, State University of New York*, JEANETTE ALTARRIBA, *University at Albany, State University of New York* — Previous research has shown that words rated for their survival relevance are better remembered as compared to words rated in other contexts (e.g., moving from one location to another). This Survival Processing Paradigm has been used to promote the learning of concrete words in a new language (Kazanas et al., 2020). The current study consisted of two experiments to examine the learning of emotion-laden words (e.g., candy or snake) and non-emotion words (e.g., cherry or skirt), in Spanish by monolingual English speakers. Experiment 1 compared the impact of scenario type (i.e., survival or moving) in processing emotion and non-emotion words during second language acquisition, using a mixed-word list design. Experiment 2 explored the differences between emotion-laden words and non-emotion words using a completely between-subjects list design. Results will be discussed in terms of emotion word processing, survival processing effects, and overall learning of a second language.

6:00-7:30 PM (III-052)

Recognition of facial emotions is emotion specific and depends on both face features and holistic face information. SIQI YI, *McGill University*, ABBY WALKER, *Rutgers University - Camden*, ROBRECHT VAN DER WEL, *Rutgers University*, JELENA RISTIC, *McGill University* — Emotion recognition is often linked to diagnostic facial features (e.g., eyes for fear), yet the relative contributions of individual features versus the whole face remain unclear. Here we examined this question by asking participants to identify facial expressions with progressively occluded diagnostic and non-diagnostic regions. Accuracy declined as the amount of occlusion increased, indicating the importance of overall face information. Critically, the cost of occlusion varied by emotion. Recognition of positive emotions such as happiness, remained largely robust despite the amount of occlusion. In contrast, recognition of negative emotions such as fear and disgust was more vulnerable, with fear in particular impaired by the loss of both diagnostic and non-diagnostic regions, as well as by the overall extent of occlusion. These findings suggest that emotion recognition relies on a flexible interplay between local features and global face information, with different emotions drawing on these sources to varying degrees.

6:00-7:30 PM (III-053)

Cross-Linguistic Consistency in Mental-State Representations. YOSHIYUKI UEDA, *Kyoto University*, REIKO SAWADA, *Ryukoku University* — The representation of individuals' mental states remains controversial. One perspective is that mental states are described using discrete emotion labels such as joy, fear, and sadness, although they may reflect regions within a continuous multidimensional representational space. This study examined whether such representations are preserved across languages. Participants viewed a subset of video clips and evaluated the mental states in each scene. Videos were evaluated in either Japanese or English within participants, while each video received evaluations in both languages. Judgment profiles were visualized using Uniform Manifold Approximation and Projection (UMAP) to compare the organization of mental-state representations. Results indicated substantial correspondence between maps from Japanese and English judgments, suggesting similar representational structures across languages. However, correspondence was not uniform across the mental-state map, with some regions showing greater divergence. These findings suggest that the organization of mental-state representations may be partially shared across languages while reflecting potential cultural variation.

6:00-7:30 PM (III-054)

Updating Episodic Content and Emotional Tone of Stressful Memories with Imagery Rescripting. XINRAN NIU, *University of Notre Dame*, JESSICA D. PAYNE, *University of Notre Dame* — Memory is not a fixed record of the past, but a dynamic process that can be updated to alter both what is remembered and how it feels. This study examined whether imagery rescripting, a therapeutic intervention that leverages the flexible nature of memory, can update both memory representations and emotional responses to stressful events. Participants (N=63) completed the Trier Social Stress Test (TSST), where they performed speech and math tasks in front of two judges, who interacted with some objects on the table (action) while leaving other objects untouched (non-action). Participants were then assigned to either an imagery rescripting condition (n=30), where they listened to an audio script depicting a more satisfying storyline of the TSST, or a control condition (n=33). Results showed that imagery rescripting enhanced memory discrimination for more salient action objects relative to less salient non-action objects. Imagery rescripting also led to higher positive affect, lower negative affect, and perceiving the TSST as less negative and distressing. These findings suggest that imagery rescripting can simultaneously attenuate emotional impact of a stressful event while selectively enhancing memory for salient details.

6:00-7:30 PM (III-055)

Seeing the Feeling: Exploring the Link Between Mental Imagery and Emotion Recognition Through the Lens of Aphantasia. NUR OZATA, *Colorado State University*, JUHA SILVANTO, *Center for Cognitive and Brain Sciences; University of Macau*, CARLOTTA LEGA, *University of Pavia* — Mental imagery, interoception, and autobiographical memory are thought to share a common generative substrate, yet their interrelations remain poorly understood. Aphantasia the absence or marked reduction of voluntary visual imagery offers a unique window into these processes. This study examined associations between visual imagery vividness, self-reported interoceptive experience, and autobiographical memory, with a focus on comparing individuals with aphantasia to controls. Participants (40 aphantasics, 50 controls) completed the Vividness of Visual Imagery Questionnaire (VVIQ), the Interoceptive Attention Scale (IATS), the Interoceptive Accuracy Scale (IAS), and the Voluntary Autobiographical Memory (VAM) scale. Imagery vividness was associated with autobiographical memory, with aphantasic individuals reporting significantly lower VAM scores. They also showed reduced interoceptive attention, and imagery vividness was more strongly linked to attention to internal bodily signals (IATS). These findings suggest that mental imagery relies on interoceptive simulation and that aphantasia reflects a broader disruption in internal generative processes, affecting memory and embodied self-awareness.

6:00-7:30 PM (III-056)

Feeling Moved Mediates the Enjoyment of Emotional Art and Music. TANUSHREE AGRAWAL, *Soka University of America*, ANNA BRUNS, *New York University* — The enjoyment of sadness in art (i.e., the "aesthetic sadness paradox") has long puzzled scholars. Recently, feelings of being moved have been shown to explain this paradox with music and film: People don't enjoy sadness itself, but rather the experience of feeling moved that sad art elicits. We test this hypothesis across a much broader range of contexts, asking if being moved explains: enjoyment of sad art; enjoyment of happy art/music; and beauty judgments about art/music. In a pre-registered online study, 203 participants rated liking, perceived sadness and happiness, and feelings of being moved for instrumental music, abstract paintings, representational painting, and nature photos (12 each). Linear mixed-effects models revealed that, for images and music, being moved fully mediates the effect of sadness on liking (all $p < 0.001$), and mediates two-thirds of the effect of happiness on liking (all $p < 0.001$). Results were very similar for beauty judgments. Individual differences in empathy, aesthetic reward, and art expertise modulated relationships. Results suggest that feeling moved plays a crucial

role in emotional art engagement across domains, helping to elucidate the relationship between emotion and aesthetic experience.

6:00-7:30 PM (III-057)

Exploring the limitations of valence on survival processing: Do we remember positive or negative information when mixed? DAILYN Q. CLARK, *University at Albany, State University of New York*, JEANETTE ALTARRIBA, *University at Albany, State University of New York* — Rated words encoded in terms of their survival relevance are better remembered than words encoded in terms of their relevance to moving or pleasantness (Nairne et al., 2007). Work examining the role of emotion in the survival paradigm has focused on the emotion content of the passages that precede them (Kazanas & Altarriba, 2018; Mangiulli et al., 2022). Two experiments were conducted to examine how positive and negative emotion laden (e.g, prize) and emotion state (e.g., joy) words are processed within the survival paradigm when shown in mixed word lists. Experiment 1 compared the original words used in Nairne et al. (2007) with emotion laden words. Experiment 2 compared memory for positive and negative emotion state words. For both experiments, an overall survival advantage was expected, such that words rated for their fitness relevance would be better remembered than words rated for their relevance to a moving scenario. Based on Clark (2026) we expected to see better memory for the Nairne and positive emotion laden words in Experiment 1, and better memory for the positive emotion state words in Experiment 2. Findings will be discussed from the perspectives of both the survival and emotion word processing literature.

6:00-7:30 PM (III-058)

Not Just Waiting: What an Observational Coding Rubric Reveals about Spontaneous Self-Regulation Strategies in Preschoolers during Delay of Gratification. DANA ELDRETH, *University of Illinois Urbana-Champaign*, KAI-NING WANG, *University of Illinois Urbana-Champaign*, CHUNYUAN XI, *University of Illinois Urbana-Champaign*, SARA JOHNSON, *Johns Hopkins University*, JACINDA DARIOTIS, *University of Illinois Urbana-Champaign* — Self-regulation (SR) involves evaluating challenging or stressful situations and deploying cognitive resources to modulate behavior and emotions in pursuit of goals. Among children, delay-of-gratification tasks (DoG) are widely used to assess SR but typically yield a single quantitative performance score, thereby limiting insight into underlying processes. Grounded in Dual Systems models (Duckworth, & Steinberg, 2015) and prior observational work (Raghunathan et al., 2023), we developed an observational coding rubric to capture SR behaviors relating to cognitive/top-down processes (fine- and gross-motor fidgeting, and vocalization), and emotional/bottom-up reward-driven processes (attention to reward). Video data from 28 preschoolers completing a DoG task were coded for SR behavioral intensity. Results showed that attention to reward was positively correlated with gross- and fine-motor fidgeting and vocalization. Regression analyses further revealed that greater gross motor fidgeting and vocalization were associated with poorer DoG performance. Findings suggest that children adjust the intensity of SR strategies in response to high emotional arousal, yet these strategies may be insufficient to successfully delay gratification.

6:00-7:30 PM (III-059)

Optimism Bias Collides with Headwind/Tailwind Asymmetry. An Evidence Accumulation Account. PABLO GOMEZ, *Skidmore College*, MAYA S. KATES, *East Carolina University*, CHARYNNA PE BENITO, *Skidmore College* — The headwinds/tailwinds asymmetry refers to the tendency to judge obstacles (headwinds) as more consequential than advantages (tailwinds). Although this bias has been documented across domains (Davidai & Gilovich, 2016), most evidence comes from retrospective judgments or vignettes rather than experiments that directly manipulate the relative presence of obstacles and advantages. We developed a perceptual decision paradigm to experimentally vary headwinds and tailwinds. Participants judged whether displays contained more red or blue dots. On ambiguous trials with equal numbers of dots, feedback indicated gains

or losses that were probabilistically assigned, allowing us to model performance with a drift diffusion model (DDM; Ratcliff, 1978). The DDM separates evidence quality, response caution, and non-decision time. Although the paradigm was motivated by the headwinds/tailwinds literature, our data show that participants tended to estimate net gains rather than net losses on ambiguous trials. This pattern is more consistent with optimism bias than with headwind dominance. We jointly analyze final estimates with DDM parameters to examine how decision processes relate to perceived net outcomes.

6:00-7:30 PM (III-060)

Illusory Truth in the Age of Social Media: Effects of Repetition and Source Credibility. SUSAN E. RUPPEL, *University of South Carolina Upstate*, AMANDA KANE, *University of South Carolina Upstate* — The Illusory Truth Effect (ITE), a phenomenon in which repeated exposure to information increased perceived truthfulness regardless of accuracy, has been widely studied; however, few researchers explored how repetition interacted with source credibility and emotional affect in social media contexts. The current study investigated whether repeated statements from credible news outlets and less credible social media sources influenced perceptions of truth over time. Approximately 80 participants completed a two-part study. In Part 1, participants rated the truthfulness of 60 statements varying in source credibility and emotional affect (positive, negative, neutral). Forty-eight hours later, the same participants rated repeated and novel statements presented without source information. Data were analyzed using a repeated-measures factorial ANOVA examining statement type, affect, and time. Results indicated that repeated statements were perceived as more truthful than novel statements, while positive statements were impacted more by source credibility than negative or neutral statements.

6:00-7:30 PM (III-061)

Resilience of Absolute Pitch in Musical Imagery of Familiar Songs. MATTHEW G. EVANS, *University of California, Santa Cruz*, NICOLAS DAVIDENKO, *University of California, Santa Cruz* — Research shows that humans maintain accurate absolute pitch memory (APM) for familiar melodies in long-term memory, even without absolute pitch ability. However, it remains unknown whether proximate pitch interference disrupts APM for familiar melodies. Sixty-four undergraduates completed two blocks of a 1-back task, each preceded by a 30-second prime of a self-selected familiar song—one in the original key and one transposed by a minor third. Thought probes assessed involuntary musical imagery (INMI) throughout each block, after which participants provided sung productions. Pitch accuracy was unaffected by transposed primes: a paired-samples t-test revealed no difference in signed pitch errors between conditions, and 26.53% of post-transposition productions fell within ±0.5 semitones of the original key, significantly exceeding chance ($p < 0.001$). Pitch error was not predicted by singing accuracy, music perception, or musical sophistication, and no difference emerged between voluntary and involuntary imagery. These findings suggest absolute pitch information is deeply encoded within familiar melody representations rather than stored as a fragile surface-level trace.

6:00-7:30 PM (III-062)

Proclivity to Groove: A novel measure of an individual's tendency to move to music. CELESTE UHL, *Michigan State University*, SHRINIDHI POLA, *Michigan State University*, J. DEVIN MCAULEY, *Michigan State University* — Groove is defined as the extent to which music makes you want to move. Previous research explored the level of perceived groove for specific pieces of music, effectively creating prolific (yet putative) categories of high- and low-groove music. Separate, though, from the groove of a particular piece of music, there seem to be individual differences in the extent to which people experience groove. Previous research has focused on musical abilities (i.e., rhythm, beat

sensitivity, etc.). However, emerging evidence shifts the focus from musical abilities towards dance abilities. The current study (1) developed a novel scale to measure a person's urge to move to music in general compared to in response to a specific piece of music (i.e., their proclivity to groove (PTG)) and (2) predicted that this scale would correlate with dance, but not musical abilities. A 20-item survey was developed and administered to a large class (n=155). A series of maximum likelihood factor analyses were run. Items that loaded >.4 on only the first factor were used to create a novel, unidimensional, and reliable PTG survey. As predicted, PTG only correlated with dance abilities.

6:00-7:30 PM (III-063)

Musical Exposure, Perceptual Skills, and Emotional Engagement as Predictors of Popular Music Recognition and Recall. JOHN HOLLANDER, *Arkansas State University*, STEPHANIE HUETTE, *University of Memphis* — Music recognition requires both perceptual processing and memory retrieval, yet what drives individual differences remains unclear. We examined whether accumulated musical exposure, objective perceptual skills, or self-reported musical sophistication predicted performance on Instrumentle, a game-based task in which participants identify popular songs from progressively revealed instrumental stems. Critically, we distinguished two outcome measures: Recognition (identifying the song) and Recall (retrieving the title). Participants (N = 145) completed the Musical Author Recognition Task (mART), MicroPROMS, and Gold-MSI. Hierarchical regression revealed that musical exposure (mART) was the dominant predictor of both Recognition ($\Delta R^2 = .184$) and Recall ($\Delta R^2 = .188$), far exceeding contributions from perceptual skills or self-reported sophistication. Emotional engagement (MSI-Emotions) uniquely predicted Recall but not Recognition, suggesting affective encoding may support recollection beyond mere familiarity. Formal musical training predicted neither outcome. These findings support memory-based accounts of music recognition and highlight exposure breadth — not training — as the primary driver of popular music identification.

6:00-7:30 PM (III-064)

Do Musicians Practice Effectively? Testing Practice Schedules in Learning to Play Piano Pieces. HATICE DEDETAS SATIR, *University of Mannheim*, EZGI YUKSEL, *University of Chicago*, MILAN ELIAS EDENHOFER, *University of Mannheim*, STEFAN MÜNZER, *University of Mannheim* — Practicing piano is a complex cognitive task in which multiple representations of the musical information (e.g., visual, auditory, and motor) are formed, based on prior knowledge and skill. This study investigates how different practice schedules influence learning new piano pieces, a process that requires repeated practice. In a laboratory setting, skilled piano players practiced three distinct pieces. Each piece was assigned to a different practice condition: blocked (repetition of isolated segments), moving blocks (repetition of segments with some overlap to support transitions), and playthrough (repetition of the entire piece). Following the practice phase of each piece, participants were tested at a standardized tempo, and a delayed retention test was conducted one week later. MIDI recordings were analyzed using custom scripts to quantify playing errors. The overall performance benefited the most from the playthrough schedule, whereas musicians reported the blocked condition as more effective and more frequently used. The results provide both theoretical insights into learning schedules with new learning materials and practical recommendations for piano players.

6:00-7:30 PM (III-065)

Learning Patterns Over Time: How Contingency and Similarity Influence Memory and Preference for Melodies Presented in a Continuous Stream. PIERCE JOHNSON, *University at Albany, State University of New York*, GREGORY COX, *University at Albany, State University of New York* — We investigated how perceptual information is remembered, enables predictions, and relates to preference using novel musical material. Memory may be critical to forming expectations and aesthetic experience—reflecting reward for correct predictions (Huron, 2006). Two experiments addressed questions

between memory, prediction, and preference: How do we learn implicit contingencies within streams of information? Do varying contingencies shape preference differently? In Study 1, participants heard a continuous stream containing single melodies and contingent pairs (melody A always followed melody B). After exposure, participants preferred contingent over novel melodies. Correct memory for pairs correlated with preference for melodies that confirmed (B) rather than enabled (A) predictions, supporting a "reward for learning" hypothesis. Study 2 (ongoing) examines pairs with varying contingencies: 100% (B always follows A) vs. 75% and 50% (B follows A three quarters or half the time). We predict faster learning of stronger contingencies; it also tests if an inverted-U relationship exists between contingency and preference (i.e., moderate contingencies are preferred over extreme contingencies; Berlyne, 1971).

6:00-7:30 PM (III-066)

The Influence of Syncopation on Internal Musical Beat Perception. DAVID J. VOLLWEILER, *University of Nevada, Las Vegas*, JOEL S. SNYDER, *University of Nevada, Las Vegas*, ERIN HANNON, *University of Nevada, Las Vegas* — Listeners can infer and maintain a musical beat percept even in the absence of supporting accents and when the music contradicts the beat, as in the case of musical syncopation. We examined listeners' ability to maintain a previously inferred beat in the presence of consistent or inconsistent musical information. We presented 132 listeners with a musical excerpt that strongly supported either a duple or triple beat pattern (context phase), followed by a rhythm that was either ambiguous, consistent, or inconsistent with the context beat (maintenance phase). In the probe phase, listeners indicated whether a superimposed drum probe matched the previously inferred beat. We also assessed each listener's auditory and visual imagery, as well as their sensitivity to beat, meter, and musical groove. Syncopation condition robustly affected accuracy (consistent: ~70%; ambiguous: ~66%; inconsistent: ~54%). Furthermore, individual differences in task accuracy were predicted by beat sensitivity (r = .47) and auditory imagery (r =.55), but not visual imagery, meter, or groove. This suggests the ability to withstand syncopation to maintain a beat percept may depend on both musical and imagery abilities.

6:00-7:30 PM (III-067)

Harmonic Music Preferences Across Development: Evidence From 1–4-Year-Olds and Adults. XINYI ZHANG, *Tsinghua University*, GUOZHENG HUANG, *Tsinghua University*, JINGYUN ZHANG, *Tsinghua University*, YANG GAO, *Tsinghua University*, XIAOQIN WANG, *Johns Hopkins University*, STELLA CHRISTIE, *Tsinghua University* — Humans often prefer consonance, but whether early music preferences reflect a broad consonance bias or sensitivity to harmonic organization remains unclear. We developed a child-friendly music-button task to measure active, naturalistic auditory preference, with longer listening and fewer stops indicating greater preference. Adults (n = 41) and children aged 1–2 (n = 41), 2–3 (n = 51), and 3–4 years (n = 40) completed three contrasts with comparable stimuli and measures: harmonic vs jittered sounds, consonant vs dissonant intervals, and consonant vs dissonant musical excerpts. Across development, participants preferred harmonic over jittered sounds and consonant over dissonant musical excerpts; both preferences emerged by 1–2 years and remained stable through age 4. In contrast, preference for isolated consonant intervals was weak or absent. These findings challenge a unitary consonance-bias account, suggesting that early harmonic preferences reflect developing sensitivity to the organization of harmonic structure in sound and music.

6:00-7:30 PM (III-068)

Beyond Availability: Inherence Bias and Who is Less Likely to Show it. ATAKAN ATAMER, *University of Michigan*, PRITI SHAH, *University of Michigan*, ANDREI CIMPIAN, *New York University* — Why do people drink orange juice at breakfast? Why do men wear pants rather than skirts? Answers to "why" questions like these are often shaped by inherence bias: an overreliance on inherent features while overlooking extrinsic factors. Inherence bias is traditionally measured with the Inherence Bias Scale (IBS), but it remains unclear whether IBS scores

reflect difficulty generating extrinsic explanations or a preference for inherent explanations even when extrinsic alternatives are available. Also, whether cognitive abilities such as divergent thinking reduce susceptibility to this bias (e.g., by facilitating explanations beyond inherent features) remains underexplored. In this study (N = 179), participants completed the IBS, chose between inherent and extrinsic explanations for scientific findings and social norms, and completed the Alternative Uses Task (AUT). IBS scores predicted preference for inherent explanations for both scientific findings, $r = .20$, $p = .007$, and social norms, $r = .31$, $p < .001$. Fluency on the AUT predicted lower approval of inherent explanations, $r = -.21$, $p = .006$. These findings highlight competing mechanisms underlying inherence bias and suggest that divergent thinking may protect against it.

6:00-7:30 PM (III-069)

Testing How Strategy Shapes Planning Performance Across Two Taskified Mini Game Paradigms. EMMA G. CUNNINGHAM, *University of Wisconsin - Madison*, DAPHNÉ BAVELIER, *University of Geneva*, C. SHAWN GREEN, *University of Wisconsin - Madison* — Planning—the capacity to generate, sequence, and execute goal-directed steps—supports a wide range of critical real-world behaviors and predicts key developmental and cognitive aging outcomes. However, prior research has struggled to measure this capacity in environments that are both complex and tractable. Although prior research has found that participant strategy selection substantially shapes planning performance, little is known about how strategy interacts with the structural affordances of a novel planning task. In this study, participants completed two mini-games with divergent affordances under rule-imposed strategy conditions: one requiring full preplanning and one enforcing entirely online planning. This design enables a direct test of how a core task affordance (planning horizon) and planning strategy (preplanning vs. online planning) jointly influence performance. By "taskifying" planning in two controlled mini-game environments, we can manipulate strategy use and isolate when planning succeeds or fails as a function of task affordance. Isolating these key planning components is crucial for the effective measurement of planning skills, and will improve how we assess and support planning in vulnerable populations.

6:00-7:30 PM (III-070)

Evaluating Task-Specific Motivation in the Measurement of Working Memory and Fluid Intelligence. DEREK GRAHAM, *University of California, Riverside*, EMERALD WANG, *University of California, Riverside*, GENE BREWER, *University of California, Riverside* — Working Memory (WM) and Fluid Intelligence (gF) are core cognitive constructs that strongly predict academic and professional success. However, widely used WM assessments such as Complex Span, Change Detection, and N-Back tasks show surprisingly modest correlations with one another. Furthermore, recent research in our lab found that task-specific motivation moderates the WM-gF relationship in Complex Span tasks, but not in Change Detection tasks. The current study aims to replicate these findings within a single battery and extend them to N-Back tasks. For this aim, 457 undergraduates completed a randomized 16-task battery measuring WM, gF, and Crystallized Intelligence. Participants self-reported their motivation on a 1-9 scale at the beginning, middle, and end of each task. The tasks were administered in a randomized order to control for fluctuations in motivation. Overall, WM assessments were moderately correlated, positively associated with motivation, and predictive of gF. We will present these moderating effects and highlight critical differences between standard WM assessments.

6:00-7:30 PM (III-071)

Facilitating Far Transfer: Strategic Prompts to Aid Extraction and Retrieval. STEPHANIE N. JOHNSTONE, *University of Texas at Austin*, VERONICA X. YAN, *University of Texas at Austin*, PATRICIA CHEN, *University of Texas at Austin* — Transfer is hard, particularly when surface features differ between problems. We investigate if strategic prompts to (a) extract schema, and (b) initiate memory search can facilitate far transfer. Using stimuli from Gick & Holyoak (1983), participants read two stories (problem + solution) that share an underly-

ing schema (convergence). These two stories either shared similar surface features (battling fire: Red Adair and Fire Chief) or were dissimilar (Red Adair and The Commander). Participants responded either to prompts to describe patterns (to aid in schema extraction) or to summarize the stories (control; i.e. 2x2 between-participants design). Then, we tested their transfer of the convergence schema to the Tumor Problem. In the strategic prompting condition, participants were prompted to think about what they might have encountered in the past that is relevant here (to initiate memory search); in the control, they were again asked to summarize the problem. Strategic prompting enhanced transfer, particularly in the dissimilar condition where the prompt more effectively directed attention to the underlying schema; in contrast, participants' attention was captured by the surface similarities in the similar condition.

6:00-7:30 PM (III-072)

Individual Differences in Conditional Reasoning Strategies across Contexts. MINJI JU, *Florida State University*, DAVID W. BRAITHWAITE, *Florida State University* — Previous research suggests that individual differences in conditional reasoning reflect reliance on counterexample or statistical strategies (Markovits et al., 2012). Yet whether these strategies are applied consistently across contexts remains unclear. In the present study, university students (N = 73) completed three conditional inference tasks in which counterexample availability was manipulated by embedding counterexamples implicitly in the content (Task 1), providing concrete counterexamples (Task 2), or presenting statistical information (Task 3). Response patterns on each task were classified as displaying counterexample, statistical, or other strategies. All strategies appeared on all tasks, although counterexample reasoning was much less common on Task 1 than on Tasks 2 and 3. Strategy classifications across tasks showed above-chance consistency, particularly for individuals classified as statistical reasoners. However, for each pair of tasks, most participants' classifications were not consistent. These findings suggest that reasoning strategy reflects both individual differences and contextual influences.

6:00-7:30 PM (III-073)

Contextual Priming and Restructuring in Polysemous Insight Problems. MATTHEW KIDD, *Texas A&M University*, STEVEN M. SMITH, *Texas A&M University* — Verbal association problems such as the Compound Remote Associates (CRA) and the Polysemous Associates Test (PAT) are useful research tools to study insight. However, experimental testing of underlying theories of fixation and restructuring remains an important goal of insight research. In this experiment we utilized contextual primes to elicit or disrupt semantic restructuring in PAT and modified CRA problems. Using a staggered cue presentation, subjects are first presented cue 1 (e.g., river) alone for 20s and list 3 free associates. Subjects then have 20s to solve the full problem (e.g., river, teller; solution bank), and report binary aha! judgments. Each problem included a background image that either primes the meaning of cue 1 (e.g., image of a river bank), the meaning of cue 2 (e.g., image of a monetary bank), or an unrelated control. It was hypothesized that priming the first cue meaning (congruent trials) would increase fixation and make semantic restructuring of the solution less likely, whereas the opposite effect was expected for incongruent trials.

6:00-7:30 PM (III-074)

Does Fluid Intelligence Correlate with Peak Engagement on a Complex Task? IANA KLOCHKOVA, *Syracuse University*, HENRY JACKSON, *Syracuse University*, LAEL SCHOOLER, *Syracuse University* — When completing a complex task, engagement typically follows an inverted-U curve: it increases with complexity up to a peak, then declines as complexity becomes too high. We hypothesized that individuals higher in fluid intelligence (Gf) peak at greater complexity, as this relationship has yet to be directly examined. To obtain engagement patterns, participants completed an in-person puzzle task using grid-based maze puzzles spanning 10 complexity levels quantified via an entropy-based measure. An adaptive block design ensured full-range exposure while concentrating data collection around each participant's engagement peak. Gf was

assessed using the Hagen Matrices Test, a free matrix reasoning test modeled after Raven's Progressive Matrices. It was administered in-person within the same week as the puzzle task. Mixed-effects models examined whether Gf predicted the shape and peak of the engagement-complexity curve. Higher Gf was associated with rightward-shifted engagement peaks, indicating greater sustained engagement at higher complexity levels. These findings suggest that cognitive capacity shapes not only task performance but also the informational demands individuals actively seek out.

6:00-7:30 PM (III-075)

The Aha! glow: Aha! experiences bias judgements of idea quality in divergent contexts. JACQUELINE MCGUINNESS, *META Lab, University of California, Santa Barbara*, JONATHAN W. SCHOOLER, *University of California, Santa Barbara*, SHELLY GABLE, *University of California, Santa Barbara*, MADELEINE GROSS, *Loyola Marymount University* — While past research has shown that insights predict accuracy on convergent thinking tasks, few studies have explored whether the diagnostic value of insight extends to divergent thinking problems. The present research explored whether the association between insight and idea quality differs by problem context. Study 1 (N = 98) re-analyzed daily diary data from professional writers and physicists – used as proxies for divergent and convergent thinking domains – which collected their ideas, along with self-report ratings of insight and creativity. Writers initially rated their Aha! ideas as more creative than physicists, but declined significantly over time, while the Aha! ideas of physicists increased; notably, this pattern was specific to Aha! ideas. Study 2 (N = 100) compared the association between insight intensity and performance on laboratory measures of convergent and divergent thinking. Insight intensity predicted accuracy on the convergent measure, but strong insights predicted a systematic bias in subjective creativity ratings, relative to objective scores, on the divergent measure. Taken together, findings reveal an Aha! glow among divergent contexts, in which the feeling of insight inflates perceptions of idea quality.

6:00-7:30 PM (III-076)

To Choose or to Be Cued: Strategy Similarity and Control Context Modulate Switch Costs. XINYU XIE, *Mississippi State University*, JARROD MOSS, *Mississippi State University* — Flexible problem solving often requires switching among strategies, but switch costs may depend on both strategy similarity and whether switches are externally cued or freely chosen. We tested these effects with the Building Sticks Task, in which participants solved problems using four strategies: Addition, Subtraction, Stretch, and Shrink. Strategy transitions were classified by conceptual similarity, and switch context was manipulated as Required (externally cued) or Optional (free choice). Linear mixed-effects models analyzing initial reaction time, solution time, and accuracy revealed a robust main effect of strategy switching: switch trials were slower than repeat trials in both initial responding and overall solution time. Critically, switch costs increased as conceptual similarity decreased, suggesting greater reconfiguration demands when shifting between more distinct strategies. Switch costs were also larger in the Required than Optional context, indicating that self-selected strategy changes may reduce switching costs relative to externally cued changes. These findings show that strategy switch costs are jointly shaped by representational similarity and control context.

6:00-7:30 PM (III-077)

Virtual Motivation: Utilizing Virtual Reality Training to Improve Employee Intrinsic Motivation and Skill Development. JOSHUA S. COHEN, *California State University, Northridge*, HARRISON A. BOWMAN, *California State University, Northridge*, RONALD A. GUTIERREZ, *California State University, Northridge* — Prior literature has shown virtual reality (VR) can be used for a wide variety of practical applications, such as in education and technical training. However, it remains unclear whether 1) VR improves intrinsic motivation and skill development for training applications, 2) skill training is effective, and 3) fidelity and gamification moderate such effects. This study addresses these gaps by crossing high and low fidelity conditions

with gamified and non-gamified conditions for training in VR. Participants completed an assembly line sorting task in VR in one of four conditions: high fidelity gamified (HFG), low fidelity gamified (LFG), high fidelity non-gamified (HFN), or low fidelity non-gamified (LFN). There was no significant difference between conditions on task accuracy. There were no significant main effects for fidelity or gamification on enjoyment. There was a significant interaction effect of fidelity and gamification on enjoyment. Participants in the LFN condition reported greater enjoyment compared to those in the LFG condition, whereas those in the HFG condition reported greater enjoyment compared to those in the HFN condition. These differences in enjoyment have important implications for future VR training.

6:00-7:30 PM (III-078)

Autistic traits predict video chat experience. LAUREN E. KNOX, *University of California, Santa Cruz*, NICOLAS DAVIDENKO, *University of California, Santa Cruz*, NAMEERA AKHTAR, *University of California, Santa Cruz*, JEAN E. FOX TREE, *University of California, Santa Cruz* — An essential part of education, work, and social life, communicating over video chat (e.g., Zoom) has notable problems. Specific characteristics of video chat communication may cause an increase in cognitive load, resulting in poorer quality communication and increased experiences of Zoom fatigue (feelings of exhaustion after video meetings). Both (1) focus on the self and (2) limited body language are thought to contribute to negative video chat experiences. Individuals who endorse more autistic traits may experience more negative effects. In our study, pairs of participants talked to each other over Zoom for ten minutes. Afterwards, we tested how self-view (on or off), distance from the screen (close or far, leading to more or less visible body language), and endorsement of autistic traits affected communication quality and Zoom fatigue. We found that endorsement of autistic traits interacts with the effects of self-view and distance on video chat experience.

6:00-7:30 PM (III-079)

Automated Coding with Artificial Intelligence: Can ChatGPT Reliably Code Behavioral Data? ZOHARA ASSADIPOUR, *Iowa State University*, JASON C.K. CHAN, *Iowa State University*, DAHWI AHN, *Dankook University*, GRACE ANGELL, *Iowa State University*, NICHOLAS ROGERS, *Dakota State University* — Textual data are commonly collected in behavioral research and must be coded by well-trained human raters. This process can be time-consuming, labor-intensive, and costly at scale. Automated Coding with Artificial Intelligence (ACAI) may offer a practical supplement. We evaluated whether ChatGPT could reliably code data across three datasets representative of research in cognitive psychology: binary coding of idea units in student notes, identifying categorical themes in open-ended responses, and multicategory coding to assess the accuracy of cued-recall responses. We assessed ChatGPT-4's coding performance relative to four trained human raters and found that ChatGPT's performance varied across the types of coding, but achieved near-human-level reliability. Fine-tuning with a relatively small dataset further improved ChatGPT's performance.

6:00-7:30 PM (III-080)

Impact of Encoding Instructions on Directed Forgetting of News Headlines. MELISSA CHEN, *University of California, Santa Cruz*, BENJAMIN C. STORM, *University of California, Santa Cruz* — Increasing access to the Internet allows people to consume information with ease, but much of what we encounter is misinformation. The present study used a directed forgetting task to investigate how encoding motivations impact what participants remember and forget. In three experiments, participants viewed news headlines and were given cues to either "Remember" or "Forget." Some participants were given the additional instruction that to-be-remembered items consisted of true information, whereas to-be-forgotten items consisted of misinformation. Although we observed a significant directed forgetting effect in all experiments, we did not find evidence of the effect differing as a function

of encoding instructions, suggesting that framing to-be-forgotten items as misinformation may not alter the mechanisms or consequences of directed forgetting.

6:00-7:30 PM (III-081)

Cybersickness Mitigation Across Repeated Exposure to Virtual Reality. SYDNEY HICKS, *Iowa State University*, JONATHAN W. KELLY, *Iowa State University* — Cybersickness, or sickness caused by virtual reality (VR) use, presents a barrier to users and inhibits widespread adoption. This study tested whether VR exposure with snap turning, which eliminates visual motion during rotation, reduces sickness and whether benefits persist after switching to smooth turning. All participants played a VR game for 20-minute sessions or until they felt too sick to continue. Participants were assigned to a single-exposure condition (smooth turning, 1 day) or multiple-exposure condition (snap turning on days 1-3, smooth on day 4). Sickness on day 1 of the multiple-exposure condition was significantly lower than the single-exposure condition, reflecting the initial benefit of snap turning. Adaptation was observed in the multiple-exposure condition, where day 3 sickness was lower than day 1. Furthermore, sickness on day 4 (smooth turning) was lower than the single-exposure condition, indicating that adaptation from days 1-3 generalized to smooth turning on day 4. Results suggest that mitigation tools used during initial VR exposure support lower sickness after mitigation is removed.

6:00-7:30 PM (III-082)

Living with a social robot: How experience recalibrates evaluations. CHAOLAN LIN, *University of California, San Diego* — Interacting with social robots requires people to infer their social and functional affordances from limited experience, yet little is known about how these evaluations evolve through everyday interaction. Twenty-one families with children aged 2–5 years used a social robot during story time at home for seven days. Compared with pre-test expectations, parents reported lower perceived utility and reduced intentions to adopt the robot ($ps < .03$), while robot involvement decreased and parent involvement increased over time ($ps < .04$). Bayesian structural equation models indicated a shift in evaluation: adoption intentions initially reflected anticipated enjoyment ($\beta = 0.38$) and descriptive social norms ($\beta = 0.85$), but after experience, were predicted solely by perceived utility ($\beta = 0.80$). These findings suggest that longitudinal interaction recalibrates evaluations of social robots and illustrate how naturalistic paradigms can reveal social-cognitive updating processes that may be obscured in short-term laboratory evaluations of emerging technologies.

6:00-7:30 PM (III-083)

Cross-System Validation of Mobile Wearable and Lab-Grade EEG During an Attentional Control Task. ASHLEY MANLEY, *Northeastern University*, SUSANNE M. JAEGGI, *Northeastern University*, AARON R. SEITZ, *Northeastern University*, JAAP MUNNEKE, *Northeastern University* — Electroencephalography (EEG) is a non-invasive method for recording neural activity from the scalp. Traditional lab-grade EEG systems provide high-quality data but are often expensive, time-intensive to set up, and restricted to laboratory settings. Portable, wearable consumer-grade EEG systems may offer a more accessible alternative and enable EEG measurement during real-world activities. This study evaluated the validity of the 14-channel Emotiv Epoch+ wearable EEG system against the 32-channel Brain Vision lab-grade system. Participants (ages 18–30) completed the AX-CPT attentional control task under both Emotiv and Brain Vision recording conditions. P300 event-related potentials were similar across systems, suggesting the wearable EEG system can capture neural activity patterns consistent with those of the lab-grade system. The Emotiv system was integrated into the Portable Adaptive Rapid Testing (PART) app, enabling opportunities to leverage EEG with all PART tasks, opening up a large range of mobile research studies with high-quality EEG.

6:00-7:30 PM (III-084)

A Database for Human-AI Representational [GD1.1][ED1.2]Alignment[ED2.1] in Medical Image Interpretation. ASHLEY P. MATHIS, *New Mexico State University*, GIOVANNA C. DEL SORDO, *New Mexico State University*, EBEN DAGGETT, *New Mexico State University*, JON ART, *New Mexico State University*, MICHAEL C. HOUT, *New Mexico State University* — Vision-enabled AI can be a valuable tool for fast and scalable diagnostics in medical imaging, but disparities in human-representational alignment have been associated with potentially unpredictable negative clinical outcomes. Human similarity perception, however, is not fixed; it shifts with task context, meaning that capturing it requires more than standard categorical training. This project systematically characterizes these contextual influences by comparing human and AI similarity judgments, with the goal of exploring how human perceptual structure can be incorporated into model training. We are building an open-access database of human and AI similarity ratings for histological images, using a triadic comparison task in three contexts: narrow (all images depict the same pathology and tissue type), intermediate (same tissue type, different pathologies), and broad (different tissues and pathologies). By comparing human and AI-generated similarity judgments, the database will support the training of models whose representations more closely reflect human perceptual reasoning.

6:00-7:30 PM (III-085)

AI and Notetaking: Using AI as a Tool for Studying. JORDAN M. MCDONALD, *Michigan State University*, ZACH Z. HAMBRICK, *Michigan State University*, SUSAN M. RAVIZZA, *Michigan State University* — Artificial intelligence (AI) use in educational settings has grown exponentially, but little is known about its effects on learning. The purpose of this study was to create an AI-usage survey and investigate benefits of AI for notetaking as a function of cognitive ability. Participants took notes while watching a TEDTalk and completed tests of cognitive ability. Participants were then asked to study for a test using their own notes, AI-generated notes, or an unrelated transcript (control group). Participants completed an AI-usage survey after the test. The survey had good reliability, and AI usage correlated negatively with both test score and cognitive ability. These results suggest that students with lower cognitive ability are more likely to use AI—but that this strategy may be detrimental to learning.

6:00-7:30 PM (III-086)

The Eyes Have It: Using Pupillometry Measures to Assess Trust in AI. TIM MOUSSEAU, *George Washington University*, OLIVIA K. JENKINS, *George Washington University*, STEPHEN R. MITROFF, *George Washington University*, SARAH SHOMSTEIN, *George Washington University* — AI tools can be effective, but only if people trust them enough to use them. As such, identifying objective measures of trust in AI is crucial for its implementation. Based on the adaptive gain theory, we examined whether pupillometry can objectively index trust in AI. We quantified tonic diameter and phasic dilation while 42 participants evaluated decisions from AI with high (90% accuracy) and low (60% accuracy) reliability. Participants passively identified the direction of motion in random dot kinematograms. They then reviewed the AI's assessment of the motion direction and reported whether the AI was accurate. Participants' trial-by-trial perceptions of AI accuracy significantly predicted both tonic diameter and phasic dilation. Reduced tonic diameter for the more reliable AI is consistent with the exploitation mode outlined by adaptive gain theory. Diminished phasic dilation suggests that participants may have allocated fewer attentional resources to evaluate the AI's decisions when they expected it to perform more reliably. The findings suggest that trust in AI adapts to an AI's demonstrated reliability. Further, pupillometry provides an objective measure of fluctuations in trust during human-AI interactions.

6:00-7:30 PM (III-087)

Cognitive and Motor Effects of Consumer tES Devices: A Meta-Analysis. SYDNI M. NADLER, *Tufts University*, SARA A. GORING, *Tufts University*, MARISSA MARKO LEE, *Tufts University; Children's National Hospital*, MADELYN K. SANDONE, *Tufts University*, HOLLY A. TAYLOR, *Tufts University*, NATHAN WARD, *Tufts University*, TAD T. BRUNYE, *U.S. Army DEVCOM Soldier Center; Tufts University* — The increasing availability of commercially available, off-the-shelf (COTS) transcranial electrical stimulation (tES) devices has piqued interest in their potential to enhance cognitive and motor performance in healthy individuals. However, evidence supporting their efficacy remains mixed, particularly given variability in device characteristics, stimulation parameters, and study methodologies. Herein, a meta-analysis evaluated the performance effects of COTS tES devices in neurotypical adults. Experimental studies using COTS devices with control conditions and performance-based (i.e., cognitive and/or motor) outcomes were identified through a systematic literature review. Standardized condition-level means were analyzed using Bayesian network meta-analysis to compare anodal, cathodal, and sham stimulation, with additional analyses examining heterogeneity and potential moderators. Overall, findings provide limited and variable support for the efficacy of COTS tES devices in enhancing performance. Observed effects are small, inconsistent, and context-dependent; more rigorous and standardized research and clearer guidance regarding the use of consumer-grade neurostimulation technologies are needed.

6:00-7:30 PM (III-088)

The Potential of LLM Chatbots for Shaping Outgroup Attitudes. SERIN OH, *Institute of Psychological Science, Seoul National University*, HYORIM LEE, *Seoul National University*, INJU LEE, *Seoul National University*, SEOWOO LEE, *Seoul National University*, SOWON HAHN, *Seoul National University* — We investigated how a brief text-based conversation with an LLM chatbot assigned a foreign regional identity might shape Korean undergraduates' attitudes toward members of that group. In a between-subjects experiment, we manipulated task type, assigned regional identity, and profile anonymity. Participants who completed the cooperative task with the outgroup chatbot reported warmer feelings, stronger approach tendencies, and weaker avoidance tendencies toward the corresponding real-world outgroup than those who completed the competitive task with the chatbot. These effects were partly explained by participants' affective responses and perceptions of the chatbot. Consistent with a preliminary study showing more favorable attitudes toward Western Europeans than toward Southeast Asians, participants reported stronger approach tendencies toward the Western European outgroup. An identifiable profile was also associated with stronger approach tendencies, but only toward this group. These findings extend intergroup contact research to human–chatbot interactions, suggesting that encounters with socially identified AI influence attitudes toward corresponding real-world social groups, with task type emerging as the most consistent factor.

6:00-7:30 PM (III-089)

People Claim More Credit for AI Contributions After Collaboration. JOYCE S. PARK, *Duke University*, ELIZABETH J. MARSH, *Duke University* — Much collaboration occurs serially, with collaborators revising and building on products created by others. In such cases, people do not directly observe each other's efforts and thought processes, but rather only see the final product, increasing ambiguity about who deserves credit. In a pre-registered study, participants (N=91) collaborated with a partner to curate art exhibits, each containing four paintings. The partner was "ArtGPT, an AI curator" for half of the trials and "another curator" for the other half (implying it was a human). Each trial displayed the partner's choices (one or three paintings), and participants selected the painting(s) to complete each exhibit. Completed exhibits were re-presented and participants rated how much credit they deserved for each. Critically, participants claimed more credit for exhibits created with ArtGPT. Further, participants' judgments were sensitive to whether they added one or three paintings, regardless of partner type - sug-

gesting that AI contributions were psychologically discounted rather than simply forgotten.

6:00-7:30 PM (III-090)

Cued Recall, Source Memory, and Confidence When Using Generative AI. CLAIRE PERKINS, *University of Illinois Urbana-Champaign*, LATASHA R. HOLDEN, *University of Illinois Urbana-Champaign* — Generative AI tools are now commonly used to answer questions, raising concerns about memory and source monitoring. Guided by source monitoring theory and the Google Effect, this study used a within-subject design to compare cued recall, source memory, and confidence for trivia retrieved with Gemini versus from memory. Participants completed delayed cued recall, confidence ratings, and source judgments. Gemini trials showed slightly higher cued recall (M = .49 vs. .47), $t(202) = 2.46$, $p = .015$, and higher source memory accuracy (M = .76 vs. .62), $t(202) = 5.41$, $p < .001$. In a trial-level analysis (203 participants, 12,177 responses), only correct source memory predicted cued recall, OR = 1.52, 95% CI [1.37, 1.70], $p < .001$; condition and the interaction were not significant. Confidence strongly discriminated correct from incorrect recall, AUCs = .91–.92, but weakly discriminated correct from incorrect source judgments, AUCs = .54–.58. Signal detection analyses showed participants could moderately discriminate Gemini from memory sources, $d' = 1.13$, with a slight Gemini response bias, $c = -0.20$. Preliminary findings suggest Gemini may support source memory while confidence reflects access to answers more than their source.

6:00-7:30 PM (III-091)

Analyzing the quality of LLM-assisted summary writing. RUOQING YAO, *University of California, Santa Cruz*, PRANAV ANAND, *University of California, Santa Cruz*, ANTHONY FRANCE, *University of California, Santa Cruz*, HANNAH HAUSMAN, *University of California, Santa Cruz*, JAJAIRA L. REYNAGA, *University of California, Santa Cruz*, MATTHEW WAGERS, *University of California, Santa Cruz* — Summarization can enhance learning of a source text, but may depend on how the writer comprehends, selects, and integrates information from the source. This study examines whether LLM-assisted summarization changes the quality and form of undergraduate students' summaries of psycholinguistics research articles. In a within-subjects design, participants completed both a no-LLM and an LLM-assisted writing session. Participants first read a text and took notes. In the no-LLM condition, they then wrote a brief summary; in the LLM condition, an LLM drafted a summary from the article and notes, which participants edited for quality. Quantitative measures indicated that LLM and no-LLM summaries were similar in surface-level measures (e.g., word count, letters per word) but differed in linguistically-meaningful measures. For instance, LLM summaries contained more sentences and greater lemma diversity. That LLM assistance qualitatively changes writing is consistent with participants' survey responses showing less ownership and satisfaction with LLM summaries. Ongoing analyses of semantic overlaps between the articles and summaries will reveal further distinctions between what students and the LLM selected as most crucial to convey.

6:00-7:30 PM (III-092)

Representational Similarity Alignment of Figurative Language in Humans and Large Language Models. SAMHITA BOLLEPALLY, *Texas A&M University*, AURORA SLOMAN-MOLL, *Texas A&M University*, TAKASHI YAMAUCHI, *Texas A&M University* — Human language comprehension relies heavily on contextual and pragmatic inferences to interpret figurative expressions such as sarcasm, humor, idioms, and slang. Recent advancements in large language models (LLMs) have produced outputs that often resemble human judgments, raising the question of whether this similarity reflects shared underlying representations of meaning. To investigate this, we compared human participants with four instruction-tuned LLMs on ratings of 240 dialogue-based sentences spanning six linguistic dimensions: conventionality, idiomaticity, emotion, humor, sarcasm, and Gen Z slang, evaluated using 40 interpretive questions. Representational similar-

ity analyses (RSA) revealed systematic differences in the organization of these judgments. The largest divergences between humans and LLMs emerged for idiomatic expressions and Gen Z slang. Notably, representational similarity among humans also declined, particularly for sarcasm and humor. This pattern suggests that surface-level agreement may mask variability in the representational structure underlying figurative language judgments even among human comprehenders.

6:00-7:30 PM (III-093)

Morphological Processing of American Sign Language Directional Verbs: Data from Repetition Priming. ANNA NOELLE BOYER, *University of California, Davis*, DAVID CORINA, *University of California, Davis*, LAUREL LAWYER, *University of California, Davis* — The cognitive mechanisms underlying spatially expressed grammatical systems in signed languages have been the subject of considerable theoretical debate. A particularly controversial class of spatially modified signs is directional verbs, whose forms vary as a function of discourse referents established in signing space. The present study evaluates two competing accounts of directional verbs using a behavioral priming paradigm that manipulates base sign form and sign direction. One account treats the systematic phonological changes exhibited by directional verbs as a form of morphological agreement comparable to agreement marking in spoken languages; the other characterizes these changes as gestural or deictic pointing. We examine performance in L2 signers (primarily ASL interpreters, n = 9), and sign-naïve participants (n = 34) as a perceptual control. Preliminary findings indicate facilitation based on shared lexical stems, with little evidence that sign direction contributes independently to priming. This suggests signers draw on stored morphological representations rather than assembling gesture–sign blends online.

6:00-7:30 PM (III-094)

Data-Driven Phonestheme Candidates and their Psychological Realities. SAVANNAH BROWN, *Emory University*, LYNNE NYGAARD, *Emory University* — This study investigates whether phonesthemes, sublexical phoneme clusters associated with meaning, are psychologically functional during semantic processing. In Phase 1, words sharing phonemic onset clusters were extracted from a large English poetry corpus and evaluated for semantic cohesion. This distributional approach identified statistically cohesive phonestheme candidates. These clusters were then used to construct stimuli for Phase 2, an online semantic relatedness judgment task completed by L1 English speakers. Results revealed reliable effects of shared onset structure, with slower and less accurate semantic judgments when phonological cues conflicted with semantic content. However, onset-specific analyses showed substantial heterogeneity: only a subset of embedding-defined clusters produced significant behavioral effects. Continuous semantic similarity also modulated performance, suggesting that listeners associate graded distributional information with sublexical phonological cues. These findings support a probabilistic account of phonesthemic structure as a graded predictive constraint on lexical processing.

6:00-7:30 PM (III-095)

Cognitive Load and Referential Reuse Across Conversational Contexts. MEGAN CABLK, *Northwestern University*, WILLIAM S. HORTON, *Northwestern University* — Audience design processes typically require cognitive effort. Strategies such as perspective-taking seem to require resources such that they cannot be utilized in cognitively demanding environments. However, accessing common ground, or the mutually known information between interlocutors, relies on general memory processes, potentially preserving a speaker's ability to tailor an utterance to their audience even in cognitively demanding environments. We investigated a speaker's ability to access and reuse referring expressions in common ground across different communicative contexts while under high cognitive load.

After developing mutual referring expressions with another naive participant in a referential communication task, a director described old and new images with the familiar and an unfamiliar partner. Half of the images were described while the director kept a six-digit string in working memory. Results from this experiment will contribute to our understanding of the underlying memory mechanisms of common ground usage and point to aspects of audience design that may still be available under load.

6:00-7:30 PM (III-096)

Prediction error does not boost recognition memory for unexpected words, but drives short-term adjustment of semantic networks. SUTONG DUAN, *University of Warwick*, MATTHEW MAK, *University of Warwick*, CHIARA GAMBI, *University of Warwick* — A highly constraining sentence context can induce false memories for the predicted (but not encountered) word when this is replaced with an unexpected word (generating high prediction error, PE). But do unexpected words benefit from a recognition boost? Evidence is mixed, and we do not know how PE affects encoding of the semantic relation between predicted and unexpected words. In a two-phase design, participants listened to high PE (e.g.,"In the shooting rage, people are not allowed to hold a cigarette"; unexpected: cigarette, predicted: gun) or low PE (e.g., "She stood up to stretch, then bent over and took out a cigarette") sentences. Recognition memory for unexpected words and semantic relatedness judgments for predicted-unexpected word pairs were tested immediately (Experiment 1) or after 24 hours (Experiment 2). Across experiments, we found no difference in unexpected word recognition, but predicted–unexpected word pairs were more likely to be judged as related following high PE sentences. While prediction error may not enhance recognition memory for unexpected words, it facilitates the formation of associative links between predicted and unexpected words, driving short-term adjustments to comprehenders' semantic networks.

6:00-7:30 PM (III-097)

Language Modulates the Illusory Truth Effect in Bilinguals. MALAK ELMESSIRY, *Northwestern University*, VIORICA MARIAN, *Northwestern University* — Repeated exposures to information increase belief, a phenomenon known as the illusory truth effect (ITE). The present study examines how the ITE unfolds across languages and time. Eighty-eight Arabic-English bilinguals were exposed to accurate and inaccurate trivia statements in a categorization task. They then rated the truthfulness of statements that were new or repeated from the categorization task within the same experimental session and after a two-week delay. Participants were randomly assigned to use their first language (Arabic), their second language (English), or to switch languages after the categorization task. Prior knowledge for all statements, self-reported language background, and objective language proficiency in both languages were measured at the end of the testing session. Linear mixed effects models showed that the ITE immediately increased in a switched language context, and decreased over time when using a second language. Our results suggest that the ITE is driven by conceptual repetition and modulated by language. We conclude that bilingualism shapes information evaluation, with implications for education, advertising, and journalism in today's linguistically diverse media landscape.

6:00-7:30 PM (III-098)

Sensitivity of Word Reading Times to Context Memory Gating. YASEMIN GOKCEN, *University of California, Merced*, RACHEL RYSKIN, *University of California, Merced*, DAVID NOELLE, *University of California, Merced* — During language comprehension, humans anticipate upcoming words based on preceding context (Kuperberg & Jaeger, 2016; Levy, 2008). Generating these predictions requires maintaining relevant context in working memory, but memory is limited. How does the brain optimize what contextual information is retained in memory for prediction? Computational models of

prefrontal cortex (O'Reilly & Frank, 2006) offer a possible solution: gating mechanisms which learn when to actively maintain memory contents (close the gate) and when to update them (open the gate). We ask whether gating mechanisms contribute to prediction during language processing. We compare two language models: one with gating mechanisms (LSTM) and one without (RNN). We define gating utility (GU) as the degree to which gating improves predictions. Using Bayesian hierarchical models, GU predicted self-paced reading times in the Natural Stories corpus (Futrell et al., 2021) beyond surprisal, with positive interactions suggesting that gating amplifies the processing cost of unexpected words.

6:00-7:30 PM (III-099)

Statistical Learning Across Two Talkers Differs Between Speech Perception and Production. KYLE D. HUFFAKER, *Indiana University Bloomington*, LORI L. HOLT, *University of Texas at Austin*, NAZBANOU NOZARI, *Indiana University Bloomington* — Listeners learn distinct statistical regularities across voices, making perceptual statistical learning "talker-specific". Statistical learning across a single voice transfers robustly to production, but it is unclear whether production also shows talker-specificity with multiple interlocutors whose speech carries different statistics. This study answers this question. Experiment 1 had two distinct female voices. Experiment 2 paired the same voices with pictures of two distinct faces to reinforce talker identity. In both experiments, one of the two talkers spoke with a slight accent conveying a distinct regularity. Replicating prior findings, perception reflected talker-specific statistical learning. We also replicated transfer to production. However, production was not talker-specific: when listeners adapted to the accent, the adaptation manifested in production responses to both talkers. These findings show that despite being closely linked, perception and production show unique patterns of learning.

6:00-7:30 PM (III-100)

Conceptually Crude: Exploring the Taboo Lexicon with Feature Production Norms. HANA JABER, *Rhodes College*, KATHERINE K. WHITE, *Rhodes College*, LISE ABRAMS, *Pomona College* — Taboo words are distinguished by their emotional salience, social inappropriateness, and offensiveness, properties that contribute to their attention-grabbing and memorable nature. However, whether taboo words are distinctly represented in semantic memory is unknown, and this research used a feature production task to explore taboo conceptual representations. 240 Prolific participants provided at least five features to describe 72 taboo cue words' meanings. Analyses compared features produced for taboo cues to those produced for non-taboo cues. Latent semantic analyses revealed that the features provided for taboo cues were more semantically similar to their cue and to each other than those provided for non-taboo cues. In terms of feature frequencies, the feature set size (i.e., number of unique features provided) was smaller for taboo than for non-taboo cues, and the frequency counts of the most common responses were lower for taboo than non-taboo cues. These results demonstrate that taboo concepts are semantically narrow, activating a restricted but highly connected pool of features in semantic memory. All cue words, features, and analyses are available for future research.

6:00-7:30 PM (III-101)

Metaphorical Abstraction in Human Participants and Large Language Models. HAMAD AL-AZARY, *Lawrence Technological University* — Some concrete concepts, such as key, have lexicalized metaphorical meanings (i.e., crucial). According to the sensorimotor shedding hypothesis, such concepts are initially processed via embodied simulation and develop abstract meanings after repetitive figurative use. In this study, the sensorimotor shedding hypothesis was tested with human participants and large language models (LLMs), which lack direct sensorimotor experience. In a familiarization phase, participants were repeatedly exposed to metaphorical

(e.g., roads are snakes) and literal (e.g., a robin is a bird) sentences. In a test-phase, participants listed properties for familiarized sentences that were related to previously encountered items (e.g., highways are snakes; a canary is a bird) in addition to non-familiarized items (e.g., faith is a raft; basketball is a sport). Consistent with sensorimotor shedding, participants listed properties that were more semantically distant and more abstract for familiarized metaphors relative to non-familiarized metaphors. LLMs, on the other hand, did not show any metaphorical familiarization effects, showing that linguistic experience alone does not lead to figurative abstraction as described by sensorimotor shedding.

6:00-7:30 PM (III-102)

Examining the Neurophysiological Basis of Action Semantics in Primary Progressive Aphasia and Parkinson's Disease Using EEG. AMY LEBKUECHER, *University of Pennsylvania Perelman School of Medicine*, LAUREL J. BUXBAUM, *Jefferson Moss Rehabilitation Research Institute*, CHIA-LIN LEE, *National Taiwan University*, BRIAN ERICKSON, *Drexel University*, KRISTEN LI, *University of Pennsylvania Perelman School of Medicine*, H BRANCH COSLETT, *University of Pennsylvania Perelman School of Medicine* — Does sensorimotor activation play a role in the semantic representation of actions? We used EEG to address this question in individuals across two neurodegenerative diseases with differing levels of sensorimotor impairment: Primary Progressive Aphasia (PPA) and Parkinson's Disease (PD). Participants viewed hand gestures followed by semantically related or unrelated spoken words and judged the relatedness of each gesture-word pairing. We examined β and μ event-related desynchronization (index of sensorimotor activation) and the N400 (index of semantic processing). In both groups, individuals with impaired semantic and gesture recognition abilities were markedly inaccurate in judging gesture-word relatedness which corresponded to a reduced N400 effect. Event-related desynchronization of the μ rhythm predicted greater accuracy on gesture-word relatedness judgments, but the nature of this modulation differed between participants with PPA and PD. Overall, our findings suggest the sensorimotor system may play a role in action semantics.

6:00-7:30 PM (III-103)

Semantic Retrieval in a Dual-Cue Verbal Fluency Task. KIMBERLY ARJUNE, *Syracuse University*, JEFFREY ZEMLA, *Syracuse University* — Verbal fluency tasks typically involve a single cue (e.g., animals, letter F), but memory retrieval often involves multiple overlapping cues. We examined how people search memory when multiple retrieval cues are available. 161 participants completed semantic, letter, and disjunctive fluency tasks. In the disjunctive condition, participants generated responses that belong to the semantic category (animals), phonological category (letter F), or both simultaneously. Participants switched between categories both abruptly (fork, dolphin) or used overlapping responses as a bridge (fork, fish, dolphin). Abrupt switching were associated with significantly slower inter-item response times and lower overall performance, while overlap switches were not. Optimal foraging analyses show that people switch optimally in semantic and disjunctive fluency, but not letter fluency. These findings suggest that semantic retrieval is affected by the type and number of retrieval cues available.

6:00-7:30 PM (III-104)

Examining Idiosyncratic Influences on Memory Search. KYRA BROWN, *Bowdoin College*, CHANNING E. HAMBRIC, *Bowdoin College*, ABHILASHA A. KUMAR, *Bowdoin College* — Prior research on semantic memory suggests that cultural and personal experiences greatly influence the development of an individual's mental lexicon. However, current formal models of memory search rarely account for individual-level differences, leaving it unclear how an individual's knowledge base and media consumption patterns shape their semantic representations and processing. In the present work, participants completed a verbal fluency task (e.g., Name as many Animals as you can in one minute) followed by a spatial arrangement task (e.g., Place similar words next to one another) across five distinct domains (animals, college majors, sportspersons, musicians, and

authors). Individual-level semantic models (derived from participant-reported interests and language exposure) and generic population-level models were then used to predict fluency outcomes. The findings demonstrate the variability in semantic representations across individuals and underscore the utility of individualized models when exploring language use and semantic structure and processing.

6:00-7:30 PM (III-105)

Effects of Alcohol Consumption on the Moses Illusion. CHARLOTTE PAULIS, *University of Liège*, VINCENT DIDONE, *University of Liège*, ETIENNE QUERTEMONT, *University of Liège* — The Moses illusion is a semantic illusion in which individuals overlook an incorrect name in a question or statement, for example, responding "two" to "How many animals of each kind did Moses take on the Ark?" despite knowing that Noah sailed the Ark. Previous research has shown that this illusion occurs less frequently when the incorrect name is emphasized, a phenomenon known as the focalization effect. This study examined whether acute alcohol consumption influences the Moses Illusion rate and whether focalization impacts its occurrence. In a between-subjects design, 81 participants were randomly assigned to an alcohol (0.5 g/kg) or placebo condition. Results revealed no effect of alcohol on illusion rates but confirmed that emphasizing the incorrect name significantly reduced its occurrence. These findings highlight the role of sentence structure in semantic illusions and suggest that future research should examine higher alcohol doses to understand cognitive impacts.

6:00-7:30 PM (III-106)

Repetition Learning vs. Semantic Wide Learning: Effects on Semantic Network Formation and Memory Performance. YAEL SCHEMS MAIMON, *Tel Aviv University*, ROY LURIA, *Tel Aviv University* — Many LTM studies rely on repetition-based paradigms, although learning often involves rich and changing information. Yet, despite semantic knowledge being organized as networks of associations between concepts, it remains unclear how learning forms these networks enables their use. Here, we compared repetition and semantic-wide learning for unfamiliar object categories. Repetition learners repeatedly studied the same facts and visual exemplars, whereas wide learners were exposed to diverse visual and contextual information. Memory and semantic structure were assessed before learning, 2 days after learning, and 6 weeks later. Despite the repetition group's advantage in studying the tested semantic and visual content, wide learners outperformed repetition learners at both time points. Both groups showed semantic-network formation through increased within-category binding, integration with prior knowledge, and separation from unrelated concepts. In both groups, the newly formed semantic networks were expressed in natural language and visuospatial behavior, with semantic learners showing stronger category separation. Overall, the findings suggest that wide learning produces more robust memory representations than repetition learning.

6:00-7:30 PM (III-107)

Is Text Required to Assess Semantic Processing? Evidence for a Stimulus-Independent N400.. YAQI XU, *University of California, Santa Cruz*, MEGAN A. BOUDEWYN, *University of California, Santa Cruz* — The N400 is a robust and well-studied event-related potential (ERP) that is observed to a wide variety of linguistic stimuli, including written, spoken or signed words, and non-linguistic stimuli with semantic content, such as line drawings. Here, we ask whether it is possible to observe an N400-like response to a missing word in a predictable sentence (i.e. in the absence of a meaningful stimulus). Participants (N=18) read highly constraining sentences with sentence-final words in three conditions: predictable, unpredictable and missing (a non-pronounceable string of Xs was presented instead). Linear mixed effects modeling results showed that word cloze probability significantly predicted mean amplitude in the N400 time window, even when the word was actually missing ($p < 0.05$). These results demonstrate than an N400-like response can be obtained during semantic processing, even in the absence of

an overt stimulus. This finding has implications for current theoretical debates concerning predictive coding in language comprehension.

6:00-7:30 PM (III-108)

Memory updating of existing and new associations. SOPHIA TOZZI, *Middlebury College*, ACHILLES LOSANES, *Middlebury College*, JASON ARNDT, *Middlebury College* — The memory for change (MFC) framework (Wahlheim & Jacoby, 2013) suggests memory updating is facilitated when people 1) detect that an association has changed and 2) are later able to recall what changed (i.e., they can recall both the original and updated association). In the absence of detection or recollection of a change, memory updating is hampered, producing interference. Extensive tests of this framework have largely validated its claims. Most of the research testing the MFC framework has used stimuli that access existing associations, such as related cue-target pairs (e.g., city-street). We investigated if the MFC framework's basic principles extend to learning and updating new associations. Participants learned related cue-target pairs as well as unrelated cue-target pairs and later were asked to learn a new target item for each cue. A final memory test assessed 1) if people learned the new target, 2) if they remembered a target changed from the first to second phase of the study and 3) if they were able to recall the original target paired with each cue. Preliminary results (N = 39 currently; N = 100 is our target sample size) suggest the MFC framework describes memory updating for both new and existing associations.

6:00-7:30 PM (III-109)

Behavioral Inhibition Disrupts Reversal in an Attentional Set Shifting Task. TODD ALLEN, *University of Northern Colorado*, STEPHANIE LINLEY, *University of Northern Colorado* — Linley et al. (2016) used an odor/texture discrimination task, known as the attentional set shifting task (AST) to test cognitive flexibility in rats. The AST task goes beyond simple discrimination and reversal consisting of simple discrimination (SD); compound discrimination (CD); intra-dimensional shift (ID); extra-dimensional shift (ED). We tested behaviorally inhibited individuals in a computer version of this discrimination and reversal task. In the SD phase color is the relevant dimension and shape is held constant. In the CD phase, color is the relevant dimension and shape is the irrelevant dimension. In the ID phase, color is the relevant dimension and shape is the irrelevant dimension. In the ED phase, shape is now the relevant dimension and color is now irrelevant. In the LOC phase shape and color are now irrelevant and the location (right or left) is now the relevant dimension. BI individuals exhibited more errors in reversal in the CD, ED, and LOC phases. These findings fit with the idea that BI is related to cognitive inflexibility in shifting responses to relevant stimuli. In addition, difficulty in reversal also is indicative of hippocampal abnormalities associated with BI and PTSD.

6:00-7:30 PM (III-110)

Expect to Forget? How Real-World Expectations Shape Intentional Forgetting. YI-PEI LO, *University of Illinois Urbana-Champaign*, LILI SAHAKYAN, *University of Illinois Urbana-Champaign*, HUIYU DING, *University of Illinois Urbana-Champaign*, DILLON A. QUIÑONES, *University of South Dakota*, DIANE M. BECK, *University of Illinois Urbana-Champaign* — Statistical regularity shapes visual perception at multiple representational levels. Whether it also shapes memory and intentional downregulation of unwanted information is unclear. We report item-method directed forgetting (DF) experiments testing different levels of statistical regularity. Canonical and noncanonical object viewpoints differed in recognition accuracy but produced equivalent DF effects. Prototypical versus atypical scene exemplars showed higher recognition for atypical items but produced equivalent DF effects. Probable and improbable real-world scenes differed in both. Improbable events were better recognized and more difficult to intentionally forget. A preview phase reversed this event-level pattern—previewed improbable images became easier to forget, while previewed probable images became harder to forget. Relational meaningfulness ratings predicted how strongly improbable images could be intentionally

forgotten. These findings rule out memory strength and distinctiveness as the primary determinants of directed forgetting and suggest that event-level relational integration that is triggered by prediction error is the critical factor shaping intentional memory control.

6:00-7:30 PM (III-111)

Predicting Novel Word Learning Ability Using Diffusion Weighted Imaging. JULIE M. LORITSCH, *University of California, Irvine*, CASEY VANDERLIP, *University of California, Irvine*, BRENDA RAPP, *Johns Hopkins University*, ROBERT WILEY, *University of North Carolina at Greensboro*, CRAIG STARK, *University of California, Irvine* — Learning and memory of new words change across the lifespan, affecting acquisition of word forms and meanings. Because novel word learning relies on associative memory, it is important to understand how healthy aging affects this process. In a six-week study, 45 young and older adults learned the written, spoken, and semantic forms of 36 novel pseudo-words. Behavioral and MRI data were acquired at baseline and post-training. Diffusion-weighted imaging (DWI) data were processed using QSIPREP and analyzed with multiple models. DWI metrics distinguished younger from older adults, revealing widespread age-related microstructural changes. Baseline DWI measures predicted individual learning differences, separating rapid from slower learners of word forms and meanings. Predictive regions were concentrated in the temporal lobe, consistent with episodic memory contributions. Regression models combining DWI and age predicted multiple learning outcomes, with distinct regions supported learning: parahippocampal cortex for word forms, hippocampus for semantic learning. These findings show gray matter microstructure robustly predicts individual differences in word learning, highlighting temporal lobe contributions across aging.

6:00-7:30 PM (III-112)

Attentional Selection in Long-Term Memory: Spatial Cues Benefit Retrieval in a Load-Dependent Manner. MELINDA SABO, *Yale University*, WILLIAM NARHI-MARTINEZ, *Yale University*, KIA C. NOBRE, *Yale University* — Attentional selection plays a central role in long-term memory retrieval, yet the mechanisms through which it shapes retrieval remain poorly understood. We developed an experimental framework for the systematic study of selective attention during long-term memory retrieval. Participants first learned associations between scenes and object identities and locations. At retrieval, they identified scene-associated objects while spatially informative cues, presented before or after scene onset at 75% or 100% validity, directed attention to the target object location. In Experiment 1, valid cues produced response-time benefits and invalid cues led to costs. Experiment 2 introduced a memory-load manipulation, associating scenes with either two or four objects. Higher load impaired both accuracy and response times, and spatially informative cues conferred benefits under both load conditions. Yet, the attentional benefits were stronger at higher loads, partially mitigating the negative impact of load. Together, these findings establish a versatile framework and reveal measurable consequences of attentional selection during long-term memory retrieval.

6:00-7:30 PM (III-113)

Observational Disgust Learning: Insights from a Novel Paradigm. ARMIN ZLOMUZICA, *Ruhr University Bochum*, ANNALISA LIPP, *Ruhr University Bochum*, JAN HAAKER, *University Medical Center Hamburg-Eppendorf* — Fear and other emotional responses can be triggered by direct exposure to aversive stimuli or by witnessing others engage with them. We investigated if conditioned disgust reactions can also be acquired by observing someone else exposed to disgust-inducing stimuli. In a within-subjects study, participants watched a demonstrator undergo conditioning, where one neutral stimulus (CS+) was paired with an unpleasant odor, while another (CS−) was never paired. In the direct expres-

sion test, participants were presented with the CS+ and CS− without odor. Subjective ratings and physiological measures were collected before and after the observation and expression phases. Throughout both phases, the CS+ was rated more negatively, elicited higher US expectancy, and induced stronger disgust responses than the CS−. Subjective measures slightly decreased after direct expression, but CS+ and CS− differentiation remained significant. Facial expressions to CS+ compared to CS− changed during observational learning and persisted during direct expression. Our findings show that disgust can be acquired through observation, leading to lasting changes in subjective evaluations and facial expressions.

6:00-7:30 PM (III-114)

Medial Temporal Lobe Reinstates Latent Contexts During Context-Dependent Inference. OMER ASHMAIG, *University of Texas at Austin*, ANDREI AMATUNI, *University of Texas at Austin*, NEAL W. MORTON, *University of Wisconsin - Milwaukee*, ALEX GORDIENKO, *University of Pennsylvania*, MENGCUN GAO, *University of Texas at Austin*, NICOLE VARGA, *University of Texas at Austin*, ALISON R. PRESTON, *University of Texas at Austin* — Context-dependent choice requires inferring which hidden situation best explains partial observations. Individual cues are ambiguous (clipboard), but cue sequences (clipboard, stopwatch, cones) can reveal the latent context (driving test) from which those cues were drawn. Medial temporal lobe (MTL) regions can support such decisions because partial cues reinstate memories of contexts in which those cues were experienced. We tested whether probabilistic inference reinstates latent context representations in MTL regions. Thirty adults completed an fMRI task in which they learned how likely each object was in each context, then used object sequences to infer the current context. Participant-specific computational models estimated each person's learned cue-context beliefs and distinguished Bayesian inference over the full likelihood structure from simpler heuristics. An independent context localizer tested whether MTL patterns tracked each participant's model-predicted context during inference. Preliminary analyses suggest that perirhinal cortex reinstates model-predicted contexts before choice, linking memory-based context reinstatement to probabilistic inference.

6:00-7:30 PM (III-115)

Pretesting Reduces Proactive Interference in Paired-Associate Learning. PAUL DUNBAR, *University of Montana*, YOONHEE JANG, *University of Montana* — Previous studies have shown that attempting to answer questions before receiving corrective feedback can improve later memory relative to studying or reading, a phenomenon known as the pretesting effect. Although prior work has identified conditions under which pretesting benefits memory, less is known about its ability to reduce memory impairments such as proactive interference. The current study examines whether pretesting protects against proactive interference. In Experiment 1, participants studied multiple lists of semantically related word pairs, with some cue words repeated across lists. Results showed that pretesting both enhanced memory performance relative to reading and reduced proactive interference. Experiment 2 will examine whether elaborative processing between cue-target pairs contributes to the interference reduction and memory benefits observed for pretested items.

6:00-7:30 PM (III-116)

Remembering mnemonic prediction errors supports detailed memory. JENNIFER L. FIEDLER, *University of North Carolina at Chapel Hill*, BAYLEY M. WELLONS, *University of North Carolina at Greensboro*, BLAIRE J. WEIDLER, *Towson University*, KELLY S. GIOVANELLO, *University of North Carolina at Chapel Hill*, CHRISTOPHER N. WAHLHEIM, *University of North Carolina at Greensboro* — People constantly generate predictions based on their memories for prior experiences, and it is adaptive to update those memories when predictions are violated. Such mnemonic prediction errors are theorized to support new learning, but they can also lead to interference effects. Theoretical frameworks propose that strong prediction errors protect against interference by facilitating separate

encoding of violations from memory for prior experiences. We tested this across two experiments with a study list designed to evoke strong and weak prediction errors and a cued recall test that probed memory for violating items, the presence of a violation, and predicted items. Predictions were established with repetitions of A-B word pairs and violated with changed A-D pairs. In both experiments, we observed interference with increased repetitions, but conditionalizing on cued recall responses changed this pattern. Conditionalizing revealed that mnemonic prediction errors support new learning when they are later remembered as errors, and this may be moderated by prediction strength. The outcome of prediction errors on subsequent memory may depend on their strength and the encoding of violating experiences together with prior experiences.

6:00-7:30 PM (III-117)

Capturing learning on the fly: an eye-tracking method for quantifying prediction errors and expectation updating. FLORA HANN, *Eötvös Loránd University; HUN-REN Research Centre for Natural Sciences*, CINTIA ANNA NAGY, *ELTE Eötvös Loránd University*, ZITA NAGY, *ELTE Eötvös Loránd University*, DEZSO NEMETH, *INSERM; Gran Canaria Cognitive Research Center*, ORSOLYA PESTHY, *INSERM* — The ability to build predictive models of the environment underlies adaptive behavior, yet the real-time dynamics of model formation and updating remain poorly understood. We introduce a generalizable gaze-based framework that directly tracks trial-by-trial expectation formation and updating. Applied to an implicit probabilistic learning task, it dissociates prediction errors arising from environmental stochasticity from those arising from inaccurate internal models, and quantifies how predictions are revised over time. Learners distinguished these error types: stochasticity-related errors were more frequent and elicited fewer updates than errors reflecting insufficient knowledge. Participants also showed a tendency to repeat previous predictions, especially when those predictions aligned with the underlying regularity. Critically, updating depended more on the consistency of prior beliefs with task structure than on whether the predicted stimulus matched the observed stimulus. These findings suggest that statistical learning relies less on error-driven updating and more on conservative, repetition-based processes. Our framework provides a broadly applicable tool for quantifying real-time expectations and learning dynamics.

6:00-7:30 PM (III-118)

Measuring Human Structure Learning and Generalization. LINZAN LIU, *University of Wisconsin - Milwaukee*, NEAL W. MORTON, *University of Wisconsin - Milwaukee* — Understanding the world often involves learning and applying general knowledge about relationships; for example, one can use knowledge about family relationships to infer that your mother's brother is your uncle. Recent theoretical work proposes that integrating knowledge across multiple relationships drives the formation of cognitive maps that support flexible generalization. To test this proposal, we developed a novel task where participants learn an initial set of unfamiliar relationships among objects and then learn about a transfer set of objects that share the same relationships. During learning, participants in the associative-learning condition reasoned about one relationship at a time, while participants in the path-integration condition additionally reasoned about indirect relationships. We found that both groups learned the transfer set more quickly, suggesting they had formed generalizable knowledge. Furthermore, preliminary evidence from a mnemonic similarity task suggests that object memory is more precise in the path-integration condition. Our findings suggest that people can rapidly form reusable cognitive maps that improve learning in novel situations and help discriminate individual memories.

6:00-7:30 PM (III-119)

Effects of Semantic Congruency on Associative Memory Specificity. SOPHIA SAAVEDRA, *Villanova University*, NATHANIEL R. GREENE, *Villanova University* — Remembering events depends not only on individual components of an episode, but also on the relationships between them. Prior research suggests that semantic congruency between

associated items enhances episodic memory but can also foment rapid false recognition. It remains unclear what latent representational processes underlie these benefits and costs. Here, we examine whether semantic congruency between associated items enhances memory for the specific details of their association or only their gist. Participants studied object-word pairs that sometimes reinforced a semantic association (e.g., "flower-pretty"), but other studied pairs did not (e.g., "truck-minute"). Using model-based analyses, we isolated the contributions of specific and gist memory to true and false associative recognition for intact pairs, related lures (e.g., "flower-beautiful", "truck-second"), and unrelated foils (e.g., "truck-pretty") and compared these representations across congruency conditions. Results constrain theories of memory representation and shed insight on the latent processes underlying semantic congruency effects in associative recognition.

6:00-7:30 PM (III-120)

Learning from Rote Practice: Quantifying Multiple Components of Memory Strengthening. JANVI SUBRAMANYAN, *Northwestern University*, PAUL J. REBER, *Northwestern University* — Repeated exposure to an item with its correct association strengthens explicit memory. Forced-choice practice, however, offers learning opportunities prior to seeing the correct answer as feedback: exposure to the item with answer choices and reactivation of existing knowledge for response selection. We assessed memory for 40 novel molecule image-name pairs over 8 or 12 cycles of 4- or 6-alternative forced-choice (AFC) practice. We developed a maximum-likelihood model to estimate learning from answer-option exposure, response selection, and feedback across repetitions, building on prior knowledge and initial encoding. In Experiment 1 (N=28), we quantified feedback-driven learning from 4AFC practice. In Experiment 2 (N=63, 43), repeating incorrect foils in 4AFC and 6AFC practice impaired performance, demonstrating that answer-option exposure measurably affects learning. The model estimates this effect as smaller than feedback-driven updating and initial encoding. In Experiment 3 (N=43), active retrieval and answer observation produced similar learning, suggesting response selection contributes minimally. This work provides a mechanistic account of how repeated practice enhances explicit memory through multiple separable processes.

6:00-7:30 PM (III-121)

Eye Movements Reveal Temporal Dynamics of Auditory-Visual Associative Memory. LAUREL WALTHER, *University of Illinois Urbana-Champaign*, HUIYU DING, *University of Illinois Urbana-Champaign*, JIA GU, *University of Illinois Urbana-Champaign*, CURTIS ROGERS, *University of Illinois Urbana-Champaign*, LILI SAHAKYAN, *University of Illinois Urbana-Champaign* — In everyday life, popular songs are potent memory cues that can vividly reinstate associated memories. Yet, it is not well understood how properties of auditory cues (such as familiarity, sensory modality, and transience) affect the time-course and strength of associative memory. This eye-tracking study (Exp 1; N = 78) measured Preferential Viewing (PV), an established marker for associative recognition strength, for visual images (faces) paired with familiar vs unfamiliar songs, drawn from a 315-song database normed for familiarity in the study population. On average, PV emerged more robustly when cued by familiar compared to unfamiliar songs, which could be attributed to differences in associative memory strength or to competition between the song and face recognition processes. In subsequent experiments, we tested these interpretations by examining timing of familiar vs unfamiliar song recognition (Exp 2; N = 72) and aligning song and face onset at test (Exp 3; N = 60). These results have implications for understanding how dynamic processing of auditory cues over time shapes associative retrieval.

6:00-7:30 PM (III-122)

Profanity with a Purpose: Emotional Binding in Novel Taboo Compounds. KALYANI NAIR, *Pomona College*, MAEYA KOTTER, *Pomona College*, ALEX BESTEMAN, *Pomona College*, SOPHIA TOON, *Pomona College*, KATHERINE K. WHITE, *Rhodes College*, LISE ABRAMS, *Pomona College* — Taboo words are characterized by high emotional

arousal which commands attention. This enhances memory for the words themselves and contextual information such as their font color, which is thought to involve binding processes. Because word binding is also essential to pairing two unrelated words, this research investigated memory of novel taboo compound words (e.g., ass-cheese). Young adult participants read aloud non-taboo compounds as well as compounds which consisted of a taboo word and a non-taboo word, with the taboo word appearing in the first or second position within the compound. After a 10-minute distractor task, participants were given three surprise memory tests which included free recall, cued recall, and multiple-choice recognition of the previously shown compounds. Results showed that taboo compounds were better recalled and recognized than non-taboo compounds, and memory for taboo compounds was unaffected by the taboo word's position within the compound. Ratings of the compounds' plausibility and humor were positively correlated with recall and recognition. These findings demonstrate how the unique emotional properties of taboo words facilitate the encoding of novel compounds in memory.

6:00-7:30 PM (III-123)

Chatting with AI? Emotional Change After Memory Disclosure. CAGLA DUMAN, *Cornell University*, QI WANG, *Cornell University* — Memory sharing is an important social practice through which emotions associated with autobiographical memories are sustained, amplified, or reduced. Although people increasingly use generative AI (genAI) as a tool for regulating emotion after life experiences, it remains unclear whether sharing memories with genAI provides similar benefits as social sharing. The present study examines how the intensity of event-related emotions changes after memory sharing with a genAI chatbot versus a perceived human partner. Participants recalled positive or negative memories and rated their current emotional intensity before being randomly assigned to share the memory with either a genAI chatbot or a partner described as human, or to complete a filler task. Emotional intensity was reassessed immediately after sharing and 3 days later. Participants in the sharing conditions also rated perceived connectedness and partner agency. We predict that memory sharing will reduce negative emotional intensity and increase or maintain positive emotional intensity relative to the control condition, with stronger effects when participants believe the partner is human. Perceived connectedness and partner agency are expected to explain these differences.

6:00-7:30 PM (III-124)

Self-Immersion, Concrete Processing, and the Positivity Effect in Autobiographical Memory. AYŞIN AYTATLI, *Bilkent University*, TUGBA UZER YILDIZ, *Bilkent University* — Although the positivity effect in older adulthood is well documented, less is known about processes through which older adults transform autobiographical memories, particularly negative ones. The present study examined whether self-perspective and processing mode explain age-related differences in emotional processing. Participants (35 younger adults: M_age = 22.14, SD = 1.06; 7 older: M_age = 71.14, SD = 3.08) recalled four memories varying in valence and arousal: low- and high-arousal positive and negative memories. After recall, they rated self-immersion, concrete processing, and emotional intensity change. A 2 × 2 × 2 mixed ANOVA showed high-arousal negative memories elicited the greatest self-immersion and concrete processing. Age differences emerged only for emotional intensity change: younger adults showed a broad positive shift for negative memories, whereas older adults a selective positive shift for high-arousal negative memories. Given the small older-adult sample, findings are preliminary but suggest arousal may condition age-related positivity in autobiographical remembering.

6:00-7:30 PM (III-125)

The Effects of Older Age and Depression on Everyday Autobiographical Thinking. ALEXIS N. GARCIA, *University of Arizona*, JESSICA R. ANDREWS-HANNA, *University of Arizona*, MATTHEW D. GRILLI, *University of Arizona* — Older adults have a general tendency towards positivity in their thoughts and memories. However, whether depression weakens the positivity effect in older

adults' everyday autobiographical thoughts remains unclear. The present preregistered study compared how cognitively unimpaired older adults (N = 150) and young adults (N = 61) describe their most frequently occurring thoughts from the past month. In addition to completing a self-report questionnaire for each thought, participants also reported their current depressive symptoms using the Center for Epidemiologic Studies-Depression Scale (CES-D). Results indicate that higher depressive symptomatology was associated with experiencing frequent everyday thoughts that are more negative in valence (B= -0.0494, p= < 0.001) and more past-centered (B= -0.0348, p= < 0.001). These results held when we restricted the analyses to older adults only. Overall, these findings suggest that depressive symptoms may shape everyday autobiographical thinking by imbuing the most frequently occurring thoughts with more negative tone, and situating these thoughts generally in the past, rather than in the present or future.

6:00-7:30 PM (III-126)

Semantic Breadth Predicts Episodic and Non-Episodic Details in Personally Significant Autobiographical Memories in Old Age. LIAM HART, *Georgia Institute of Technology*, AUDREY LEROUX, *Georgia Institute of Technology*, SASHANK VARMA, *Georgia Institute of Technology*, THOMAS OLTMANNS, *Washington University in St. Louis*, HSIAO-WEN LIAO, *Georgia Institute of Technology* — Age-related declines in episodic specificity during autobiographical recall are well-established. Recent research suggests that preserved semantic knowledge in old age may scaffold episodic retrieval. A study by Sheldon et al. (2024) supported this thesis and found that semantic content diversity — the breadth of semantic content in a memory — predicted greater episodic, but not non-episodic, detail in older adults' Autobiographical Interview memories. Whether this pattern generalizes to retrieval contexts that foreground identity and personal meaning remains untested. This preregistered study examined 4,576 Life Story memories spanning five memory types from 932 older adults (ages 62–75), using LLM-based detail scoring and topic modeling–derived semantic content diversity. Multilevel models showed that across all memories, semantic content diversity predicted greater episodic detail, at both the memory and individual levels. Interestingly, however, semantic content diversity also predicted greater non-episodic detail. These findings suggest that semantic knowledge supports detailed life story memories in old age. Retrieval context may shape whether semantic scaffolding extends beyond episodic detail.

6:00-7:30 PM (III-127)

The Self Through Time: Individual Differences in Autobiographical Memory. MILA MAC NEIL, *University of Toronto*, KATHERINE DUNCAN, *University of Toronto* — People report different types of experiences when thinking about their pasts and futures. Some believe they are vividly transported (i.e., through Mental Time Travel, MTT) where others report more conceptual tendencies. Existing questionnaires measure these differences with retrospective judgments that may reflect metacognitive beliefs about one's self rather than reliable characteristics. This study develops a more ecologically valid approach, using experience-sampling to measure how different people spontaneously reflect on their past and future from day to day. Participants are prompted at unpredictable times to rate current thoughts for various qualities, including mental imagery, MTT, and visual perspective. Our preliminary results (18 of 100 planned participants) support approach feasibility: 45% prompts yielded past and future oriented thoughts. Differences between participants accounted for a substantial portion of variance (ICC ~ .53) in MTT ratings, suggesting that MTT traits are quite stable across time and contexts. Next, we will compare standardized questionnaire (e.g., Survey of Autobiographical Memory) responses to these real-time reports to evaluate how well they capture individual differences in MTT phenomenology.

6:00-7:30 PM (III-128)

Agentic Reframing of STEM-Uncertainty Memories Increases Analytic Remembering. MAX RAMSEYER, *Tufts University*, AYANNA K. THOMAS, *Tufts University* — Positive reappraisal of negative autobiographical memories can increase positive language at later recall, but less is known about whether reframing uncertainty in science, technology, engineering, and mathematics (STEM) learning changes how students subsequently evaluate those experiences. Because negative STEM memories often center on unpredictability and uncertainty, we tested whether reconstruing uncertainty as manageable would alter later memory descriptions. Participants completed a two-part autobiographical memory task. They recalled a negative STEM-related uncertainty experience and either received an agency-focused reappraisal, framing uncertainty as a manageable opportunity for choice, action, and effective response, or a control reappraisal that asked them to restate the experience. During a second session, participants were asked to recall previously recalled memories to assess whether the reframing task influenced the language used to describe memories. Results suggest that agency-focused reappraisal increased analytic language and reduced anxiety-related words relative to control. These findings indicate that reinterpreting academic uncertainty may shift how students relate to STEM challenges.

6:00-7:30 PM (III-129)

Dissociating Vividness from Episodic Specificity in Autobiographical Memory: The role of individual differences in spatial imagery. SELMA BERFIN TANIS, *Cornell University*, EDA MELIN DEVELIOGLU, *Sabanci University*, MAUREEN RITCHEY, *University of California, Los Angeles*, CAGLA AYDIN, *Sabanci University* — Although prior findings linking memory vividness to imagery are mixed, it remains unclear whether vividness relies on imagery processes and whether spatial imagery affects this relationship. Here, we examined these questions in a within-subjects design. Ninety-two participants narrated autobiographical events under two conditions: imagery interference via dynamic visual noise (DVN) clips and no interference. Narratives were coded for episodic details by an AI-based procedure, validated against human raters (ICC = .72). Imagery interference did not affect subjective vividness but reduced episodic specificity, especially among individuals with weaker visual imagery ability. Vividness was instead related to phenomenological characteristics (e.g., visual details, reliving, field perspective) and episodic specificity. In the control condition, vivid recall was positively associated with episodic specificity for high spatial imagers, but not for weaker spatial imagers. In the DVN condition, this association was instead significant for lower spatial imagers. Findings suggest that vividness does not depend directly on imagery, and imagery-based reconstruction contributes more strongly to detailed recall for some individuals than others.

6:00-7:30 PM (III-130)

Autobiographical Recall Enhances Pain Tolerance: Mechanisms of Adversity Retrieval and Autonomic Regulation. MENG-HSUN WU, *National Cheng Kung University*, YU-CHI LIAO, *College of Medical and Health Sciences, Asia University*, JENNIFER TIOPAN, *National Cheng Kung University*, SZU-HUNG LIN, *Soochow University*, CHIA-HUEI WU, *King's College London*, SHULAN HSIEH, *National Cheng Kung University*, CHENG-TA YANG, *National Cheng Kung University* — Resilient individuals tolerate pain better, yet the active mechanism linking resilience to pain regulation remains unclear. We propose this mechanism lies not in adversity content, but in self-referential recall of overcoming adversity, which down-regulates autonomic stress. Three experiments using the cold pressor test (CPT) examined this mechanism. Experiment 1 separated active retrieval from passive exposure: recalling personal adversity (autobiographical memory), reading an adversity narrative, or a neutral descriptive passage; only the recall group showed higher pain tolerance. Experiment 2 further varied self-relevance in the recall task: autobiographical, biographical-kin, folktale, and semantic-science memory; only autobiographical recall boosted pain tolerance. Experiment 3 compared autobiographical and biographical-kin recall, adding HRV and respi-

ratory rate measures. The autobiographical group showed parasympathetic recovery (decreased LF/HF ratio), while the biographical-kin group showed sustained sympathovagal imbalance. Results confirm that self-referential retrieval of overcoming adversity drives pain tolerance, with parasympathetic recovery as its physiological basis, clarifying the resilience–pain regulation link.

6:00-7:30 PM (III-131)

Remembering Your Mother's Wedding: Vicarious Memories Serve the Same Functions as Personal Memories. SOPHIA AMANI DALURAYA, *Duke University*, ELIZABETH J. MARSH, *Duke University* — Memories serve many functions, including building social connections, directing future actions, and maintaining one's sense of self (as measured by the Thinking about Life Experiences Scale, TALE; Bluck & Alea, 2011). Non-experienced memories can also serve the same functions. For example, memories of film scenes support social connectivity and memories of a nation's historical events support collective identity (Burnell et al., 2023; Yang et al., 2022). Here, we adapted the TALE to examine the functions of vicarious memories (i.e., memories of specific events from another person's life, such as your mother's wedding) to examine why people remember such events. TALE ratings of personal memories and memories of fiction were also made as a comparison. We found that memories of fiction were rated as functionally less significant compared to both personal and vicarious memories, but that there were no significant differences between ratings of personal and vicarious memories. This suggests that memories grounded in the real world, regardless of if they were personally experienced or not, are rated as more useful. Theoretically, these results have implications for how non-experienced memories relate to autobiographical memory.

6:00-7:30 PM (III-132)

Examining Memory Consolidation Over Multiple Nights of Sleep. ANNIE DUAN, *University of California, Irvine*, STEVEN TRAN, *University of California, Irvine*, VINCENT LEONG, *University of California, Irvine*, NAOMI PATEL, *California Polytechnic State University*, KIRA CO, *California Polytechnic State University*, JAMES W. ANTONY, *California Polytechnic State University*, EITAN SCHECHTMAN, *University of California, Irvine* — Sleep's role in promoting memory consolidation has been commonly explored through studies featuring single sessions of sleep, but the prolonged effects of multiple sleep periods on memory consolidation are not well understood. We aimed to elucidate whether declarative memory consolidation primarily benefits from the initial night of sleep after learning, or if it receives enduring benefits over several nights. Participants (current N = 115, target N = 200) learned 175 word pairs, then completed seven memory tests (each 25 word pairs) over the next 8 days at ~36 hour intervals. The temporal dynamics of memory performance were modeled using a logarithmic model, and residual values were extracted for each data point. Residual differences across both nights and days were calculated (e.g., evening tests vs morning tests) to capture the effects of sleep and wakefulness above and beyond those predicted by forgetting curves. These data inform the impact of sleep on memory beyond the first night after learning, and expand our understanding of the temporal dynamics of memory consolidation.

6:00-7:30 PM (III-133)

An Examination of University Students' Academic Internet Search Strategies. LAUREN LOWE, *Ball State University*, KIRSI MICHAEL, *Ball State University*, LAUGHLIN ASCHENBRENNER, *Ball State University*, ARIANNA FOSTER, *Ball State University*, HANNAH SULLIVAN, *Ball State University*, RYANNE O'NEILL, *Ball State University*, GRAYCE MULLIS, *Ball State University*, KEEGAN MAXWELL, *Ball State University*, ADDISON BOTTS, *Ball State University*, MACKENZIE RIGGENBACH, *Ball State University* — The

rapid expansion of artificial intelligence (AI) has made it increasingly difficult to distinguish human from AI-generated materials (Saliba & Rotzinger, 2025). Current AI-detection systems are unreliable and misclassify AI-generated text as human-written (Weber-Wulff et al., 2023), leaving educators without effective strategies to verify authorship or ensure authentic engagement. One possible solution is to leverage AI models' sensitivity to linguistic framing, as responses vary based on how prompts are worded and contextualized (Cavazza et al., 2017). The current study examines whether including celebrity versus non-celebrity names within exam-style questions alters the accuracy of AI-assisted answers. Additionally, the study examines differences in question response time, participants' confidence in their answers, and internet search strategies.

6:00-7:30 PM (III-134)

Temporal Compression in Memory. CATHERINE MILLIGAN, *University of Maryland, College Park*, ISABELLA KLOPUKH, *University of Maryland, College Park*, MARNE WHITE, *University of Maryland, College Park*, MARISSA HARTWIG, *University of Maryland, College Park*, MICHAEL R. DOUGHERTY, *University of Maryland, College Park* — Temporal information in episodic memory may become systematically distorted as experiences recede into the past. Rather than preserving temporal intervals accurately, representations of past events may become compressed over time, causing distant experiences to feel subjectively closer together. The present study introduces a novel temporal reproduction paradigm designed to examine how people's perception of elapsed time between events changes as those events recede further into the past. Participants studied a sequence of natural scene images containing both control scenes and highly memorable target scenes. Later, they were presented with pairs of target scenes and asked to reproduce the amount of time that elapsed between them. Temporal compression was examined by comparing the estimated elapsed time across pairs of items that occurred at different serial positions on the studied list. These results have implications for understanding the role of temporal information in memory retrieval and may inform recent theoretical discussions linking temporal information processing to both working- and long-term memory.

6:00-7:30 PM (III-135)

Feedback and Learning Trajectories in Temporal and Spatial Production. JIAXUAN TENG, *University of Arizona*, ARNE D. EKSTROM, *University of Arizona*, EVE A. ISHAM, *University of Arizona* — Keeping track of time intervals is essential for adaptive behavior in both humans and non-human animals. The present study examined learning dynamics in temporal and spatial production tasks with and without explicit feedback. Participants completed training on a target duration or line length and were subsequently tested on trained and untrained magnitudes. Performance was assessed using production ratio (accuracy) and coefficient of variation (CV; precision). Linear mixed-effects models revealed that spatial performance was generally more accurate and precise than temporal performance, and that explicit feedback improved accuracy across tasks. During training, both temporal and spatial learning showed rapid early improvements, with model-fitting analyses indicating logarithmic learning trajectories, consistent with diminishing gains over time. Transfer performance varied as a function of magnitude, although these patterns may partly reflect central tendency effects. Overall, the findings provide insight into temporal and spatial learning and the role of feedback in shaping performance and generalization.

6:00-7:30 PM (III-136)

Prediction Error, Prior Knowledge, and Cognitive Ability in Memory. COLE WILLIAMS, *University of California, Riverside*, GENE A. BREWER, *University of California, Riverside*, HOLLY O'ROURKE, *University of California, Riverside* — Prediction errors shape what we remember, but the relationship is not uniform. Under conditions that permit prior knowledge, memory accuracy is a U-shaped function of prediction error, where outcomes near a person's typical expectation are remembered worst and highly unexpected outcomes are remembered better. Without prior knowledge, larger errors sim-

ply degrade memory. Building on this dissociation, the present study asks how individual differences in cognitive ability relate to memory across these conditions. Participants (N = 217) completed a trivia-based memory task in two conditions (meaningful "Standard" vs. letter-matched "Scrambled" statements) alongside a cognitive battery indexing working memory, crystallized knowledge, long-term memory, and attention control. Using logistic mixed-effects models, we replicated both the U-shaped prediction-error effect and its dissociation across conditions. Crystallized knowledge and long-term memory were associated with higher overall accuracy in both conditions, while the U-shaped benefit itself was a robust population-average effect rather than a universal individual one.

6:00-7:30 PM (III-137)

Memory is influenced by the structure and content of unconstrained thought during and after learning. SILVIA SHIWEI ZHOU, *Queen's University*, SAM KETCHESON, *Queen's University*, RAVEN S WALLACE, *Queen's University*, BUDDHIKA BELLANA, *York University - Glendon Campus*, JEFF D. WAMMES, *Queen's University* — A holistic account of learning and retention across continuous experiences requires understanding ongoing cognition not only during learning, but also afterward, when content continues to linger in the mind. In this study, we assessed event segmentation behaviour during educational video viewing, and used an unconstrained word generation task to capture spontaneous thought after learning. We found that greater segmentation ability predicted better memory performance, suggesting that successfully parsing the structure of ongoing experience into meaningful themes supports learning. In addition, both subjective report and objective semantic measures showed that educational content lingered in mind after learning, in a way that reflected the temporal structure of the material, even without explicit instructions to recall it. Together, these findings suggest that learning and retention are shaped by the structure of cognition both during and after educational experiences. As a next step, we introduce multidimensional experience sampling to characterize ongoing cognition during learning across dimensions such as intentionality, emotion, and modality, and relate these patterns to event segmentation and post-learning lingering thought.

6:00-7:30 PM (III-138)

Prospective Memory, Attention, and Mindfulness in College Students. KERRI A. GOODWIN, *Towson University*, RILEY PETRICK, *Towson University*, MERIUM A. TOPPA, *Towson University*, MEGAN E. YELINEK, *Towson University* — We investigated the relationships between self-reported prospective memory (PM), attention, and mindfulness in college-aged students. PM requires attentional resources to be successful, and being mindful can be characterized as the ability to pay attention to one's surroundings without being distracted by other thoughts. We found that PM failures, as measured by the Prospective and Retrospective Memory Questionnaire (PRMQ), were associated with other self-reported memory and attention failures as well as acting without awareness from the Five Facet Mindfulness Questionnaire (FFMQ). Qualitative data analysis of students' reports of their reasons for their PM errors and strategies to overcome them are discussed.

6:00-7:30 PM (III-139)

Using Thought Probes to Explore the Relationship Between Working Memory and Prospective Memory. CONNOR DUPRE, *University of Texas at Arlington*, HUNTER BALL, *University of Texas at Arlington* — Prospective memory (PM) requires remembering to carry out delayed intentions while engaged in other activities. It is often assumed that working memory capacity (WMC) supports PM through active maintenance of delayed intentions. However, successful PM may also depend on broader executive and retrieval processes, including attention control (AC) and episodic memory (EM). To test this idea, undergraduates (N = 256) completed three measures each of WMC, AC, and EM alongside three focal and three nonfocal PM tasks. Each PM task included thought probes assessing whether participants were thinking about the inten-

tion, the ongoing task, or something unrelated to the task. Contrary to predictions, confirmatory factor analyses showed focal and nonfocal PM loaded onto one factor rather than separable factors. While higher WMC was associated with better PM, this relation was not mediated by PM-related thoughts. Instead, AC and EM, modeled as a higher-order executive factor, fully mediated the WMC-PM relation. These findings support a general executive control account and challenge the idea that WMC primarily benefits PM through active maintenance of intentions.

6:00-7:30 PM (III-140)

When Reminders Are Not Enough: Offloading Does Not Reduce Cognitive Demands in Prospective Memory. RILEY PETRICK, *Towson University*, KERRI A. GOODWIN, *Towson University* — Prospective Memory (PM) requires individuals to execute future intentions while engaged in ongoing tasks, a process that often requires sustained attention and monitoring. Although cognitive offloading through external reminders is thought to reduce these internal demands, it remains unclear how reminders impact monitoring or intention maintenance. In the present study, participants completed a PM task embedded within another task with a reminder availability manipulation, and measures of working memory capacity (WMC), attention-related errors (ARCES), and memory confidence. Reminder availability did not improve PM performance or reduce PM cost. However, WMC and ARCES significantly predicted PM performance, indicating continued reliance and use of internal cognitive resources. Additionally, offloading moderated the relationship between memory confidence and PM cost, suggesting a role for metacognitive factors in monitoring efficiency. These findings suggest that constant reminders may support intention maintenance but do not reduce the need for internal monitoring processes.

6:00-7:30 PM (III-141)

The Influence of Temporal Task Structure on Retrieval Mode and Target Checking in Prospective Memory Strategic Monitoring. MADELINE R. VALDEZ, *Washington University in St. Louis*, CHLOE B. DOAN, *Washington University in St. Louis*, ARIANA GEFFIN, *Washington University in St. Louis*, ANGELINA M. HOANG, *Washington University in St. Louis*, NORAH E. LASCAR, *Washington University in St. Louis*, JULIE M. BUGG, *Washington University in St. Louis* — Successful prospective memory (PM) requires monitoring the environment for PM cues that signal when to execute a future intention. Despite being an influential theoretical framework in PM research, the generalizability of this model to commonly used ongoing tasks, such as the lexical decision task (LDT), remains poorly understood. In a prior study, we replicated evidence of the model using Guynn's (2003) original paradigm but failed to observe converging evidence when tested in an LDT. Instead, the pattern suggested that target checking is constrained by the speed at which it must be engaged and disengaged, revealing a potential boundary condition of the dual-process model. To test this, we conducted a pre-registered study (https://osf.io/untmp, N = 136) in which we adjusted the LDT paradigm to more closely approximate the temporal dynamics of Guynn's paradigm. This adjustment resulted in a pattern consistent with the dual-process model. In summary, these findings indicate that target checking may be constrained by the temporal structure of the ongoing task, advancing our understanding of how monitoring processes are shaped by task characteristics.

6:00-7:30 PM (III-142)

From Feeds to Futures: Memory and Future Thinking for Public Events in Social and Curated Media. NAZIKE MERT, *Stetson University*, QI WANG, *Cornell University* — Public events are increasingly encountered through social media. Yet little is known about how media sources shape collective memory and future thinking. This study examines how social versus curated media as news sources influence memories for national events and

associated future projections. Participants recalled four national events from the past year: two learned primarily through social media and two through curated media. For each event, they rated emotional valence and intensity, reported online engagement or offline sharing, generated a future projection, and predicted its likelihood. We predicted both memories and future projections of events learned through social media to be more negative than those learned through curated media. We also expected greater social media engagement or offline sharing to be associated with greater emotional intensity and perceived likelihood of future events. The findings will elucidate how evolving news environments shape collective memory and future thinking about public events.

6:00-7:30 PM (III-143)

The impact of valence and eyewitness age on imagining and subsequently remembering a police interview. MCKINZEY G. TORRANCE, *Brandeis University*, AYANNA K. THOMAS, *Tufts University* — Humans imagine events to help them plan for future experiences across the lifespan. Importantly, research has found that prior experience can shape how people imagine future events, and that the valence of imagined events can impact memory for experienced events. The first aim of the present study was to investigate how the construction of a rarely experienced future event (i.e., police interview) varies due to age and valence of the event. The second aim was to assess how the valence of an imagined event impacts subsequent memory for an experienced event in older and younger adults. Participants imagined a police interview before reading a narrative describing what they experienced during the police interview. They later had a memory test for the narrative. Contrary to previous research, older and younger adults generated imagined events with a similar level of episodic specificity. Furthermore, the valence of imagined events impacted memory for both positive and negative narrative details in comparison to neutral details. Our findings suggest that people may rely on their general knowledge to imagine rarely experienced events, and that alignment between expected valence of an event, and experienced valence, impact memory.

6:00-7:30 PM (III-144)

Image Variability and Response Deadlines in Prospective Person Memory. JENNIFER MCLEMORE, *University of Arkansas*, JAMES MICHAEL LAMPINEN, *University of Arkansas*, PIA PENNEKAMP, *University of Arkansas* — Prospective Person Memory (PPM) refers to the ability to identify a target person while carrying out a different task, such as a missing-person search. The experiment seeks to examine whether image variability can improve PPM under response deadlines by providing flexibility to form view-invariant representations of the face. Participants functioned as virtual bouncers, making decisions about the ages of the patrons and identifying any troublemakers (target people) among them within a response deadline. This experiment uses a 3 (variability: single image, three same-context images, or three multi-context images) x 3 (deadlines: 1s, 2s, 8s) between-participants design, with data collection nearing completion for an N = 540 (present N = 423). Descriptive data indicate that timely target identification increased with longer deadlines (.37, .57, .68). However, 12.3% of target responses were late during the 1s trial period, but this was not the case for the 2s and 8s trials. Higher variability was associated with higher target identification (.50, .55, .57) without increasing false alarms. We will analyze interactions between variability and deadline and conduct signal detection analysis (d', criterion).

6:00-7:30 PM (III-145)

Using Episodic Future Thinking Training to Reduce Delay Discounting of the Value of Peaceful Protesting & Preference for Violent Protest. JOSHUA ROTONDO-VALENTINE, *University of California, Santa Cruz*, JEREMY K. YAMASHIRO, *University of California, Santa Cruz* — Temporal discounting, a phenomenon where the value of a reward gradually diminishes the longer it takes to receive it (Ma et al., 2016), is found both in humans and non-human animals (i.e. Madden et al., 2003), and has been observed with items such as money, food, and sexual activity (e.g. Holt et al., 2014). Though most research has historically focused on re-

wards received by individuals, more recent research has examined how temporal discounting occurs in groups (for a review, see Sun et al., 2024). At the level of the individual, one behavioral intervention that has proven efficacious in reducing temporal discounting and associated negative outcomes is episodic future thinking training (for a review, see Ye et al., 2022). In a follow up to a recent study demonstrating that peaceful protesting is subject to a temporal discount (Rotondo-Valentine & Yamashiro, in press), here we examine if EFT training can also reduce temporal discounting for a reward that is both collectively shared (i.e. peaceful protesting) and received across more distal delays (i.e. decades), which has not been explored previously in temporal discounting literature.

6:00-7:30 PM (III-146)

A Threat-Based Advantage in Memory for Approximal Simulations of the Future. ISABELLA DE OLIVEIRA, *Toronto Metropolitan University*, KATRIEL READ, *Toronto Metropolitan University*, KARL K. SZPUNAR, *Toronto Metropolitan University* — Recent retrospective report and experience sampling data have shown that mental simulations of what might happen next in the context of ongoing experience—i.e., the approximal future—tend to be negatively valanced and focused on possible sources of threat. The purpose of the present study was to assess whether the prevalence of threat-based approximal simulations in retrospective reports arises simply because people tend to experience more of these simulations or whether there exists a threat-based advantage in memory for approximal simulations. Participants simulated what might happen next in response to negative, positive, and neutral cues and completed a subsequent cued recall memory test. Across a pilot and a subsequent pre-registered study, participants showed better memory for approximal simulations with negative as compared to positive and neutral outcomes. We consider the implications of these findings in the context of relations between memory and future thinking.

6:00-7:30 PM (III-147)

The Effect of Delay and Reminder on Time-Based Prospective Memory Performance. FARKHONDEH FAKOUR MANAVI, *University of Mississippi*, REBEKAH SMITH, *University of Mississippi* — This study examined the effects of delay and reminder on time-based prospective memory (PM) performance. Participants were randomly assigned to one of four conditions and were instructed to press a key on the keyboard either every one minute (in the short delay group) or every ten minutes (in the long delay group) while performing an ongoing lexical decision task. Participants accessed a digital clock by pressing a specific key on the keyboard, which displayed the exact amount of time that had passed since the start of the PM task in minutes and seconds. In the reminder condition, participants received a message 15 seconds before the target time (at 45 seconds in the short-delay condition and at 9 minutes and 45 seconds in the long-delay condition) reminding them that they needed to press a key at the specified time in the near future; however, they were not reminded about which key to press. The effects of delay and reminders are analyzed for PM performance (remembering to make the PM response within 6 seconds of the target time), clock checking, and ongoing task performance.

6:00-7:30 PM (III-148)

Eye gaze reveals adaptive reinstatement of episodic memories following event boundaries. ARIADNE LETROU, *Princeton University*, KENNETH A. NORMAN, *Princeton University* — Prior research suggests that changes in task goals induce sharp shifts in mental context (i.e., event boundaries), which impair episodic memory retrieval. Here, we tested the hypothesis that people adaptively reinstate representations from episodic memory to counteract the disruptive effects of event boundaries on memory. We collected eye-tracking data while participants performed a prospective memory task in which they encoded a visual stimulus, completed a series of intervening cognitive tasks, and then reconstructed the original stimulus from memory. Critically, we varied the number of tasks that took place

in the delay period while holding the overall delay duration constant, thus manipulating the number of event boundaries between study and test. Because the intervening tasks required central fixation, spontaneous eye movements towards the encoded stimulus's location provided a covert measure of memory reinstatement during the delay. We found that the frequency of gaze reinstatement increased with the number of event boundaries in the delay and that reinstatement preferentially occurred shortly after the boundaries themselves, suggesting a potential mechanism for preserving access to memories in the face of context shifts.

6:00-7:30 PM (III-149)

Knowing What We Don't: What Drives the Mirror Effect in Recognition Memory? COLE BUCHHAUPT, *University of Guelph*, DONELLE DIMARCO, *Brock University*, CHRIS M. FIACCONI, *University of Guelph* — The mirror effect in recognition memory describes the pattern where conditions producing higher hit rates simultaneously produce lower false-alarm rates. Two competing explanations exist: the criterion shift account attributes the pattern to changes in decision bias, while the differentiation account attributes it to differences in memory strength distributions. Disentangling these accounts is challenging because encoding manipulations are typically transparent to participants, who may strategically adjust their decision criterion. The present study addresses this using a metacognitive illusion driven by an errorful generation paradigm, in which one encoding condition yields stronger memory performance without alerting participants to its mnemonic advantage. Participants expressed greater confidence in read-only items despite better recognition memory following errorful generation. This mirror effect cannot be attributed to strategic criterion adjustment, as participants were systematically misled about the relative strength of the two encoding conditions. Findings support a differentiation account of the mirror effect and highlight the importance of controlling for metacognitive awareness when investigating recognition memory.

6:00-7:30 PM (III-150)

Performance- and Self-Report-Based Measures of Sustained Attention Fluctuation Independently Contribute to Task Performance and Recognition Memory. SAMUEL COX, *University of North Carolina at Greensboro*, KARL HEALEY, *Michigan State University*, MICHAEL J. KANE, *University of North Carolina at Greensboro*, CHRISTOPHER N. WAHLHEIM, *University of North Carolina at Greensboro* — Transient fluctuations in sustained attention affect subsequent memory. In sustained attention tasks, RT variance time courses (VTCs) operationalize attentional states based on deviation (fast and slow) from a central tendency. In a large-sample (N = 358) experiment, we examined contributions of attentive and inattentive states, derived from RT deviations (performance-based) and thought probes (self-report based), to performance on a sustained attention to response task (SART) and subsequent recognition. During the SART, participants categorized 500 scene images as belonging indoors or outdoors (450 frequent, 50 infrequent) and intermittently reported attentional state (in-the-zone or out-of-zone). Categorization accuracy was worse during out-of-zone states on both measures, but only for fast trials. Both measures predicted recognition accuracy, but only probe report remained significant when jointly modeled. In contrast, only RT variability predicted recognition discriminability at the between-subjects level. These findings show that these sustained attention measures index related but distinct attentional processes that additively contribute to task performance yet diverge in their association with subsequent recognition.

6:00-7:30 PM (III-151)

The Effect of Generation and Deception on Destination Memory. ERICA CZERWINSKI, *University of Scranton*, JILL A. WARKER, *University of Scranton* — Destination memory is the ability to remember the people with whom you have shared information. This is especially important when lying. Lying by denial (yes/no response) requires less effort than lying by commission (generating a response). These more effortful responses result in better memory

(Slameka & Gref, 1978; Vieira & Lane, 2018). This study explored whether this effect extends to recognition memory and destination memory for truthful and deceptive responses, and whether participants can predict their destination memory. Generating responses led to better recognition memory than providing yes/no responses. Participants who generated responses remembered truths and lies equally well whereas participants who gave yes/no responses remembered truths better. Generating responses also enhanced destination memory, but lying did not. All participants were more confident in their destination memory abilities when they told the truth.

6:00-7:30 PM (III-152)

Tackling the Sensitivity-Bias Confound in Measures of Recognition-Memory: Evidence from a Natural Bias Manipulation Bypassing the Implied Base-Rate Manipulation. RAZ DANINO, *Tel-Aviv University*, ADVA LEVI, *Tel-Aviv University*, CAREN ROTELLO, *University of Massachusetts*, YONATAN GOSHEN-GOTTSTEIN, *Tel-Aviv University* — Recognition-memory research faces a critical measurement crisis: sensitivity and response bias are confounded in measures like d′, Pr, A′ and AUC. In empirical studies, our lab has demonstrated this confound under iso-sensitive conditions differing only in bias, yielding erroneous sensitivity differences far beyond the expected 5% rate. These studies used an implied base-rate manipulation, the validity of which is under debate. In the current study, no bias-related instructions were given. Can differences in bias masquerade as sensitivity effects in a naturalistic experimental setting? Word lists were designed to induce liberal or conservative bias by leveraging lexical and behavioral characteristics (e.g., emotional valence, semantic relatedness), while keeping sensitivity equal across conditions—verified by ROC analysis and model-fitting. In a mixed design, participants judged words on a six-point confidence scale. Bootstrapping data from 960 participants into thousands of simulated experiments revealed that traditional measures inflate Type-I error rates, while da consistently maintained the expected 5%, validating its role as a bias-independent sensitivity measure.

6:00-7:30 PM (III-153)

Visual Complexity and Subjective Engagement Co-shape Intentional Forgetting of Scenes. JIA GU, *University of Illinois Urbana-Champaign*, LAUREL WALTHER, *University of Illinois Urbana-Champaign*, CURTIS ROGERS, *University of Illinois Urbana-Champaign*, HUIYU DING, *University of Illinois Urbana-Champaign*, LILI SAHAKYAN, *University of Illinois Urbana-Champaign* — Intentional downregulation of unwanted memories is frequently successful with verbal stimuli such as words, but is less consistent for richer representations like naturalistic scenes. This study examined why scene memory resists downregulation by testing whether visual complexity, subjective engagement, and list composition affect intentional forgetting. During encoding, participants studied either a pure list containing same-category scenes or a mixed list of scenes from different categories. Each scene was followed by a Remember or Forget cue. Memory was assessed with an Old/New recognition test. Scene memory was downregulated in pure lists, where visual features were more diagnostic for recognition, but not in mixed lists, where recognition could rely more so on a scene's semantic category. Within pure lists, simple and uninteresting scenes were more successfully downregulated than complex and engaging scenes. Together, these results clarify why scenes may resist top-down memory control and identify conditions under which scene memories are more amenable to intentional forgetting.

6:00-7:30 PM (III-154)

Can you get two for the price of one? A comparison of unitization effects on associative and item memory over a 24-hour delay. ARIEL HUH, *University of Nevada, Las Vegas*, ANDREW YONELINAS, *University of California, Davis*, COLLEEN M. PARKS, *University of Nevada, Las Vegas* — Unitizing unrelated stimuli can make familiarity a meaningful contributor to associative memory. This is thought to be due to the creation of a new conceptual unit that operates more like a single item than a pair of unrelated stimuli. We tested this idea by examining forgetting. Associative long-term memory

declines faster than item recognition, so if unitized pairs function as single conceptual units, their forgetting rate should resemble that of items. We compared unitization (novel definition) and control (sentence frames) conditions at study on both item and associative recognition memory on immediate tests. We replicated findings that unitization increases the usefulness of familiarity to associative memory, but not item memory. In our second experiment, we tested memory immediately and after a 24-hour delay. If unitization creates a new conceptual unit, unitized associative memory and item memory should behave similarly. Specifically, non-unitized associative recognition should decline more than any of the other conditions.

6:00-7:30 PM (III-155)

Using speech characteristics to predict eyewitness identification accuracy. EMILY IVES, *University of Virginia*, CHAD S. DODSON, *University of Virginia*, DAVID G. DOBOLYI, *University of Colorado Boulder* — Speech characteristics may provide diagnostic information about memory accuracy beyond traditional eyewitness indicators such as numeric (Wixted & Wells, 2017) and verbal confidence (Grabman et al., 2019). Recent work suggests that accurate and inaccurate memories differ in prosodic properties, with accurate responses tending to be produced more quickly and fluently (Gustafsson et al., 2025; Kantner et al., 2025). However, it remains unclear whether speech characteristics improve predictions of eyewitness identification accuracy beyond established predictors and which method of extracting speech information is most effective. In the present study, 205 participants completed lineup identifications and verbally reported their decisions, confidence, and justifications. We compare acoustic feature extraction (openSMILE), convolutional neural networks (CNNs), and large language model (LLM) analyses of verbal responses. We test whether these measures improve prediction of identification accuracy beyond confidence and decision time. This study evaluates whether and how spoken responses can improve assessments of eyewitness identification accuracy.

6:00-7:30 PM (III-156)

Mechanisms of Long-Term Memory: Effects of Real-World Object Size. TRAVIS JACOBSON, *California State University, Chico*, BO Y. WON, *California State University, Chico* — Previous research has identified several factors that enhance memory for real-world stimuli. In the present study, we investigated whether the real-world size of objects influences long-term memory performance. We hypothesized that larger objects would be remembered better than smaller objects because they typically attract greater attentional resources during visual processing. Participants (N = 40) viewed 300 images of real-world objects, including 150 large objects and 150 small objects, while performing a spatial-position judgment task to maintain attention during encoding. Following a 10-minute break, participants completed a two-alternative forced-choice recognition task in which they were presented with pairs of objects and asked to identify the object that had appeared during the study phase. Contrary to our hypothesis, participants demonstrated significantly better recognition memory for small objects than for large objects. These findings suggest that real-world object size influences memory performance even when all stimuli are presented at the same retinal size. The results further indicate that factors beyond attentional allocation may contribute to the memory advantage observed for small objects.

6:00-7:30 PM (III-157)

When Achievement Goals Converge: Course Predictors and Learning Consequences. ALEXIS M. RICHMOND, *University of Texas at Austin*, VERONICA X. YAN, *University of Texas at Austin* — Students' achievement goals—for performance or for mastery—shape their academic engagement, study strategies, and achievement. In some contexts, mastery and performance can feel like separate goals; in others, they might feel like converging goals. Across two studies (Ns = 492 and 388), we developed new measures of goal convergence and separation to examine: (1) which course features predict goal convergence and (2) how goal orientation relates to study behaviors. Multiple regression analyses showed that

goal convergence was higher in STEM and in-person courses, courses requiring greater active engagement (more in-class work, weekly assignments, exams), and courses rated as more difficult and appealing. These same predictors related to goal separation in the opposite direction (ps < .05). Goal convergence is also positively associated with both passive (e.g., reading, highlighting) and active (e.g., note-taking, retrieval, explanation) study strategies, with stronger associations for active strategies. These findings highlight the importance of examining how achievement goals interact and extend the traditional theory to emphasize the dynamic relationship between mastery and performance goals.

6:00-7:30 PM (III-158)

The Impact of Discussion on Curiosity and Memory. SHANNON MCGILLIVRAY, *Weber State University* — The current experiment examined whether social comparisons and discussion would impact curiosity to learn specific pieces of information, as well as actual memory for that information. Participants were paired with a confederate to ensure consistency of the social experience. The real participant and the confederate were shown trivia questions,and asked to write down their guess and rate how curious they were to know the answer. They were then given time to discuss (or think - control condition) about their guesses, and after rated their confidence as well as their curiosity again,before being shown the correct answer. Next, they discussed (or thought - control condition) about the correct answer to the trivia questions. Approximately one week later the participant was given a surprise memory test. The initial results suggest that discussion increased curiosity, as well as memory performance. This study provides evidence that brief discussions and social interactions can positively impact the learning environment through increased motivation to learn and overall memory performance.

6:00-7:30 PM (III-159)

Rewriting the Past: Can Memory Reconsolidation Break the Cycle of Addiction Relapse? RIYA SHARMA, *Indian Institute of Technology Kharagpur*, RAJLAKSHMI GUHA, *Indian Institute of Technology Kharagpur*, JYOTI KUMAR, *Indian Institute of Technology Dehli* — Relapse remains a major challenge in treating Substance Use Disorders (SUD). Even after prolonged abstinence, environmental cues can trigger intense cravings and drug-seeking behavior. Traditional approaches, such as exposure therapy, attempt to reduce relapse by creating new "safety memories" that suppress conditioned responses. However, these effects are often temporary because the original addiction memory can re-emerge. This review highlights the Retrieval–Extinction (R–E) procedure, which seeks to modify the original addiction memory rather than merely suppress it. The protocol involves a precisely timed two-step process. First, brief exposure to a drug-related cue reactivates the memory and renders it temporarily unstable. After a short delay, typically around 10 minutes, extinction training is delivered. Administering extinction during this reconsolidation window allows new, non-reinforcing information to be integrated into the original memory trace, reducing its influence. The review concludes that the R–E procedure is a promising non-invasive, drug-free strategy for reducing relapse risk. However, its effectiveness depends on strict timing and prediction error to destabilize and successfully update the memory.

6:00-7:30 PM (III-160)

Beyond Unpleasantness: Exploring the Multidimensionality of Task Aversiveness in Procrastination. KALEIGH CLARKE, *University of Colorado Boulder*, AKIRA MIYAKE, *University of Colorado Boulder* — Despite broad consensus that task aversiveness is a central driver of procrastination, it remains underexplored and is often defined simply as how unpleasant a task is perceived to be. This study moves beyond this unidimensional view by examining factors that contribute to perceived task aversiveness and procrastination decisions. Participants evaluated activities commonly associated

with procrastination among undergraduate students (e.g., studying for an exam, doing laundry). For each activity, they rated the applicability of descriptors reflecting perceived effort (e.g., time, energy), task characteristics (e.g., ambiguity), emotional reactions (e.g., boredom, frustration), and perceived value or reward, as well as their tendency to procrastinate. Analyses examined these ratings both at the group level and at the level of individuals and specific activities, providing insight into the multiple factors underlying task aversiveness and the person- and task-specific nature of procrastination.

6:00-7:30 PM (III-161)

A non-monotonic relationship between reward sensitivity and memory performance. SI MA, *Rutgers University*, QIONG ZHANG, *Rutgers University* — People preferentially remember information associated with higher reward. However, individuals vary substantially in their reward selectivity, i.e., the extent to which they prioritize encoding high-value information over low-value information in memory. Prior research has reported conflicting relationships between reward selectivity and memory performance. Some studies find that greater selectivity is associated with more efficient memory encoding and better performance, whereas others identify it as a compensatory mechanism among low-performing individuals. We propose a resource-rational account to reconcile these findings, demonstrating in a computational model that individual differences in reward selectivity can emerge from rational allocation of limited cognitive resources during memory encoding. Individuals with different resource constraints adopt different allocation strategies. This framework explains why reward selectivity can exhibit positive, negative, or null associations with memory performance across individuals and populations.

6:00-7:30 PM (III-162)

Value in the eyes: How changes in pupil diameter and blink rate reflect value-directed memory encoding processes. NATALIA PALLIS HASSANI, *University of California, Los Angeles*, ALAN D. CASTEL, *University of California, Los Angeles*, BARBARA J. KNOWLTON, *University of California, Los Angeles*, JESSE RISSMAN, *University of California, Los Angeles* — Value-directed remembering prioritizes motivationally relevant information, yet its physiological signatures remain unclear. Pupil dilation and spontaneous blink rate offer non-invasive indices of phasic catecholaminergic activity, putatively reflecting arousal (norepinephrine levels) and reward processing (dopamine levels), respectively. We used eye-tracking to examine whether these measures index preparatory value-related processes that support selective memory encoding. Participants (n=60) performed a task in which they encoded 120 pictures and 120 words presented in separate blocks. Each item was preceded by a high or low value cue indicating how many points (linked to bonus payout) could be earned by later remembering that item. Value significantly enhanced next-day recognition memory for both words and pictures. Greater pupil dilation during item anticipation and dynamic changes in blink rate during encoding predicted these value-directed memory improvements across participants. These findings suggest that value-incentivized memory enhancement relies on complementary neuromodulatory influences, integrating preparatory attention with reward-related consolidation benefits.

6:00-7:30 PM (III-163)

Why Students Procrastinate Even in Their Most Exciting Class: Examining the Impact of "Snowballing". ANGEL M. PANAYIOTOU, *University of Colorado Boulder*, JUSTIN A. GLUCK, *University of Colorado Boulder*, KALEIGH CLARKE, *University of Colorado Boulder*, AKIRA MIYAKE, *University of Colorado Boulder* — Although students' motivation often varies across courses, procrastination may increasingly reflect broader academic and non-academic pressures over the course of a semester. The cumulative buildup of these competing de-

mands ("snowballing") is relatively underexamined as a potential explanation for procrastination. This questionnaire study examined whether procrastination behaviors across courses becomes more similar over time and whether snowballing helps explain this convergence. Undergraduate students (N = 295) identified their most and least exciting courses and reported their motivation, procrastination behaviors, and a range of personal and situational factors related to academic delay. Early in the semester, students showed substantially higher motivation in their most exciting course, but procrastination levels later in this semester between the most and least existing courses were strongly correlated (r = .53). This convergence was associated with general procrastination tendencies, snowballing across assignments and responsibilities, and situational pressures. These findings suggest that academic procrastination reflects both trait-level individual differences and the snowballing of competing demands over time.

6:00-7:30 PM (III-164)

The Effects of Informative Algorithmic Cues on Judgements of Learning. LUCAS BETTS, *University of Waterloo*, SKYLAR LAURSEN, *University of Waterloo*, TRENT CASH, *University of Waterloo*, EVAN F. RISKO, *University of Waterloo* — How do learners integrate external algorithmic advice into their metacognitive judgements? We report three experiments wherein participants made judgements of learning (JOLs), while being provided with AI confidence predictions and target words of varying font sizes, critically allowing us to examine how individuals integrated the two cues (i.e., AI judgment and font size). Overall, the font-size effect persisted in all conditions, whereas the AI's impact depended on how the cue was integrated into the task. When the AI prediction was presented on half the trials during the JOL phase, the magnitude of the font-size effect was no different on AI-present and AI-absent trials. However, when AI predictions were presented on each trial and simultaneously with the target word, the AI prediction significantly attenuated the magnitude of the font-size effect compared to a no-AI control. Ultimately, these findings suggest that AI-generated cues can inform our metacognitive judgements, but the effect is sensitive to how that information is provided and, interestingly, it does not simply override other cues.

6:00-7:30 PM (III-165)

Effects of Number of Multiple-Choice Lures on Older and Younger Adults' Recovery of Marginal Knowledge. MAY W. MCCOLLUM, *Colorado State University*, JASON BAO, *Claremont McKenna College*, OTTAVIA CODERONI ROUSSO, *Colby College*, CAITLYN FALKOWSKI, *Colby College*, JENNIFER H. COANE, *Colby College*, SHARDA UMANATH, *Claremont McKenna College* — We investigated the extent to which manipulating the number of multiple-choice lures can affect access to marginal knowledge (MK; information that is available but inaccessible) in younger and older adults. Participants attempted to answer 96 age-normed general knowledge questions (GKQs). When unable to answer, they selected one of four behaviorally validated phenomenological retrieval failure experiences, ranging from tip-of-the-tongues to unavailable information. Next, participants took a multiple-choice test containing the same GKQs with 0, 3, or 6 alternatives without feedback. After 6 minutes, 3 days, or 1 week, participants were retested on the GKQs in a short-answer format; GKQs initially identified as inaccessible but answered correctly at retest can be considered recovered MK. Our results replicate previous research demonstrating that MK recovery systematically varies as a function of initial retrieval failure experience. Notably, 3 alternatives were generally more beneficial than 0 or 6 alternatives for recovering MK. Additionally, older adults were better than younger adults at identifying proximity to retrieval success.

6:00-7:30 PM (III-166)

Communities of knowledge: do source credibility and ease of access matter? KATJA F. WIEMER, *Northern Illinois University*, REBECCA DEFAMIO, *Northern Illinois University*, JUSTINE RIVARD, *Northern Illinois University* — Individuals rate their understanding of unexplained phenomena higher when told that an expert understands the phenomenon (e.g. Sloman & Rabb, 2016). This effect is explained by transactive memory systems (Wegner, 1987) according to which we rely on access to external memory (such as the community) for most knowledge. Critically, for this to work, external knowledge has to be accessible. Indeed, the effect is eliminated if external knowledge is presented as inaccessible (Ostinelli & Bonezzi, 2026; Sloman & Rabb, 2016). In our replication, we found that perceived ease of access, comparing easily accessible to difficult to access sources, did not reduce the community of knowledge effect. Additionally, we found no effect of the credibility of the source (expert vs. random individual). While replicating the community of knowledge effect, access and credibility only affected rated understanding in the control group. Implications for the community of knowledge effect are discussed.

6:00-7:30 PM (III-167)

The Influence of Familiarity and Metamemory Judgment on Recall Performance of Auditory Presented Words. HARUNA INOUE, *Koshien University*, TETSUYA FUJITA, *Hosei University* — Inoue & Fujita (2025) manipulated speech naturalness by adding or removing inflection from synthesized voices and examined its effects on judgments of learning (JOLs) and memory performance. Inflection had no significant effect on either measure. In contrast, highly familiar words received higher JOLs than moderately familiar words, whereas recall performance showed the opposite pattern. Participants may have compensated for low JOLs by applying additional encoding to less familiar items. To test this interpretation, we replaced JOLs with Ease of Learning (EOLs) judgments and obtained the same pattern as in Inoue & Fujita (2025). Next, in an intentional learning condition without JOL or EOL judgments during encoding, free recall performance was higher for moderately familiar items than for highly familiar items. Auditory presentation may encourage additional encoding, such as visualizing a word's spelling, particularly for less familiar items.

6:00-7:30 PM (III-168)

Judgments of Learning Improve Multiple-Choice Test Performance through Covert Retrieval. NICHOLAS P. MAXWELL, *Midwestern State University* — Judgments of learning (JOLs) have been repeatedly shown to improve cued-recall of word pairs. Recently, Maxwell and Adkins (2026) found that JOLs also improve text passage learning but only when memory is assessed via multiple-choice tests. The present study provided a further test of JOL reactivity on text passage learning while also exploring two potential mechanisms that may drive this effect: Covert retrieval and enhanced elaboration. Experiment 1 sought to replicate Maxwell and Adkins' findings for target-absent JOLs while holding encoding time constant between groups. Experiment 2 then compared JOLs to an overt retrieval task, while Experiment 3 compared JOLs and overt retrieval when participants were tested on prompted and unprompted items. Findings across experiments replicated previous work showing that target-absent JOLs can improve multiple-choice recognition of text passage concepts. Consistent with a covert retrieval account, multiple-choice recognition for unprompted items in Experiment 3 did not differ between the JOL and overt retrieval groups. These results provide additional evidence that JOLs can improve learning of educationally relevant stimuli while also suggesting that covert retrieval may drive this effect.

6:00-7:30 PM (III-169)

Learning Style Beliefs and Metacognitive Monitoring Across Visual and Verbal Study Items. AMANDA R. STEVENS, *Tarleton State University*, BEAU D. PURDOM, *Tarleton State University*, NEVAEH MACKEY-UNDERWOOD, *Tarleton State University* — Many students and educators continue

to believe that learning improves when instructional materials match a learner's preferred modality (i.e., the meshing hypothesis of learning styles), yet empirical support for the notion remains limited. This belief may shape how learners evaluate their own learning, even when it does not necessarily improve objective performance. The present study examined how beliefs about learning styles relate to metacognitive judgments and recognition memory for realistic educational materials. Participants studied statistical statements presented either verbally (as text) or visually (as charts and graphs). They then completed an old/new recognition task. In addition, participants provided several types of metacognitive judgments about the study stimuli, including global predictions made prior to studying, judgments of learning during study, confidence judgments during retrieval, and post-task performance estimates. Findings suggest that learning style beliefs may influence metacognitive monitoring in ways that vary across judgment type, highlighting the importance of distinguishing among different forms of metacognitive assessment in learning contexts.

6:00-7:30 PM (III-170)

Verbal Justifications and Numeric Confidence Ratings and as Indicators of Memory during Middle Childhood. MINOTI KARNIK, *University of Colorado Colorado Springs*, MODICA JIMENEZ, *University of Colorado Colorado Springs*, CLAY POLLOCK, *University of Colorado Colorado Springs*, IAN G. DOBBINS, *Washington University in St. Louis*, DIANA SELMECZY, *University of Colorado Colorado Springs* — Metamemory is often measured by examining how well numeric confidence ratings correlate with memory accuracy. However, recent research in adults suggests that examining metamemory through verbal justifications (using language classifiers) provides additional unique information that can predict memory performance above and beyond confidence ratings. The current study examined whether similar findings occur during childhood, when metamemory and language are experiencing ongoing development and refinement. Children aged 8 to 13 (N=112) completed a face recognition task and provided both retrospective confidence ratings (on a scale of 1 "not so sure" – 5 "really sure") and verbal justifications (verbal explanations of selected responses). Results show that language classifiers applied to children's verbal reports reliably predicted memory accuracy in children. Furthermore, both verbal classifiers and confidence ratings uniquely predicted memory accuracy. Overall, these results suggest verbal reports and confidence are both informative in predicting children's memory, and language classifiers are a promising method to measure metacognition in children. Keywords: development, metamemory, verbal justifications, confidence ratings

6:00-7:30 PM (III-171)

Positive Judgment of Learning Reactivity for Negative Faces but not for Positive Faces. MORGAN O. LEMLER, *Trinity University*, MINYU CHANG, *Trinity University*, DANIEL M. BIALER, *University of Arkansas* — Making judgments of learning (JOLs) can sometimes directly modify future memory, which is termed JOL reactivity. Recently, Guo et al. (2025) found positive reactivity for negative faces but not for positive faces. They interpreted the finding as support for the changed-goal hypothesis, which assumes that making JOLs highlights item differences in learning difficulty, thereby prompting people to become more performance-oriented and to focus more on items perceived as easier (e.g., negative faces) rather than on items perceived as harder (e.g., positive faces). While Guo et al. manipulated face emotion within participants, we used a between-participant design, which minimizes incentives to change learning goals. We replicated the finding of positive reactivity for negative faces but not for positive faces, suggesting that this finding cannot be explained by the changed-goal hypothesis. Instead, the current findings are consistent with the elaborative processing account, which assumes that making JOLs enhances elaborative processing. Because positive faces are processed more elaborately than negative faces, this account posits that JOLs should provide a weaker benefit for positive faces than for negative faces.

6:00-7:30 PM (III-172)

Orthogonal Stimulus-Response Compatibility Effects in Three-Dimensional Space. JAMES MILES, *California State University, Long Beach*, KIM-PHUONG VU, *California State University, Long Beach* — Stimulus-response compatibility (SRC) effects, in which responses are faster and more accurate when stimulus and response locations spatially correspond, are thought to reflect shared spatial coding between perception and action. SRC effects are commonly examined along the horizontal dimension but also occur for the vertical dimension and for orthogonal stimulus-response pairings. In the present research, we extended SRC effects across horizontal, vertical, and depth dimensions using embodied responses in virtual reality. Participants performed a two-choice task in which targets were aligned horizontally, vertically, or in depth. Responses were made using hand positions aligned along one of the three spatial dimensions, allowing examination of every combination of stimulus dimension, response dimension, and stimulus-response mapping. Results revealed robust compatibility effects when stimulus and response dimensions matched. Vertical-horizontal orthogonal compatibility effects were consistent with prior real-world findings; however, we also discovered novel orthogonal compatibility effects involving depth. Findings are interpreted in relation to Polarity Correspondence theory, salience coding, and embodied cognition.

6:00-7:30 PM (III-173)

Incidental Remembering of Hand-Held Object Properties Specified by Different Invariants. JEFFREY WAGMAN, *Illinois State University*, SANAKO HISHINUMA, *Illinois State University*, JILLIAN MCCAULIFFE, *Illinois State University*, BRANDON THOMAS, *University of Wisconsin - Whitewater* — Many everyday tasks require hefting and wielding objects. Perceiving different properties of a hand-held object requires sensitivity to different components of its rotational inertia. Previous research has shown that when an individual attends to length of a wielded object, they incidentally remember heaviness because perceiving either property requires sensitivity to the same component of the inertia tensor. Here, we investigated whether such incidental remembering occurs when perceiving two different properties of a given hand-held object requires sensitivity to different components of the inertia tensor. Participants wielded an object and reported perceived grasp position on that object. Then, when they were no longer wielding the object, they recalled its heaviness. Participants incidentally remembered heaviness under conditions in which they attended to the invariant that supports perceiving both properties but not under conditions in which they attend to different invariants. This confirms the findings of previous research and suggests that remembering a given property of a hand-held object – like perceiving a given property of a hand-held object —requires selective sensitivity to invariant mechanical properties.

6:00-7:30 PM (III-174)

Walking in Space and Time: Locomotor recalibration influences both spatial and temporal judgments of walking. EMMA BUTNER, *University of Utah*, SARAH H. CREEM-REGEHR, *University of Utah*, JEANINE K. STEFANUCCI, *University of Utah* — Space and time are inseparable during locomotion, yet perceptual-motor recalibration has not been measured across both dimensions simultaneously. We asked whether adapting to a visual-motor mismatch recalibrates both spatial and temporal judgments of walking. [s15.1]Participants (N=57) walked in immersive virtual reality with optic flow manipulated to be faster (2.0x) or slower (0.5x) than their biomechanical walking speed. Before and after adaptation, they completed blind walking to a remembered target (spatial measure) and reproduced the duration of each walk (temporal measure). Both dimensions recalibrated in the same direction: slow flow led to overestimation of distance (+8.26%, p=0.005) and duration (+7.30%, p=0.001) relative to their pre-test; fast flow led to underestimation of distance (-2.87%, p< 0.001) and duration (-7.40%, p=0.03[s16.1]). Correlations between space and time magnitudes of recalibration were significant at pre-test (r=0.40, p=0.002) and post-test (r=0.27, p=0.04) and did not significantly change (p=0.25).

These findings provide evidence that locomotor recalibration influences space and time judgments relevant to walking at comparable magnitudes, supporting a unified recalibration mechanism.

6:00-7:30 PM (III-175)

Do Perceived Action Durations Relate to the Sense of Agency? CORY POTTS, *State University of New York at Plattsburgh*, ROBRECHT VAN DER WEL, *Rutgers University*, PERNILLE HEMMER, *Rutgers University* — Sense of agency (SoA) refers to the experience of control over one's actions and their outcomes and is a core component of the self. SoA is often measured using explicit ratings or temporal binding, the compression of perceived action-outcome intervals, both of which have received criticism. We tested a novel measure: distortions in perceived action duration as a function of action difficulty. Across two experiments, participants clicked targets varying in aiming difficulty and either reproduced the perceived action duration or reported perceived control. Experiment 2 included passive trials where cursor movement was externally controlled. Perceived action durations followed a regression-to-the-mean pattern, which was amplified during self-generated relative to passive conditions, consistent with greater reliance on prior expectations during action production. Although this pattern distinguished self-generated from externally controlled movements, perceived action durations showed limited correspondence with ratings of control, providing limited support for their use as an index of agency.

6:00-7:30 PM (III-176)

Effects of Physical Effort on Temporal Processing. LI YANG, *University of California, Riverside* — Physical effort and temporal processing often interact in daily activities. This study examined how a simple form of physical effort, isometric handgrip, influences time perception using concurrent handgrip and time reproduction/production tasks. According to the arousal hypothesis, handgrip-induced arousal should accelerate temporal processing, leading to overestimation when sensory timing occurs under effort and underestimation when motor timing occurs under effort. In contrast, the competition hypothesis predicts that handgrip should impair temporal processing by competing for attention, producing the opposite pattern. Results show that high physical effort increased estimated durations in time reproduction tasks when sensory timing occurred under handgrip (Experiments 1–2), but decreased estimated durations in a time production task when motor timing occurred under handgrip (Experiment 4). These findings support the arousal hypothesis. Two additional experiments ruled out alternative account (i.e., response bias). Overall, physical effort distorts perceived time, likely by increasing arousal and accelerating temporal processing.

6:00-7:30 PM (III-177)

Tracking Objects or Features? Binding Dynamic Uni- and Multisensory Stimuli in Transient Episodic Representations. SIHAN HE, *University of Toronto*, JAY PRATT, *University of Toronto* — Our brain binds perceptual inputs and the response made to them into an episodic representation known as an event file (EF). Unlike long-term event memories, EFs are formed rapidly from single episodes and operate within a limited temporal binding window, typically integrating stimuli that occur close together in space and time. However, objects in our environment are dynamic, raising an important question: Do EFs integrate changing object states over time or only the object features present at the moment of action? To address this, we conducted a series of experiments with dynamic stimuli. In Exp1, a visual stimulus changed color after the response was made, and we found that only the post-change color was integrated into the EF. In two following experiments, we examined dynamic stimuli consisting of audiovisual and visual states presented in different temporal orders and observed different integration patterns, including reduced integration of sound-related states. These findings suggest that EFs may dynamically update object representations rather than merely encode a static feature snapshot, although this process may vary when multiple sensory modalities are involved.

6:00-7:30 PM (III-178)

Accurate to a Degree: The Body Tilt Illusion is Not Due to a Poor Understanding of Angles. SOPHIA R. BAIA, *Arizona State University*, MICHAEL K. MCBEATH, *Arizona State University* — INTRODUCTION: The body tilt illusion is a proprioceptive illusion where people judge they are tilted farther than actual. Research supports that the illusion protects against more costly falls such as when one cannot see or is tilted sideways. However, it remains unanswered if the illusion is merely a reflection of people's poor understanding of angles. METHODS: In this study, angle judgments on a graph were collected from 335 college students. A subset (N=19) of these participants also completed body tilting trials on a human-sized 3D gimbal where they were tasked with identifying when they felt they were tilted at 45° in various directions. RESULTS: Results indicate that participants have an accurate understanding and awareness of 45° on a graph in both the full sample of participants and the subset who were also tilted. On average judgements were within 1.81° of 45°. Results of the subset who were tilted replicated previous studies with participants experiencing a significant body tilt illusion, averaging 18.00° overestimation. DISCUSSION: Taken together, these results support that people in general have an accurate understanding of 45° and that the body tilt illusion is not the product of a poor understanding of angles.

6:00-7:30 PM (III-179)

Pressure, Performance, and Sense of Agency: An Investigation of Sense of Agency and Task Accuracy Under High Stakes. AMIR LINDOR, *Rutgers University*, PERNILLE HEMMER, *Rutgers University*, ROBRECHT VAN DER WEL, *Rutgers University* — In this novel study we characterize factors that modulate sense of agency (SoA), defined as the feeling of control over one's voluntary actions and their outcomes. We assessed individuals' trait locus of control and state anxiety and manipulate task difficulty to evaluate whether internal traits are stronger modulates of SoA versus external performance pressure. We employed a novel task where participants press a button to stop a moving dot on a target. We manipulated the dot speed, time pressure to complete the task, and incentivized performance. We found that manipulating difficulty (faster dot speed) produced more failures and was predictive of lower explicit SoA ratings. Furthermore, SoA scores were boosted by receiving a high reward on success trials. This suggests a postdictive evaluation –increasing post-hoc feelings of control (not performance) when incentivized for success. Increasing anxiety was negatively correlated with SoA rating for failure in all manipulations.

6:00-7:30 PM (III-180)

Light-vehicle drivers' time-to-arrival judgments for truck platoons approaching an intersection. ALEKSEI PROSKURIN, *Texas Tech University*, ERIC GREENLEE, *Texas Tech University* — This poster examines how light-vehicle drivers estimate time-to-arrival for different truck platoon configurations. Truck platooning involves coordinated operation of multiple trucks using connected and automated vehicle (CAV) technologies, such as cooperative cruise control, to reduce fuel consumption, emissions, and aerodynamic drag. However, little is known about how drivers judge the arrival time of truck platoons at intersections. In this study, participants (N = 23) acted as drivers of a partially automated vehicle traveling at 50 mph toward a four-way intersection 2,500 feet ahead. Truck platoons traveling at the same speed approached from the left or right. Platoons varied in the number of trucks and intervehicle distances. Each platoon was visible for 3 seconds and disappeared 3 seconds before reaching the intersection. Participants pressed a key when they believed the trucks would enter the intersection, assuming constant speed. Results showed that intervehicle distance had a stronger effect on underestimation of time-to-arrival ($F(1.93, 87.08) = 7.79$, $p < .001$, $\eta p2 = .148$) than platoon size ($F(1, 22) = 1.81$, $p = .182$, $\eta p2 = .02$).

6:00-7:30 PM (III-181)

Virtual Self-Location and Pre-Interval Locomotion Influence Subjective Time During Navigation. TRISTEN ROUSSELL, *University of Arizona*, EVE A. ISHAM, *University of Arizona*, ARNE D. EKSTROM, *University of Arizona* — The experience of time is shaped by attention, embodiment, and sensorimotor context. Prior work suggests that virtual embodiment can compress subjective time, but less is known about how self-location and locomotor context influence timing during navigation. Participants completed a repeated-measures virtual navigation task in which they moved through a T-maze from either a first-person perspective (1PP) or third-person perspective (3PP). Variable starting positions were also added to manipulate locomotion before the timed interval. After passing through two doorways, participants reproduced half of the perceived interval between them. Results showed that 1PP produced greater temporal underestimation than 3PP, suggesting that feeling more spatially located within the virtual body compressed subjective time. Duration also produced a central tendency effect, with short intervals overestimated relative to underestimated long intervals. Critically, intervals were reproduced as longer after farther pre-interval travel, even though that movement occurred outside the instructed timing window. These findings suggest that timing during navigation reflects the broader locomotor episode rather than an isolated interval alone.

6:00-7:30 PM (III-182)

Order and Magnitude Effects of Action Failures During Sequence Production on the Sense of Agency. SHANGFU ZUO, *Rutgers University*, PERNILLE HEMMER, *Rutgers University*, ROBRECHT VAN DER WEL, *Rutgers University* — The sense of agency (SoA) is the feeling of controlling one's own actions and their outcomes (Haggard, 2017; Chang & Wen, 2026). Little is known about how SoA arises during action sequences that vary in gaining or losing control. Here, we tested the effect of increasing and decreasing failure on SoA. Participants moved a black dot to one of four prompted green target locations using arrow keys. We parametrically varied the probability of the dot moving to the correct target. Participants completed 3 conditions in blocks of trials: increasing control (decreasing failure), decreasing control (increasing failure), and random control levels. We controlled the order of conditions across participants. Participants provided an explicit SoA rating on a slider scale between 0 to 10 after each block. We found that participants' SoA rating decreased nonlinearly following a power law when failure increased over blocks first. They then regained SoA exponentially afterwards. For the reverse order (i.e., when participants first gained control over blocks), their SoA rating increased linearly and close to optimally, followed by a linear decrease in SoA when they then lost control. Our results show an effect akin to loss aversion for SoA.

6:00-7:30 PM (III-183)

Investigating the relationship between working memory and rhythm perception. BAILEY RANN 🎗️, *Michigan State University*, DEVIN DEVIN MCAULEY, *Michigan State University* — In the timing literature, there is a well-established theoretical distinction between automatic beat-based timing and working-memory (WM) dependent interval-based timing. Recently, we investigated the relationship between rhythm discrimination and WM in adults who stutter (AWS) and typical adults. Findings revealed a stronger relationship between WM and auditory rhythm discrimination in AWS compared to typical adults. One potential reason for this finding is that AWS may have an impaired ability to engage in beat-based timing and rather, rely on distinct WM-dependent interval-based timing to discriminate rhythms. In the current study, we investigated potential factors that may mediate the role of WM in rhythm perception in typical adults (i.e., rhythm complexity). As rhythms increase in complexity, the automaticity of beat-based timing may become more challenging, leading to greater reliance on WM-dependent interval-based timing. Paralleling findings in AWS, we found a stronger correlation between WM and rhythm discrimination for complex rhythms compared to simple rhythms.

6:00-7:30 PM (III-184)

Multivariate decoding of electrophysiological activity suggests a post-perceptual locus of working memory gating. BRECKEN T. MAROME, *University of Chicago*, HENRY M. JONES, *University of Chicago*, WILLIAM THYER, *University of Chicago*, EDWARD AWH, *University of Chicago* — Visual working memory (WM) is an online memory system that holds relevant information in a readily accessible state. Given sharp capacity limits, effective WM gating, in which distractors are blocked from storage, is critical. Here, we present evidence WM gating occurs during post-perceptual stages of processing, where discrimination of target/distractor status precedes encoding. We recorded EEG while observers performed a visual WM task in which each trial contained either one target and one distractor (load 1) or two targets (load 2), with target/distractor featural similarity parametrically varied. A multivariate classifier trained to distinguish load 1 from load 2 based on EEG patterns succeeded as early as ~150 ms after sample onset. As distractors grew more visually similar to targets, distractors were more likely to be encoded into WM. Critically, even with the most visually similar distractors, WM storage was often precluded, consistent with a post-perceptual locus of WM gating. Follow-up work extends this approach using lexical and semantic discriminations to further probe the boundary conditions of post-perceptual WM gating.

6:00-7:30 PM (III-185)

Early Planning of Form and Content in Language Production. CATHERINE M. BROUSSE, *Florida State University*, FARHANA ANISHA, *Florida State University*, MICHAEL P. KASCHAK, *Florida State University* — Early form accounts of language production suggest that speakers plan both the form and content of their response as early as possible. Late form accounts suggest that speakers delay planning the form of their response until closer to their turn to speak. Support for both accounts is found in the literature, raising the possibility that the time at which form is planned might reflect the demands of the current speaking environment. We examined this possibility in an experiment where participants had to answer trivia questions. The key information for determining the answer could be provided early in the question (promoting early planning of form) or late in the question (promoting late planning of form). The context of the experiment (the proportion and timing of the early-information or late-information questions in the session) affected the time required to answer the questions, suggesting that speakers may be flexible in when they plan the form of their responses.

6:00-7:30 PM (III-186)

Individualized Functional Localization of Channels and Time Windows Improves N400 Detection. OLESSIA JOURAVLEV, *Carleton University*, NAYNA KIRUBAKAR, *Carleton University* — Individual differences in brain function are often overlooked in ERP research. Traditional ERP analyses average activity across participants, assuming that brain responses occur at the same scalp location and time in all individuals. This approach obscures variability in neurocognitive functioning. To address this limitation, fMRI researchers use the method of functional localization, where regions involved in a cognitive process are identified for each participant using a localizer task and only then responses of these regions to a critical task are examined. We applied this logic to the N400 ERP component. To functionally isolate channels of interest (fCOI) and times of interest (fTOI) in each participant, we asked participants to do a language localizer task (read sentences or nonwords). Channels and time-windows with greater activity for the Sentence>Nonword contrast were selected as language-relevant. Then, participants read semantically plausible/implausible sentences. The N400 amplitudes were retrieved using the novel fCOI/fTOI method and the traditional method. N400 was larger with the fCOI/fTOI approach, demonstrating that functional localization can be applied to ERPs and improves sensitivity to individual differences.

Poster Session IV

Saturday, November 21, 2026, 12:00-1:30 PM PST

12:00-1:30 PM (IV-001)

Gender Differences in Emotionally Valenced Mind-Wandering. KELSEY ALTSCHUL, *Nova Southeastern University*, MACI SEIFERT, *Nova Southeastern University*, LAYA TAMMINEEDI, *Nova Southeastern University*, MATTHEW WELHAF, *North Carolina Agricultural and Technical State University*, JONATHAN B. BANKS, *Nova Southeastern University* — Frequency of experiencing mind-wandering, defined as task-unrelated thoughts (TUTs), has been linked to several factors, but the impact of gender on TUT rate has not been explored. We investigated how gender influences the frequency of emotionally valenced TUTs and if gender moderates the impact of emotionally valenced TUTs on task performance. We hypothesized that (1) females would exhibit higher rates of negatively valenced TUTs, but not neutral or positively valenced TUTs, compared to males and (2) that negatively valenced TUTs would have a greater association with performance in females relative to males. A meta-analysis across 14 studies (Total N = 2,413) in which TUTs were assessed in sustained attention and working memory tasks, revealed a significant difference in negatively valenced TUTs between males and females, with females reporting higher rates of negatively valenced TUTs than males (Standardized Mean Difference = 0.17). Negatively and positively valenced TUTs were associated with males' performance, while all three types of TUTs were associated with females' performance. Our findings suggest that gender differences in TUTs exist, emphasizing the need for further research on their effects on attention and cognition.

12:00-1:30 PM (IV-002)

Measuring Attentional Flexibility in Dynamic Environments. JULIE Y. L. CHOW, *University of New South Wales*, KELLY GARNER, *University of New South Wales*, BEN R. NEWELL, *University of New South Wales*, MIKE LE PELLEY, *University of New South Wales* — The capacity to update attentional priorities in changing environments is a key component of adaptive behavior. Yet, existing assessments of attentional control, such as the Stroop, Flanker, and Simon tasks, are largely static; the same task is performed repeatedly with no requirement to adapt priorities over time. Whether such measures predict attentional flexibility when task contingencies change and must be learned from experience remains unknown. To test this, participants performed a target detection task where color cues signalled high and low reward values. The cue-reward contingency was then reversed, such that previously high-value cues became low-value and vice versa. This reversal was repeated across multiple color pairs, providing a reliable estimate of the speed and extent to which attentional priorities update in response to current contingencies. Performance on this attentional-updating index was compared with a battery of static attentional control tasks to determine the correspondence between static and adaptive control. This approach has the potential to reveal a dimension of attentional control not captured by existing batteries: the ability to update, rather than merely maintain, attentional priorities.

12:00-1:30 PM (IV-003)

Temporal Search in the Attentional Blink when Target Order is (or is not) Known. MATTHEW JUNKER, *University of Colorado Boulder*, DAVID E. HUBER, *University of Colorado Boulder* — RSVP attentional blink tasks commonly involve a form of task-switch, with a known order to the two tasks (e.g., look for a white letter among a stream of black letters, then look for a black X), or else they involve searching for any two items from a known target category (e.g., any letter, but not numbers). To investigate the difference between these two forms of the attentional blink, we used a paradigm in which

the target set was the same two letters throughout the experiment, interspersed in a stream of the other letters. In one experiment, the two letters appeared in a fixed order, which is similar to a task-switching attentional blink. In a second experiment, the two target letters could be in either order. Even though the two letters were not a known category prior to the experiment, both experiments produced an attentional blink effect (temporary deficit for the second target). However, the magnitude of "lag 1 sparing" (preserved second target accuracy for back-to-back targets) was notably larger when the target order was unknown. This suggests that the two paradigms involve somewhat different processes and it also provides evidence that a target category can be learned when target order is unknown.

12:00-1:30 PM (IV-004)

What are you looking at? The Illusory Hollow-Face Mask Fails to Redirect Attention. TIMOTHY N. WELSH, *University of Toronto*, APRIL KARLINSKY, *California State University, San Bernardino*, ALAN KINGSTONE, *University of British Columbia*, XIAOYE MICHAEL WANG, *University of Toronto* — Previous research has shown that observing another person's gaze not only increases the salience of gazed-at objects, but also the salience of objects on the same side of space and at the same depth as the gazed-at object. In earlier work, participants viewed a centrally located head surrounded by four spheres arranged at the corners of a square. When the head rotated to gaze toward one object, RTs were shortest at the gazed-at location, longest at the diagonally opposite location, and intermediate at locations either on the same side or at the same depth as the gazed-at object. The present study used the hollow mask illusion to dissociate the physical direction of head rotation from the apparent direction of gaze. A centrally-located hollow mask rotated toward one of four objects. When the mask rotated towards a far object, the illusion caused the perceived direction of rotation to reverse, making the mask appear to gaze at a near object. Despite this illusory gaze direction, RTs were shortest at the physically cued location rather than the illusion-defined location. These findings suggest that the physical extent of head rotation influenced attentional orienting more strongly than the illusory perception of gaze direction.

12:00-1:30 PM (IV-005)

Inhibition In Motion: Test-Retest Reliability Of Inhibitory Kinematics In A Go/No-go Mouse Tracking Task. DEVU MAHESAN, *University of Greifswald*, KOMAL SHARMA, *Indian Institute of Technology*, MAIKE KATHARINA WEINERTH, *University Medicine Greifswald*, SUMAN DHAKA, *Indian Institute of Technology*, MARCUS MEINZER, *University Medicine Greifswald*, RICO FISCHER, *University of Greifswald* — Response inhibition, the ability to suppress contextually inappropriate actions, is a cornerstone of cognitive control, commonly assessed via the go/no-go task. Traditional paradigms rely on binary outcomes such as commission errors, offering limited insight into the graded behavioral adjustments underlying successful stopping. The present study developed a novel mouse-tracking go/no-go paradigm with a dynamic start to capture inhibitory processes during ongoing execution. Twenty-three healthy young adults completed the task across two sessions (~one week apart) to evaluate test-retest reliability of standard measures (error rates, reaction times) and three kinematic features: path length, mean velocity, and mean acceleration. Go and no-go trials differed robustly across all measures; successful inhibition was marked by shorter path lengths and reduced velocity and acceleration. All measures showed moderate-to-good reliability (ICC = .59–.85). These findings establish construct validity and psychometric reliability of the paradigm, providing a methodological foundation for its use in cross-sectional, longitudinal, and intervention research on inhibitory control.

12:00-1:30 PM (IV-006)

Examining Cognitive Control Functions in Relation to Problematic Smartphone Use Using Go/NoGo Performance and fNIRS. OLIVIA BEREZA, *Villanova University*, CHRIS ANDRAOS, *Villanova University*, DANIELLA VASQUEZ, *Villanova University*, AVA GOYAL, *Villanova University*, ANNA B. DRUMMEY, *Villanova University*,

IRENE P. KAN, *Villanova University*, MUHAMMAD A. QADRI, *Villanova University* — Previous work has shown that excessive smartphone use may be associated with differences in cognitive control. We examined this association with both behavioral and neural measures. We used the Go/NoGo task to index cognitive control and the Smartphone Addiction Scale to estimate behavioral reliance on smartphones and the extent to which smartphone use disrupts daily activities (e.g., "missing planned work due to smartphone use"; "feeling impatient and fretful when I am not using it"). Participants' neural response on the Go/NoGo task was measured with functional Near-Infrared Spectroscopy (fNIRS). We found that as problematic smartphone behavior increases, response times during Go blocks increases, but that pattern was not observed during NoGo blocks. Moreover, we did not find evidence of changes in oxygenated hemoglobin levels across task conditions (Go vs. NoGo) or individual differences in smartphone reliance. Finally, we conducted a time course analysis to examine potential differences in neural response dynamics during the Go/NoGo task.

12:00-1:30 PM (IV-007)

The acute effect of short form video content on components of attention. ANTHONY R. STENSON, *Eastern Oregon University*, COURTNEY A. KURINEC, *Washington State University* — Many young adults have a daily habit of consuming short-form video (SFV) content on platforms (e.g. TikTok). The relatively brief presentation of algorithmically driven, and often emotionally laden, content has raised concerns about the impact of SFV on attention and executive control. Much of the past work looking at the relationship between SFV content and components of cognition has used self-report or correlational designs instead of experimental investigations. To explore the extent that SFV content influences attention, we randomly assigned participants to either a SFV or content equivalent reading condition. Participants were exposed to each type of content for 10 minutes prior to completing the attention network task (ANT) and a novel task assessing flexible use of attentional control. These tasks allow for assessment of components of both top-down and bottom-up control. We found that SFV content appeared to alter both the orienting and executive control network within the ANT as well as reduced scores on an interference index during the novel attentional control task. Taken together these findings suggest that even brief exposure to SFV content may result in a diminished capacity to effectively utilize executive control.

12:00-1:30 PM (IV-008)

Social Feedback and Positive Emotion in Children's Cognitive Control: The SELFICON Project. LAOURA ZIAKA, *University of Stavanger*, DIEUWER TEN BRAAK, *University of Stavanger* — In the Self-Regulation in Context project (SELFICON), we move away from traditional views of executive function (EF) as a fixed trait by focusing on children's state-like adaptivity within real-life contexts. Focusing on first graders, we present a protocol examining whether social feedback and priming increase cognitive control using eye-tracking and three conditions: neutral feedback/teacher-led social feedback/social positive-emotion priming. Children complete three cognitive-control tasks: the Fruit-Stroop, the standard Flanker Fish, and a child adaptation of the squared flanker task (Burgoyne et al., 2023), plus an antisaccade task as baseline. Working memory (WM) will also be assessed. Dependent variables include physiological measures (pupil size, dwell time, blink rate) to assess EF engagement and behavioral measures (response time, error rate) to assess EF performance. Social conditions are hypothesized to enhance EF engagement and performance. A second aim is to investigate whether the squared flanker task correlates more strongly with WM tasks, academic achievement, and teacher-rated cognitive control than the other tasks due to its multi-item, multitasking nature, which aligns it more closely with real-life situations.

12:00-1:30 PM (IV-009)

Meditation Expertise and Sustained Attention During Prolonged Engagement. CHANDAN SRIVASTAVA, *Indian Institute of Technology Bombay*, JAMIE A. O'REILLY, *King Mongkut's Institute of Technology*, RASHMI GUPTA, *Indian Institute of Technology Bombay* — Can meditation training help sustain attention during prolonged engagement? Although prior studies have reported improved attentional states during a single meditation session, they have not examined how these states evolve with increasing meditation duration. To investigate this, EEG power was compared between expert and novice meditators (n = 52) across progressively longer meditation blocks ranging from 1 to 5 minutes. Psychometric ratings of meditation depth, attention, and tiredness were also obtained after each block using a Likert scale. Results in the alpha band showed functional inhibition over the posterior parietal region, with alpha power increasing until the middle blocks and then declining in both groups. However, only experts showed an increase in frontal theta and gamma power ($p < 0.01$) in later blocks compared to initial blocks, reflecting enhanced attentional monitoring and sustained attention. Psychometric reports also indicated greater overall sustained attention and mediation depth among experts than novices across blocks.

12:00-1:30 PM (IV-010)

When the Evaluator is a Robot: Order-Dependent Modulations of Stroop Performance Under Robotic Presence. PABLO CROIZET, *Université Clermont Auvergne; LAPSCO CNRS UMR 6024*, CLÉMENT BELLETIER, *Institut Universitaire de France; Université Clermont Auvergne; CNRS*, LUDOVIC FERRAND, *Université Clermont Auvergne, CNRS* — What does it take to turn a machine into a socially meaningful agent capable of shaping the cognitive processes we use to regulate behavior? This study investigated whether the evaluative presence of a humanoid robot modulates Stroop interference, an index of inhibitory control known to be sensitive to human presence. Eighty participants completed the Stroop task in two counterbalanced sessions, alone versus with the robot, which was progressively scripted to exert, block after block, increasing social pressure through upward comparisons and disparaging remarks. No global effect emerged. However, Stroop performance was modulated across blocks, peaking after the robot's most threatening remark. Critically, this effect reversed depending on session order: participants tested alone first were faster in the presence of the robot, whereas those starting with the robot were slower in its presence than when alone. These findings point to a dynamic, context-dependent view of cognitive control shaped by task episodes.

12:00-1:30 PM (IV-011)

Effects of Univalent and Bivalent Stimulus Sets on Task Switching. KALYANI DATTA, *University of Iowa*, ELIOT HAZELTINE, *University of Iowa* — Cognitive control requires maintaining task representations while flexibly switching between tasks. We investigated how overlap between relevant and irrelevant stimulus features influences task representations using a cued task-switching paradigm. Participants switched between 3-choice color and shape tasks, and the stimulus valence was manipulated within subjects. In the univalent condition, the irrelevant stimulus feature was not associated with a response. In the bivalent condition, both stimulus features were associated with responses, creating congruent and incongruent stimuli. Task structure, stimuli, and responses were otherwise identical across conditions. Reaction times were shorter overall in the univalent condition, but switch costs were larger than in the bivalent condition. Within the bivalent condition, there was an effect of congruency, but this did not interact with switching. These findings suggest that univalent stimuli may promote more distinct task representations compared to bivalent stimuli, thereby increasing switch costs.

12:00-1:30 PM (IV-012)

Visual Signatures of Mathematics Anxiety During Arithmetic Problem Solving. JOANNA LEWIS, *University of Northern Colorado*, CATERINA B. AZZARELLO, *University of Northern Colorado*, GULDEN KARAKOK, *University of Northern Colorado*, MOLLY JAMESON, *University of Strathclyde*, KRISTIN KANG, *University of Northern Colorado*, KATHERINE MORRISON, *University of Northern Colorado* — High math anxiety (MA) is associated with worse mathematical performance, but its influence on visual information processing remains inadequately understood. We examined whether MA is related to eye-movement behaviors during arithmetic problem solving and whether these patterns change following a self-regulation intervention. Pre-service elementary teachers (N = 214) completed an arithmetic task during eye-tracking and measures of MA, math self-efficacy, and content knowledge before and after a semester-long intervention or a baseline condition. Relative to the baseline cohort, intervention participants reported lower MA, higher self-efficacy, and greater content knowledge at post-test. Although arithmetic accuracy was high overall (M = .92), eye-movement behavior differed by anxiety level. Fixation count, response time, and post-saccadic exploration changed across assessments, and these changes depended on MA. The findings suggest that mathematics anxiety is reflected in visual attention during arithmetic problem solving. Eye-movement measures captured anxiety-related variation that was largely absent in behavioral performance and were sensitive to changes following self-regulation training.

12:00-1:30 PM (IV-013)

Attentional Derailment: When Brief Distractions Become Prolonged Episodes. ALEXIS R. CLUBB, *University of California, Santa Barbara*, SHIVANG SHELAT, *University of California, Santa Barbara*, JONATHAN W. SCHOOLER, *University of California, Santa Barbara* — Imagine you are writing your Psychonomics abstract when a notification captures your attention, leading you to tap on it, read the message, and get absorbed into your phone. We define this phenomenon as attentional derailment: the involuntary redirection of attention to a salient external event, which is unwittingly followed by an engagement with that event. Here, we analyzed data from 315 participants to (a) create a new measure of individual differences in susceptibility to derailment, (b) determine the frequency of derailment in daily life, and (c) characterize the psychological consequences of derailment. The results indicated that our 9-item derailment susceptibility scale (Cronbach's α = .9) was distinct from existing scales on distractibility and uniquely associated with ADHD symptomology. Participants reported an average of 8 attentional derailment episodes per day with an average weighted duration of 6.5 minutes, alongside consequences including increased negative affect, loss of motivation, and reduced productivity. These results reveal the ubiquity and consequences of attentional derailment.

12:00-1:30 PM (IV-014)

The Modality of Mind Wandering: Mental Imagery and Inner Speech in On- and Off-Task Thought. EMMA E. DUECK, *University of Manitoba*, NICHOLAUS P. BROSOWSKY, *University of Manitoba* — Early studies of mind wandering (MW) emphasized its prevalence and detachment from external stimuli, establishing it as a ubiquitous aspect of our internal cognition. More recently, however, researchers have shifted toward studying the phenomenological nature of such wandering thoughts. In other words, researchers have begun to examine not only how often people experience MW, but also how these thoughts are experienced. One dimension that has been relatively underexplored is the modality that is involved in wandering thoughts—that is, the sensory format that these thoughts may take. In this study, 456 participants completed a low-demand sustained attention task designed to facilitate MW with intermediate thought probes that assessed whether they were on- or off-task, the intentionality of off-task states, as well as the modality and vividness of their thoughts. Adapting the MW probe-caught method to capture imagery experiences and vividness provides a novel approach to study mental imagery in lab conditions. Results revealed diverse

multi-modal inner experiences and a near-universal presence of inner speech. We also found significant differences in imagery modality patterns between on- and off-task states.

12:00-1:30 PM (IV-015)

Predicting Attentional Control Benefits from a Brief Meditation: The Role of Individual Differences and Meditation Style. GABRIEL HALL, *University of Illinois Urbana-Champaign*, LATASHA R. HOLDEN, *University of Illinois Urbana-Champaign* — One's ability to effectively control their attention is essential for higher order cognitive functioning. Mindfulness-based interventions (MBI) have emerged as a popular alternative to cognitive training programs despite mixed empirical support regarding their effects and underlying mechanisms. Across two experiments, we investigate the role of individual differences and meditation styles as predictors of attentional control improvements following a brief mindfulness meditation. In Experiment 1 (N=210), trait mindfulness moderated the effect of a focused attention (FA) meditation on anti-saccade performance. Only high trait mindfulness participants performed significantly better on the task following the meditation, suggesting benefits are not universal. Effects were task-specific, with no significant improvements observed on the selective visual array task across condition or trait mindfulness levels. Experiment 2 (current N=148; planned N=300) aims to replicate and extend these findings by adding an open monitoring (OM) condition to examine meditation style differences and control for baseline attentional differences. Current data show a successful state-mindfulness manipulation check between experimental and control conditions.

12:00-1:30 PM (IV-016)

Selective but Not Sustained Attention Shapes Both Speed and Caution in Decision-Making. YOONSANG LEE, *Georgia Institute of Technology*, ALEX P. BURGOYNE, *Human Resources Research Organization*, RANDALL W. ENGLE, *Georgia Institute of Technology* — Individual differences in decision-making are often attributed to attentional capacity, yet the distinct roles of selective and sustained attention remain unclear. Using a Lexical Decision Task with a speed-accuracy payoff manipulation, we decomposed decision behavior into drift rate (v; evidence accumulation efficiency) and boundary separation (a; response caution) via the Diffusion Decision Model (DDM). Cognitive abilities — selective attention, sustained attention, working memory capacity (WMC), and fluid intelligence (Gf) — were modeled as latent factors in a structural equation framework. Attention-only models revealed a clear dissociation: selective attention significantly predicted both v and a whereas sustained attention did not. Although WMC and Gf each independently predicted both parameters, their contributions were no longer significant when entered alongside selective attention, suggesting their predictive power derives from shared variance with selective attention. These findings indicate that selective attentional filtering is the key process linking broader cognitive abilities to decision-making efficiency and caution, while sustained attention plays no independent role once selective attention is accounted for.

12:00-1:30 PM (IV-017)

Working Memory in Ensemble Emotion Processing: Does Social Anxiety Hinder Emotional Summaries? EMILY A. RANCORN, *University of South Florida*, BRADLEY E. BUCHANAN, *University of South Florida*, LARAMIE LJ STARLING, *Texas Tech University*, JACOB ZEPP, *University of Zurich*, BRYCE C. ROMERO, *University of South Florida*, CHAD DUBÉ, *University of South Florida* — When presenting to a crowd, we may interpret engagement by processing a summary of the group's emotions – theorized to occur via Ensemble Emotion Processing (EEP). Social anxiety disorder (SAD) is characterized by aversions to social situations, possibly due to perceiving neutral social stimuli as negatively valanced. Some accounts suggest this skewed perception in SAD is due to deficits in working memory (WM) updating. The role of WM updating in EEP has been debated – with some models suggesting WM updating may be involved in reporting these summaries. Assuming this role of WM in EEP, and SAD creating deficits in WM updating, SAD may

impair forming these summaries. The P3b is an event-related potential associated with WM updating and attentional deployment. Using a dual-task paradigm, Bayesian mixed-effects models revealed little evidence that SAD symptoms affected P3b amplitude or interacted with judgment condition and face type. Further work should explore the relationship between specific SAD traits and WM impairments in ensemble judgments.

12:00-1:30 PM (IV-018)

Ramping Up Readiness: Preparatory Pupil Dynamics as a Marker of Attention. ALEXIS S. TORRES, *Arizona State University*, GENE A. BREWER, *University of California, Riverside*, WILLIAM OZBURN, *Arizona State University* — The locus coeruleus-norepinephrine (LC-NE) system regulates preparatory attentional states, but its dysregulation can cause suboptimal attentional performance. Because pupil diameter acts as a proxy for LC-NE activity, prestimulus "ramping up" may reflect proactive preparation. We investigated whether trait inattention, measured via the Adult ADHD Self-Report Scale (ASRS), alters this preparatory activity and its relationship to reaction time (RT) and task-evoked pupil responses (TEPRs). We hypothesized that ASRS- individuals would show optimized, steeper anticipatory slopes predicting faster RTs and larger TEPRs, whereas ASRS+ individuals would show inconsistent slopes. Participants (N=140) completed a Psychomotor Vigilance Task during eye tracking. Linear modeling revealed that preparatory pupil activity significantly predicted performance across the sample (p=.03), with steeper slopes predicting faster RTs. However, group-level interactions were not significant. Thus, preparatory ramping predicts behavioral efficiency and may reflect a universal attention mechanism that is preserved across groups. ADHD-related attention challenges may not stem from a breakdown of task preparation, but rather other factors.

12:00-1:30 PM (IV-019)

Gender differences in emotional flanker interference. ECE YUCER, *University of Toronto*, JAY PRATT, *University of Toronto* — Research has shown that the emotional state of faces modulates the allocation of attention, with negative emotions more effectively capturing attention than positive ones. Further, a large body of work indicates gender differences in the detection of affective cues. Here, we examined whether there are gender differences in emotional flanker interference and whether such differences are influenced by the social nature of the stimuli. In Exp 1, participants classified central faces as happy or fearful while ignoring the flankers. Results revealed significant gender moderation: women showed flanker interference for both fearful and happy faces, whereas men showed interference only for happy faces. In Exp 2, we replaced faces with affectively matched animal images and asked participants to categorize them as positive or negative. Again, women exhibited greater interference from negative flankers than men, while the difference for positive flankers was not significant. Overall, these findings indicate that gender moderation of attentional capture related to threat extends beyond facial stimuli. Moreover, attentional interference produced by happy faces may reflect social-reward processing not engaged by pleasant non-social stimuli.

12:00-1:30 PM (IV-020)

Planning Speech (and maybe Fast-talking) puts Language Control on Steroids. DALIA L. GARCIA, *Shores Post Acute*, MATT GOLDRICK, *Northwestern University*, TAMAR H. GOLLAN, *University of California, San Diego* — The present study asked how advanced planning and fast-paced speech impact key signatures of language control found in slower-paced switching paradigms with no preview of language cues. Young and older bilinguals completed a task that allowed them to view upcoming switches (a grid with 90 black and red digits, each named in one language). In Study 2, young bilinguals did both the number grid and a fast-paced computerized task with no preview of language cues. Both tasks elicited faster speech than typical

no-preview studies. Though older bilinguals were slower than young bilinguals, both groups produced more intrusions when switching to the dominant vs. nondominant language, exhibiting reversed language dominance in the self-paced grid task. In Study 2, young bilinguals spoke faster, made fewer errors, and exhibited stronger dominance reversal in the self-paced grid than in the no-preview task. These results suggest that being able to plan upcoming language switches, and perhaps fast speech, elicit even greater inhibitory control than slow-paced switching with no preview of the cue. Without preview, older bilinguals do not reverse dominance, but in this grid task they capitalize on planning to engage inhibitory control.

12:00-1:30 PM (IV-021)

Cognate production in Greek-English bilingual adults' verbal fluency. ZOI GKALITSIOU, *California State University, East Bay*, EVE HIGBY, *California State University, East Bay*, GEORGIA DRAKOPOULOU, *Gateway School* — Cognates are well known to produce facilitation in lexical access but they can also produce interference. The purpose of the present study was to investigate cognate facilitation and interference effects in semantic and phonemic fluency in Greek-English bilinguals with varied levels of language proficiency. Data has been collected for 50 Greek-English bilingual adults across 12 semantic categories (e.g., animals, clothes, musical instruments) and 8 letters. Preliminary results from 16 participants (7 Greek-dominant, 9 English-dominant) in the categories foods, clothes, animals and letters F, A, S showed a main effect for Language ($F(1, 170.82)= 47.03$, $p< .001$), with more cognates in English vs. Greek, and a main effect for task ($F(1, 170.82)= 73.40$, $p< .001$), more cognates in semantic vs. phonemic fluency. Additional analyses will investigate the relationship between cognate production, language proficiency and task difficulty (e.g., narrow vs. broad categories).

12:00-1:30 PM (IV-022)

Cognate facilitation and interference in Spanish-English bilinguals. EVE HIGBY, *California State University, East Bay*, SOPHIA LOPEZ, *California State University, East Bay*, MICHELLE GRAVIER, *California State University, East Bay* — Cognates offer unique possibilities within which to explore the nuances of the bilingual lexicon. Cognates' overlapping meaning and form can lead to facilitation but can also produce interference. Elucidating the conditions that lead to cognate facilitation and interference can reveal the source of facilitation and interference. The current study used a lexical+language decision task to examine cognate facilitation and interference effects while manipulating the following factors: cognate status of the target word, presence of cognates in the non-target language, degree of language restriction, and dominance in the target language. Behavioral results reveal cognate interference in the language-restricted blocks but cognate facilitation in the language-unrestricted blocks. Participants were slower and less accurate to correctly select cognate word targets in their non-dominant language compared to non-cognate word targets but only when cognates were present in the non-target language. Cognate interference effects in the dominant language were not modulated by presence of cognates in the non-target language. Further analysis will correlate behavioral measures with electrophysiology (EEG) and cognitive control data.

12:00-1:30 PM (IV-023)

(Dys)fluency in connected code-mixed speech: Insights from Spanish-English bilingual reading aloud. KE LIN, *Northwestern University*, TAMAR H. GOLLAN, *University of California, San Diego*, MATT GOLDRICK, *Northwestern University* — Over the past decade, many studies examined language control in connected speech using reading aloud of paragraphs with language switches (e.g., "She took a last sip of agua and then marched onto the stage"). Previous work with this paradigm focused on intrusion errors, i.e., failures of language control in which bilinguals produce the translation

equivalent instead of switching (e.g., replacing agua with water). While these data provided important insights, intrusions occur on a small fraction of words, leaving the influence of language control on many aspects of production unexplored. We examined fluency in error-free productions from Spanish-English bilinguals, focusing on silent pauses before and after switch words across single- and mixed-language conditions. Pauses were more frequent in mixed than single-language conditions. Preliminary analysis suggests that local reductions of speech rate and insertion of pauses may provide speakers with sufficient time to overcome cross-language competition and prevent language-intrusion errors – leading to a trade-off between fluency and errors. Alternatively, dysfluencies may be primarily related to lexical selection difficulties, leading to parallel findings in both measures.

12:00-1:30 PM (IV-024)

Production mechanisms contribute to predictive processing in L1 and L2. ANA BAUTISTA, *Basque Center on Cognition, Brain and Language*, MARCO FLORES, *Basque Center on Cognition, Brain and Language*, FRANCESCA M. BRANZI, *University of Liverpool*, CLARA D. MARTIN, *Basque Center on Cognition, Brain and Language* — Language prediction has been proposed to rely on the language production system, with comprehenders recruiting production mechanisms to anticipate upcoming words. Previous work has shown faster picture naming when highly constraining contexts are read aloud, suggesting a specific role of production in prediction. Here, we tested whether this mechanism also supports prediction in a second language (L2), given that L2 production is typically slower and less fluent. Seventy-five Spanish-English bilinguals read high and low constraining contexts aloud or silently before naming a picture depicting the sentence-final noun, in both Spanish (L1) and English (L2). Results showed a significant interaction between sentence constraint and reading mode ($p < .001$), with naming being especially fast after reading highly constraining contexts aloud. Importantly, there was also a significant three-way interaction with language ($p = .015$), such that the benefit of reading highly constraining contexts aloud was larger in Spanish (L1) than in English (L2). These findings suggest that prediction relies on production-based mechanisms in both languages, although these mechanisms may operate more efficiently in the L1 than in the L2.

12:00-1:30 PM (IV-025)

The Bilingual Creative Metaphor Task: A Psychometric Assessment of Metaphor Production in English and Spanish. REET PATEL, *Kent State University*, HANNAH MERSEAL, *University of Pennsylvania*, PAUL V. DISTEFANO, *Pennsylvania State University*, JANET G. VAN HELL, *Pennsylvania State University*, ROGER BEATY, *Pennsylvania State University*, BENJAMIN GOECKE, *University of Tübingen* — Metaphor production offers insight into creative cognition, yet validated assessments remain limited to English. We introduce the Bilingual Creative Metaphor Task (BCMT), a novel measure of metaphor creativity in Spanish–English bilinguals. Using large language models (LLMs), we generated 100 prompts (50 per language). A sample of 160 bilinguals produced 8,000 metaphors, which were rated for originality by 100 bilingual judges using a planned missing data design. Ratings were modeled with a graded response model, yielding adequate reliability (Factor Determinacy Index = .77). Item discrimination analyses produced a 20-item short form (10 per language). Confirmatory factor analyses showed that the task measures a single construct across both languages. To enhance scalability, a fine-tuned LLM predicted human ratings with strong accuracy ($r = .67$ test; $r = .63$ generalization). Metaphor ability was strongly correlated across languages ($r = .78$). The BCMT provides a reliable, scalable tool for assessing bilingual creative language production.

12:00-1:30 PM (IV-026)

Can the language associated with the family domain activate family-related words? The impact of social domain association and priming on bilingual language processing. MARIA RODRIGO-TAMARIT, *University of Manitoba*, VERÓNICA LOUREIRO-RODRÍGUEZ, *University of Manitoba*, SUNYOUNG AHN, *University of Toron-*

to — In diglossic societies, languages become tied to social domains (e.g., home/family) (Fishman, 1972). This study explores how these social domain–language links, particularly family domain association and priming, influence bilingual word processing via a picture-word verification task. Valencian-Spanish bilinguals who completed the task in their family language responded faster to family-associated (e.g. key) than to non-family-associated words (e.g. leaf), suggesting that the language used in a social domain may facilitate the activation of domain-related words. For bilinguals completing the task in their non-family language, only those presented with a text describing a family event prior to the task (domain priming text) responded to family-associated words faster than to non-associated. This suggests that domain cues may become associative and semantic primes for related words. We will discuss the implications of the social factors examined in this study on lexical retrieval models.

12:00-1:30 PM (IV-027)

Examining the Relationship Between Cognitive Control and the Comprehension and Production of Gender-Inclusive Spanish. ALEXANDRA ROMÁN IRIZARRY, *University of California, Irvine*, JUDITH F. KROLL, *University of California, Irvine* — According to the Adaptive Control Hypothesis, bilinguals immersed in dual language contexts are subject to high demands in language control processes. Previous work has shown that bilinguals from this context can maintain fluency in their L1 when proactive control strategies are used. This study asks whether cognitive control mechanisms afforded by dual language contexts can aid in the comprehension and production of innovative morphological forms such as the Spanish gender-inclusive morpheme –e (e.g., Latine). Spanish heritage speakers completed a self-paced reading task with sentences manipulated for gender (masculine vs inclusive) and animacy (humans, animals, and objects) followed by three natural production tasks. Inclusive nouns resulted in longer RTs than masculine nouns, an effect that was smallest for human nouns. Better inhibitory control reduced RTs across all conditions. In production, inclusive forms with –e were rarely produced but were used with human referents only. Taken together, the results suggest animacy is more important than cognitive control when comprehending and producing innovative forms.

12:00-1:30 PM (IV-028)

Associations Among Cognitive Functioning, Performance-Based Mobility, and Perceived Mobility in Older Adults. CHRIS ANDRAOS, *Villanova University*, OLIVIA BEREZA, *Villanova University*, LILY WONG, *Villanova University*, AVA GOYAL, *Villanova University*, MOENESS AMIN, *Villanova University*, MICHELLE MCKAY, *Villanova University*, IRENE P. KAN, *Villanova University* — Building on prior research, we investigated the association between gait and cognition in a sample of community-dwelling older adults (M age=74.7). Cognitive functioning was assessed with the Mini Mental Status Exam (MMSE) and the Trail Making Test. Performance-based mobility measures included falls history within the past year, movement disorder diagnosis, and Timed Up and Go performance (TUG, a standardized clinical mobility assessment). Perceived mobility was assessed with a composite of self-reported difficulty in daily activities (e.g., walking, climbing stairs). We found that older age, poorer general health, worse TUG performance, and movement disorder diagnosis were associated with lower MMSE scores. Greater perceived mobility difficulty was associated with higher MMSE scores, potentially reflecting greater awareness of mobility challenges among individuals with stronger cognitive functioning. Although falls history was unrelated to MMSE scores, it was the only variable associated with Trail performance, where participants with a history of falls were slower on both Trail A and B. These results highlight the value of assessing multiple facets of mobility in aging research.

12:00-1:30 PM (IV-029)

Depressive symptoms alter emotional event encoding and memory through reduced emotion regulation across the adult lifespan. JESSICA CAMPBELL, *University of Texas at Austin*, KYOUNGEN LEE, *Georgia State University*, ALEXANDRA CLARK, *University of Texas at Austin*, VONETTA M. DOTSON, *Brigham and Women's Hospital; Georgia State University*, AUDREY DUARTE, *University of Texas at Austin* — Even subthreshold depressive symptoms may worsen age-related emotional memory changes by disrupting emotion regulation. This study tested whether poorer emotion regulation in people with greater depressive symptoms contributes to enhanced neural responses to negative events during encoding and, in turn, altered emotional memory in adults across the lifespan. Adults aged 18–75 with varying depressive symptom levels completed an emotional memory task while encoding negative and neutral images under increase, decrease, and react regulation conditions. Older age was associated with greater memory preferences for neutral over negative events, regardless of depressive symptoms. Higher depressive symptoms were associated with poorer emotion regulation, reflected in reduced modulation of emotional reactivity during encoding across conditions, diminished neutral event memory preferences, and increased encoding-related activity in the amygdala and lateral prefrontal cortex (dlPFC, vlPFC) for negative relative to neutral stimuli, across age. These findings suggest depressive symptoms may enhance the encoding of negative information, reducing age-related neutrality preferences and contributing to emotional memory biases across adulthood.

12:00-1:30 PM (IV-030)

Differential Effects of Age in a Cognitive-Motor Dual Task: A Parametric Manipulation of Cognitive and Motor Load. CHANDLYR M. DENARO, *Claremont McKenna College*, JENNA MONROY, *Scripps College; Pitzer College*, ALAN A. HARTLEY, *Claremont McKenna College*, JOSEPH ASTA, *Claremont McKenna College*, CATHERINE REED, *Claremont McKenna College* — Fall risk is an issue for older adults, especially when walking and thinking at the same time. Prioritization theory assumes shared resources between cognitive and motor tasks. It predicts that biomechanical stability is prioritized as load increases, to prevent fall risk. We systematically varied both cognitive and motor load to investigate effects on cognitive performance and gait kinematics, and to determine the conditions under which prioritization occurs across age. Younger and older adults walked on a treadmill while performing auditory n-back working memory tasks. Cognitive load varied across 0-, 1-, and 2-back tasks. Motor load varied across 0-, 2.3-, and 4.6-degree inclines. Cognition and kinematics were affected by load across age. D-primes declined with increased load, more so for older adults. Incline effects on kinematics were replicated. In older adults, kinematics were systematically affected by cognitive load at flat inclines, but increased motor load required prioritization of biomechanical stability. Our results suggest a non-linear relationship between cognitive and motor load, with peak performance reached at different levels across age.

12:00-1:30 PM (IV-031)

Using Structured Retrieval Practice to Learn Medication Interactions in Older and Younger Adults. ARIANA ELSDEN, *Texas Christian University*, HALEY C. DAVIS, *Batten University*, JETTE HAFERMANN, *Batten University*, CORINNE GETZENDANNER, *Texas Christian University*, UMA TAUBER, *Texas Christian University*, ROBERT ARIEL, *Batten University* — Associative learning is critical across the lifespan in many applied contexts such as learning drug names, effects, and potentially dangerous interactions. Age-related declines in paired-associate learning may be especially concerning for older adults (age 60+), who are more likely to experience polypharmacy (Qato et al., 2008). While important, many medications may pose significant risks when combined with other substances. Improving older adults' ability to remember drug interactions represents a meaningful goal for both cognitive psychology and public health. We examined young and older adults' associative memory for drug interactions using a structured retrieval practice learning

intervention, which has been found to significantly enhance long-term memory performance (Ariel, Babineau, & Tauber, 2024). Participants studied fictitious medications with associated drug interactions through retrieval practice or rereading and completed a final recall test. Results indicate that structured retrieval practice is effective for improving memory for medication interactions for both younger and older adults.

12:00-1:30 PM (IV-032)

Picture-naming may not decline in aging nearly as much as you thought: Evidence from True Controls and the MINT Sprint 2.0. ALEXIS S. GONZALEZ, *University of California, San Diego*, CATHERINE WANG, *San Diego State University*, TAMAR H. GOLLAN, *University of California, San Diego* — This study reexamined the long-held assumption that picture-naming ability declines in aging by comparing young adults (n = 83) to True Controls, i.e., older adults (n = 48) with no signs of risk for Alzheimer's disease (AD) based on extensive cognitive testing, and analysis of CSF (cerebrospinal fluid) biomarkers. Participants completed a time-pressured test in which they named as many pictures as quickly as possible from a grid of 80 pictures presented in decreasing word frequency across rows. Previous studies of timed single-picture naming showed robust aging related slowing. In the present study, True Controls named pictures with the highest-frequency names as quickly and accurately as young adults and were disadvantaged only in some middle-frequency rows. By contrast, young adults were disadvantaged for naming pictures with the lowest-frequency names, likely reflecting True Controls' greater lifetime cumulative frequency-of-use. The striking ability of True Controls to talk as fast as young adults when producing the highest frequency names cannot be explained by an "older-is-wiser" account and calls for further investigation into the cognitive mechanisms underlying aging related changes in naming ability.

12:00-1:30 PM (IV-033)

Curiosity and Prior Knowledge Shape Real-World Information-Seeking Behaviour in Younger and Older Adults. MICHELLE E. HIRSCH, *York University*, ANDRÉE-ANN CYR, *York University - Glendon Campus*, BUDDHIKA BELLANA, *York University - Glendon Campus* — The experience of going down a 'rabbit hole' during information-seeking is common: A search for a book author can end with us reading about the solar system. Movement through rabbit holes can be characterized as a series of 'stays' (looking up a topic related to the book) and 'switches' (looking up a more distantly related topic). What determines whether we stay or switch? Curiosity is a well-known driver of exploration, as is prior knowledge: what we know informs what we seek out. We investigated age differences in naturalistic information-seeking by having participants freely browse Wikipedia for 15 minutes per day over three consecutive days. We collected self-reported curiosity and prior knowledge for explored topics and operationalized information-seeking behaviour as the likelihood of staying or switching during search. Unexpectedly, higher prior knowledge was a stronger predictor of staying in younger than older adults. By contrast, when curiosity was high, older adults were more likely to 'dig' into a topic. Moreover, differences in trait curiosity were associated with overall likelihood of staying. This work presents a novel approach to studying motivational drivers of real-world information-seeking.

12:00-1:30 PM (IV-034)

Additional Language Learning as a Tool for Healthy Cognitive Aging: A Review. JEFFREY KUNATH, *University of Illinois Chicago*, KARA MORGAN-SHORT, *University of Illinois Chicago* — Shifts in global demographics towards an older society necessitate non-pharmological, ecologically valid tools to promote healthy aging. Language learning has been hypothesized to be such a tool based on work showing that lifelong use of multiple languages confers brain health benefits (Antoniou et al., 2013). However, few studies have looked at whether new language learning provides such ben-

efits. We identified 15 studies from 2016-2025 that implemented a language learning intervention for older adults aged 60+ and reviewed their results. For each study, we looked at the participant characteristics, the cognitive constructs measured, the intervention described, and any cognitive changes that occurred after the intervention. Overall, the findings were mixed as to whether language learning provided a cognitive benefit, with slightly more evidence for no benefit. However, there appears to be a relationship between the modality and intensity of language learning and cognitive benefits, especially for those with lower cognitive baselines. We discuss these findings and recommend future directions for a meta-analytic analysis of language learning as a cognitive intervention.

12:00-1:30 PM (IV-035)

Age- and Depression-related Changes in Brain Dynamics Functional Connectivity. PARISA NAVIDI, *University of Texas at Austin*, MARLENA DUDA, *Georgia State University; Georgia Institute of Technology; Emory University*, ALEXANDRA CLARK, *University of Texas at Austin*, VINCE D. CALHOUN, *Georgia State University; Georgia Institute of Technology; Emory University; Tri-Institutional Center for Translational Research in Neuroimaging and Data Science*, VONETTA M. DOTSON, *Brigham and Women's Hospital; Georgia State University*, AUDREY DUARTE, *University of Texas at Austin* — Aging and depressive symptoms are both associated with executive dysfunction and altered large-scale brain organization, yet their joint effects on dynamic functional connectivity (dFNC) remain poorly understood. We investigated the prediction that aging and depressive symptoms would be associated with altered temporal organization of resting-state brain connectivity in networks supporting cognitive control and episodic memory in adults aged 18–75. Age-related effects were most robustly observed in connectivity states involving cognitive-control, default-mode, and sensorimotor systems. In addition, older adults with greater depressive symptoms tended to remain longer in a particular brain connectivity state, suggesting reduced flexibility in large-scale brain network dynamics. These findings suggest that aging and depressive symptoms may alter not only connectivity strength, but also the temporal stability and organization of large-scale brain states, providing insight into potential temporally dynamic neural mechanisms underlying exacerbated executive dysfunction in depressed older age.

12:00-1:30 PM (IV-036)

Cognitive and Emotional Consequences of Mild Traumatic Brain Injury in Younger and Older Adults. TALA TAYEM, *University of Waterloo*, MYRA A. FERNANDES, *University of Waterloo* — Individuals subjectively report lingering cognitive and emotion regulation challenges long after experiencing a mild traumatic brain injury (mTBI). Brain changes associated with aging, particularly within the frontal lobes, may exacerbate consequences of mTBI. Objective evidence for deficits, however, is mixed. We examined self-reports of attention slips in daily life in young adults, and objective measures of cognitive integrity in older adults, along with scales measuring mood and mental health, in large samples of younger (n = 5,937 control and n = 869 mTBI) and older adults (n = 8,778 control and n = 1,273 mTBI). Younger adults with mTBI self-reported more attention-related errors than controls, though older adults showed no such group differences in cognitive performance. Regardless of age and mTBI status, females showed more attention deficits compared to males. Importantly, in both age groups, those with mTBI reported greater emotion dysregulation (e.g. depression, distress) relative to controls. Findings suggest cognitive deficits following mTBI resolve in old age, though poorer emotion regulation is a long-term consequence of mTBI, particularly in females.

12:00-1:30 PM (IV-037)

Combined effects of deafness and aging on visual memory. CATHERINE WANG, *San Diego State University*, SADIE CAMILLIERE, *San Diego State University*, JONATHAN HELM, *San Diego State University*, MICHAEL M. MCKEE, *University of Michigan*, PETER C. HAUSER, *National Technical*

Institute for the Deaf, Rochester Institute of Technology, KAREN EMMOREY, *San Diego State University*, TAMAR H. GOLLAN, *University of California, San Diego* — Assessing memory is critical in evaluation of possible dementia cases, but it is not known how memory changes in aging deaf signers. The present study examined aging effects cross-sectionally in older deaf and hearing adults (aged 61-88) on a nonverbal memory test. The visual modality of sign language is suspected to offer potential advantages in nonverbal memory among deaf adults. This may be countered by delayed language input or deprivation among some deaf adults, negatively affecting cognitive performance. Visual memory was assessed using the Wechsler Memory Scale-IV Visual Reproduction (VR) subtest (deaf: n = 65, hearing: n = 155). Compared to hearing peers, older deaf adults declined faster with age on immediate recall but not delayed recall. This suggests that sign language experience does not automatically lead to advantages in visual memory in deaf older adults. Age of acquisition of ASL did not significantly predict immediate or delayed recall. Higher education level was associated with better immediate recall in both deaf and hearing individuals. The similarity between deaf and hearing older adults' performance in delayed recall suggests the VR test may be useful for evaluation of non-verbal memory in older deaf adults.

12:00-1:30 PM (IV-038)

Older Adults Do Not Demonstrate a Saving-Enhanced Memory Effect Under Instructed Partial Offloading. NATALYA S. FRANKLYN, *Stony Brook University*, LAUREN L. RICHMOND, *Stony Brook University* — Prior work in young adults has shown that partial offloading promotes better memory for non-offloaded information relative to a no-offloading condition- a benefit known as the saving-enhanced memory effect. This benefit is thought to stem from partial offloading allowing participants to reallocate freed up internal memory resources toward the retention of non-offloaded information. Recent evidence suggests older adults do not exhibit saving-enhanced memory, but the paradigm used for this study allowed participants to choose the information to offload. This choice process might have introduced a cognitive demand for older adults that served to limit the amount of resources that could otherwise be freed up by partial offloading. The current study tested this possibility by instructing older adults about which items to offload. Despite eliminating the cognitive demand associated with offloading choices, older adults again did not demonstrate a saving-enhanced memory effect. In fact, memory for non-offloaded information was impaired relative to baseline when recall was initiated with an offloaded item. Under conditions known to promote saving-enhanced memory in young adults, older adults did not exhibit this benefit.

12:00-1:30 PM (IV-039)

The Effects of Ambiguity and Anchoring on Judicial Sentencing. KUAN-YU CHEN, *National Tsing Hua University*, HSUAN-FU CHAO, *National Tsing Hua University* — Previous research has suggested that anchoring and ambiguity may influence judicial decision making by triggering heuristic processing. The present study examined how these factors affect decision-making processes and sentencing outcomes. Participants evaluated 20 manslaughter cases that varied in levels of ambiguity and anchoring. The results indicated that both ambiguity and anchoring significantly affected sentencing judgments. Specifically, higher ambiguity led to more lighter sentences, whereas higher anchors resulted in harsher sentences. Reaction-time analyses revealed a significant interaction between ambiguity and anchoring. In the low-anchoring condition, decision times were shorter under low ambiguity than under high ambiguity. In contrast, this pattern was reversed in the high-anchoring condition. Overall, the findings suggest that ambiguity and anchoring independently affect sentencing outcomes while interactively influencing the decision-making speed underlying judicial sentencing.

12:00-1:30 PM (IV-040)

The Impact of Existential Risk Forecasts on Risk Perception and Policy Decisions. AMANDA DE LA NOVAL, *Georgia Institute of Technology*, MARK HIMMELSTEIN, *Georgia Institute of Technology*, EZRA KARGER, *Federal Reserve Bank of Chicago* — Probabilistic forecasts about catastrophic and existential risks are increasingly used to guide policy decision-making, yet little is known about how people interpret and respond to such information. This experiment (N=395) examines how forecast characteristics like risk magnitude (0.3%, 3%, 30%), source credibility (superforecasters, subject-matter experts, AI-based forecasting models, general public), and the presence of prior estimates, influence belief updating and budget allocation toward risk mitigation. Eliciting participants' estimates and budget allocation before exposure to the forecast reinforced anchoring, resulting in only modest belief updating. Participants showed significantly less trust in AI forecasting sources, and more trust in superforecasters and subject-matter experts. Trust in turn significantly predicted risk perception and budget allocation. However, across conditions, participants were largely insensitive to differences in numerical risk magnitude, suggesting that source credibility matters more than probabilistic precision when communicating low-probability, high-impact risks. Future research should attempt to determine ways of making high-stakes risk forecasts more actionable for policy decision-makers

12:00-1:30 PM (IV-041)

Mind's Eye, Mind's Choice: Spatial vs. Object-Based Imagery in Decision-Making. EMMA DENNIN, *Texas A&M University*, MIANZHI HU, *Texas A&M University*, BENJAMIN ULICNIK, *Texas A&M University*, DARRELL A. WORTHY, *Texas A&M University* — Mental imagery is theorized to play a key role in decision-making, as visualizing actions and their consequences may inform judgments about possible outcomes. However, behavioral evidence directly linking mental imagery to decision-making remains limited, partly due to challenges in objectively measuring mental imagery abilities and inconsistencies in how mental imagery is defined across studies. This study examined whether distinct forms of mental imagery—object and spatial mental imagery—relate to learning trajectories in a decision-making task. Texas A&M University undergraduates completed the 30-item Object-Spatial Imagery Questionnaire and then performed 100 trials of the Soochow Gambling Task, selecting from card decks with hidden rewards and losses. Results suggest that spatial mental imagery ability may be a stronger secondary modulator of learning than object mental imagery ability. These findings indicate that the ability to mentally represent spatial relations, locations, and movements may be more important for adaptive decision-making than generating detailed, pictorial representations of objects.

12:00-1:30 PM (IV-042)

Sycophantic AI and Human Bias: How Reinforcement Shapes Decision-Making. LENA HALL, *University of Queensland*, JASON TANGEN, *University of Queensland* — Across everyday, professional, and academic contexts, people increasingly consult AI chatbots to support their decisions. Yet these systems can be sycophantic, validating users' preferences and beliefs even when doing so conflicts with evidence or sound judgement. This preregistered experiment examined whether sycophantic AI degrades decision accuracy and error correction, and whether these effects are explained by increased confirmatory information seeking. Participants completed binary decision-making tasks across multiple academic domains while interacting with either a neutral or sycophantic AI assistant. We compared pre- and post-interaction choices and confidence to assess error correction and examined post-interaction accuracy as the primary learning outcome. Participant prompts were coded as confirmatory, balanced, or disconfirmatory to test whether sycophantic AI increased confirmation bias—addressing the possibility that systems designed to be agreeable may reinforce users' beliefs in ways that undermine judgement and learning. Implications for the design of interventions promoting critical engagement with AI tools are discussed.

12:00-1:30 PM (IV-043)

Misinformed about Misinformation?: Examining how Generation Z adults' personal definitions of misinformation may influence their susceptibility. RACHEL M. HEITER, *Georgia State University*, HEATHER M. KLEIDER-OFFUTT, *Georgia State University* — Recent research suggests that Generation Z is most susceptible to misinformation. Paradoxically, however, Gen Z also appears to be the most aware of the potential threat posed by misinformation. This paper examines this disconnect by comparing 253 Generation Z adults' (ages 18-26) qualitative definitions of "misinformation" with their quantitatively assessed misinformation susceptibility via the Misinformation Susceptibility Test-20 (MIST). Preliminary results indicate that Gen Z adults' performance on this measure did not differ between real and fake news items. Those adults routinely confused the concepts of misinformation (unintentional spread of false information) with disinformation (intentional spread of false information), and they focused primarily on social media as the main vector of dissemination. Other factors, such as exact participant age, political affiliation, digital literacy, cognitive flexibility, and need for cognition will all be examined as potential covariates.

12:00-1:30 PM (IV-044)

Are Nudges Coercive? Evidence from Eye Tracking Responses. ALEX LEON, *University of Oklahoma*, GWEN HOANG, *University of Oklahoma*, JENNA HOLT, *University of Oklahoma*, YANGYING LIU, *University of Oklahoma*, TIAN TIAN, *University of Oklahoma*, EDWARD T. COKELY, *University of Oklahoma*, ADAM FELTZ, *University of Oklahoma* — Respecting autonomy is often thought to be an important aspect in decision-making; many people believe that a person ought to be allowed to make decisions based on their own beliefs, values, and deliberation. However, some decision-making interventions might not respect this principle. The present study empirically investigated this possibility. 132 participants were recruited through a large university's undergraduate subjects pool. Participants were randomly assigned to one of 6 conditions: control, educational boost, default in or out, or coercion. The condition determined what intervention was used during the decision task (e.g., no intervention, an educational video, defaulted into a choice, or coerced into a choice). In all scenarios, participants were asked to choose between two different food options. Response time and eye tracking measurements were used as measurements of autonomy. Analyses with response time data found an overall significant difference of time spent deliberating as a function of condition: $F(5, 126) = 3.42$, $p < .01$, eta squared = .12.

12:00-1:30 PM (IV-045)

Cognitive Conflict in the Dorsal Medial Prefrontal Cortex When Choosing Against Framing Effects: A Fuzzy Trace Theory Approach. NOAH GOODMAN, *Cornell University*, SERENA YEDDU, *Cornell University*, ALAN LIU, *Cornell University*, SARAH M. EDELSON, *Cornell University*, STELLA ORTEGA, *Cornell University*, ARYAN MEHRA, *Cornell University*, VEERIKA DUBE, *Cornell University*, DAVID GARAVITO, *University of Washington*, REBECCA WELDON, *State University of New York Polytechnic Institute*, VALERIE F. REYNA, *Cornell University* — The dorsal medial prefrontal cortex (dmPFC/dACC) has been the object of multiple theories, including cognitive conflict (Clairis & Lopez-Persem, 2023). Increased activation in the dmPFC has been observed during attitude-incongruent responding or when choices violate dominant strategies (Venkatraman et al., 2009; McClellan et al., 2026). Here, we test whether such activation is elicited when choosing against dominant gist-based framing: choosing the sure loss and the risky gain across theoretically motivated conditions, especially for adults rather than adolescents. Sixty adults and 64 adolescents answered 108 risky-choice framing problems in an MRI scanner. Covariate analyses revealed that, as standard framing (choosing sure gain and risky loss) increased across participants, activation in the dmPFC increased for ReverseFraming > Framing contrasts in adults (but not adolescents). Thus, covariation results were consistent with a role for dmPFC in cognitive conflict and with fuzzy-trace theory's hypothesis that reverse-framing behaviors

are inconsistent with the greater gist- processing tendencies of adults compared to adolescents.

12:00-1:30 PM (IV-046)

Condemned by Context: The Role of Criminal Record and Facial Remorse in Wayward Punishment. SKYLAR J. OXFORD, *Georgia State University*, HEATHER M. KLEIDER-OFFUTT, *Georgia State University* — Why do people punish, and why might they punish people who are innocent? Amongst all species, there is an evolutionary desire to punish social offenders, as repercussion for violating group normativism. However, this becomes problematic when individuals inflict punishment for wrong reasons. Salient cues, such as prior criminal history, gender and face-type, have been found to make laypersons punishment sentences harsher. This study examines how stable contextual factors shape punishment across two studies. Study 1 found no effect of defendant gender on verdict decisions, yet prior criminal history increased the likelihood of a guilt verdict. Study 2 extends these findings by examining how remorseful face-types and a prior criminal record further influence punitive outcomes in males. This study is the first to examine how these factors interact in the acceptance of wayward punishment, the tendency to punish an individual without sufficient evidence.

12:00-1:30 PM (IV-047)

Non-uniform Impacts of Education on Recycled Water Acceptance: A Latent Transition Analysis. TIAN TIAN, *University of Oklahoma*, EDWARD T. COKELY, *University of Oklahoma*, GWEN HOANG, *University of Oklahoma*, JENNA HOLT, *University of Oklahoma*, ALEX LEON, *University of Oklahoma*, YANGYING LIU, *University of Oklahoma*, ADAM FELTZ, *University of Oklahoma* — Educational interventions involving recycled water often assume that providing information uniformly improves understanding. The present study examined changes in knowledge response patterns following an educational intervention about recycled potable water. Participants (N = 281) completed pre- and post-intervention assessments containing correct, incorrect, and "don't know" response options. Latent class analysis identified three distinct response groups: knowledgeable, incorrect, and unsure. Latent transition analysis examined changes in group membership following the intervention. Results showed that unsure participants were substantially more likely to transition toward knowledgeable response patterns after education than participants in the incorrect group. Transition patterns were also significantly associated with recycled water acceptance, $F(4,263) = 13.13$, $p < .001$. These findings suggest that educational interventions may be particularly effective at reducing uncertainty rather than changing entrenched misconceptions.

12:00-1:30 PM (IV-048)

Semantic Sufficiency Thresholds, Response Complexity, and Response Latency in Multimedia Decision Making. GODWIN UMEOBI, *Morgan State University*, ALAA ALKHALAIWI, *Morgan State University*, GLORIA BUAME, *Morgan State University*, CHRISTOPHER M. AMISSAH, *Morgan State University*, TAJ ROLLINS, *James Madison University*, FERDINAND B. KUMOLALO, *Morgan State University*, ADEOLA F. OSABIYA, *Morgan State University*, R. JEROME ANDERSON, *Morgan State University*, R. TRENT HAINES, *Morgan State University* — This study investigates when "enough" information is available for individuals to respond during multimedia tasks (pre-recorded video surveys). Drawing on theories of incremental processing and bounded rationality, researchers analyzed 6,189 response observations from 130 participants completing a video-based survey. With 10 raters, a "semantic sufficiency threshold" was established for each item to identify the earliest point at which meaning could be reasonably inferred. Results show that 95.7% of participants responded before the video ended, and 94.3% responded after the semantic threshold was reached. On average, responses occurred 3.63 seconds after the threshold, indicating a two-stage cognitive process in which semantic comprehension preceded response selection. Both later semantic thresholds ($\beta = .018$, $p < .001$) and increased response complexity ($\beta = .033$, $p = .001$) significantly predicted longer latencies, with

an interaction effect between the two. These findings introduce semantic sufficiency thresholds as a framework for understanding real-time decision-making, offering significant implications for language and sentence processing theories and the design of cognitive and non-cognitive assessment tools.

12:00-1:30 PM (IV-049)

Deliberation Eliminates Decoys Rather Than Amplifying Attraction. TAPAS RATH, *Indian Institute of Technology, Kanpur* — How should RTs be interpreted in the attraction effect? Prior work links time pressure and RT quantiles to attraction magnitude, often implying that deliberation strengthens target preference. We tested an alternative using new RT analyses of the fraction-choice experiment reported by Rath and Marupudi (2025), Re-evaluating the numerical-perceptual distinction in the attraction effect. Participants (N = 55) chose among a target, a competitor, and a dominated decoy, while decoy-related comparative asymmetry was manipulated within-subjects using DeltaDiff, the Target-Decoy minus Competitor-Decoy comparison-ease difference; Target-Competitor difficulty was held approximately constant. Log RT strongly predicted decoy elimination: slower choices were much less likely to select the decoy. However, among target-or-competitor choices, Bayesian hierarchical logistic models showed no reliable RT slope on target choice; posterior intervals spanned zero across DeltaDiff and block-order conditions. Apparent increases in target share across RT quartiles therefore reflected progressive decoy rejection, not growing target preference. Deliberation indexes when dominance evidence becomes usable, but its effect depends on the comparison structure.

12:00-1:30 PM (IV-050)

Integrating Anecdotal and Statistical Evidence: The Effect of the Evidence Congruence and Cue Ambiguity on Decision-Making. ÖZGÜR SAYDIR, *Koç University*, AYŞECAN BODUROGLU, *Koç University* — Previous research investigated whether people prefer anecdotal or statistical evidence in their decision-making. However, how people integrate these two different types of information is not well understood. We investigated how people integrated anecdotal and statistical information in a horse racing gambling paradigm across three experiments. On each trial, participants had to predict the race result of a particular horse after reading anecdotes and receiving previous race rankings of same breed horses (statistical cues). Participants made their decision either immediately after receiving a minimum of three race results or asked for additional race results. Surprisingly, participants relied more on statistical cues than anecdotes. However, participants did not disregard anecdotes as they requested more cues when the anecdote and statistical cues were incongruent. In Exp. 2, we manipulated the ambiguity of the race result sets. Participants relied more on anecdotes in ambiguous statistical cue conditions compared to the unambiguous condition. In Exp. 3, we further test how anecdotes are presented may impact reliance on them while making decisions. Our findings offer support for statistical evidence-based decision making.

12:00-1:30 PM (IV-051)

Sensory Processing Sensitivity Through the Lens of Hot and Cold Cognition: A Systematic Review and Framework. ANNALISA SETTI, *University College Cork*, JESSICA O'BRIEN, *University College Cork*, TADGH CONNERY, *University College Cork*, CHRISTIAN RYAN, *University College Cork*, FIADHNAIT O'KEEFFE, *University College Cork*, HELEEN SLAGTER, *Vrije Universiteit Amsterdam*, JASON S. CHAN, *University College Cork* — Sensory processing sensitivity (SPS) is characterised by low sensory thresholds, ease of excitation and depth of processing, its cognitive consequences have not yet been reviewed and integrated. This systematic review synthesises evidence from 62 studies (PROSPERO: CRD42024595565; PRISMA reporting) investigating cognition depending on SPS and proposing an interpretative framework through the lens of hot/cold cognition. Searches across PubMed, EBSCO, Scopus, Web of Science, and Google Scholar were conducted, with study quality evaluated using Joanna Briggs tools. Narrative synthesis (SWiM guidelines) revealed selective modulation of percep-

tion, attention, and inhibition, with effects emerging consistently in social cognition and emotionally laden but not neutral tasks. Evidence partially supports depth of processing and ease of excitation, but not low sensory thresholds. These findings are interpreted within a Predictive Coding framework, suggesting that SPS amplifies the precision weighting of prediction errors for emotionally salient stimuli. This framework clarifies when and why SPS modulates cognitive performance, with implications for emotion-cognition interaction, and individual differences.

12:00-1:30 PM (IV-052)

A direct comparison of gaze-cueing effects following eye contact, closed eyes, and vertically averted gaze. YOSHIHIKO TANAKA, *Senshu University*, YUTAKA OTAHARA, *Senshu University*, MATIA OKUBO, *Senshu University* — Direct gaze captures an observer's visual attention and facilitates subsequent social interaction. However, previous studies have reported mixed findings regarding the influence of direct gaze on gaze cueing, leaving the replicability and robustness of the effect unclear. In addition, these inconsistencies may be partly due to methodological differences across studies: some studies have compared eye contact with vertically averted gaze, whereas others have contrasted it with closed eyes. To address these issues, the present study employed a preregistered experiment of a gaze cueing task in which prior gaze information was systematically manipulated across three conditions: direct gaze, closed eyes, and upward gaze. The results showed that the gaze cueing effect was equivalent across conditions. These findings may suggest that the facilitative effect of direct gaze may be weaker than previously assumed.

12:00-1:30 PM (IV-053)

Are Emotionally Granular Individuals Emotion Experts? Evidence From an Experiment of True and False Emotional Memory. JOHN T. WEST, *Gettysburg College*, NEIL W. MULLIGAN, *University of North Carolina at Chapel Hill*, KRISTEN LINDQUIST, *Ohio State University* — Research from affective science suggests that individuals differ in the extent to which they experience different same-valenced emotions as being differentiated, a construct referred to as emotional granularity. Recently, it has been suggested that granularity may reflect a form of expertise in representing and thinking about one's emotions (Hoemann et al., 2021). In the current study, we tested a novel prediction that follows from the characterization of granularity as emotional expertise: that highly granular individuals would demonstrate expertise-like effects for emotional memory. Because prior research suggests that experts exhibit increased true and false memory for domain-relevant information, we predicted that highly granular individuals would show increased true and false emotional memory. Contrary to predictions, overall granularity was unrelated to both true and false emotional memory. However, expertise-like effects were observed for negative granularity, with participants who rated their daily negative emotions in a more differentiated manner exhibiting increased recall of images rated as more negatively valenced. Implications regarding the characterization of granularity as an expertise construct are discussed.

12:00-1:30 PM (IV-054)

Moment-to-moment emotional states predict transitions in spontaneous thought. MENGTING ZHANG, *Purdue University*, MENGQI ZHAO, *Purdue University*, HAOWEN SU, *Purdue University*, HONGMI LEE, *Purdue University* — Spontaneous thought is often emotionally valenced, yet little is known about how moment-to-moment emotional states shape transitions between thoughts. To address this, we reanalyzed our think-aloud fMRI dataset in which participants continuously verbalized their thoughts during a 10-minute scan. Participants' responses were segmented into sentences and then an-

notated using large language models for valence and semantic similarity between consecutive sentences. Thought boundaries were identified by human raters, with agreement across raters defining boundary probability. We found that more positive emotion predicted both higher boundary probability and greater semantic similarity between sentences, suggesting that positive emotion promotes more frequent yet semantically coherent thought transitions. Neural analyses showed that medial prefrontal, posterior medial, and medial temporal regions were activated during positive emotional states. Activation in these regions predicted higher boundary probability but lower semantic similarity between sentences, mediating the relationship between valence and both behavioral measures. These findings demonstrate that emotional valence modulates the temporal dynamics of spontaneous thought.

12:00-1:30 PM (IV-055)

Rejection Sensitivity Does Not Modulate Conflict Monitoring During Emotional Ensemble Processing. BRYCE C. ROMERO, *University of South Florida*, BRADLEY E. BUCHANAN, *University of South Florida*, LARAMIE LJ STARLING, *Texas Tech University*, EMILY A. RANCORN, *University of South Florida*, CHAD DUBÉ, *University of South Florida*, JACOB ZEPP, *University of Zurich* — Rejection sensitivity (RS) is a personality trait that is characterized by maladaptive responses to rejection and is often a predictor of social psychopathologies. Individuals high in RS may experience greater conflict and attentional biases toward socially threatening information, impairing report of targets in the presence of socially relevant emotional information. Emotional ensemble processing (EEP) refers to the ability to make rapid judgments of a crowd's emotional state. However, it remains unclear whether RS influences EEP report when socially relevant emotional information is present. In this study, 39 college students completed a dual-task paradigm (Liu & Ji, 2024). We examined the N2, an event-related potential associated with executive conflict monitoring and, by proxy, attentional control. Bayesian linear mixed-effects models revealed no credible interaction between RS, and judgment type. Altogether, these findings may suggest that the attentional biases of social-emotional stimuli typically associated with RS do not extend to EEP.

12:00-1:30 PM (IV-056)

Using LLMs to Identify Humor in Expressive Writing. RUHAN ÇOBAN, *University of Memphis*, HASAN CAN BIYIK, *Montclair State University*, ROGER J. KREUZ, *University of Memphis* — Can LLMs detect humor in personal struggle narratives? We analyzed expressive writing using LLM-based humor detection with Gemini 2.5 Pro. Participants wrote about personal struggles under positive reappraisal or negative-focus conditions while varying the imagined addressee (self, close other, or stranger), allowing Gemini 2.5 Pro to assess humor as a coping strategy. Across three experiments, participants in the positive reappraisal condition reported better post-task mood than those in the negative-focus condition. Greater use of reappraisal, measured with the Emotion Regulation Questionnaire (Gross & John, 2003), was also associated with more positive mood outcomes. Participants whose writing contained humor additionally reported higher aggressive and self-defeating humor styles. The findings suggest that focusing on positive aspects of personal struggles may improve mood, whereas negatively focused writing may worsen it, and that adaptive humor use may depend on the specific writing context and addressee condition.

12:00-1:30 PM (IV-057)

Adding Visual Emotional Design Features to Immersive Virtual Reality Experiences with Cell Biology. CYNTHIA Y. DELGADO, *University of California, Santa Barbara*, YULI SHAO, *New York University*, BRUCE D. HOMER, *City University of New York*, JAN L. PLASS, *New York University*, RICHARD E. MAYER, *University of California, Santa Barbara* — Although research supports the benefits of emotional design in multimedia learning, less is known about its role in immersive virtual reality (IVR). This study examines how three visual emotional design features affect affective processing in brief IVR segments on cell biology organelles.

Features included object rotation (continuous vs. static), object color (warm vs. cool), and interactivity (user-manipulated vs. observed). Using a within-subjects design, participants completed six instruments after each IVR segment, measuring emotional reaction, sense of presence, and mental effort. Object rotation produced significantly higher positive emotion ratings on one measure; object color showed no significant effects; and interactivity yielded significantly higher ratings on four of six measures. These findings suggest interactivity is the most promising emotional design feature for IVR, while object rotation shows some potential. However, IVR may already be sufficiently engaging that additional emotional design features produce limited impact on users' affective processing.

12:00-1:30 PM (IV-058)

Social Media Dependency Predicts Anxiety. KEARA SHEA, *St. John's University*, DANA CHESNEY, *St. John's University* — In recent decades, the influence of social media on mental health has become increasingly of interest. Of particular concern is the emerging phenomenon 'social media dependency', wherein individuals show clear patterns of addition-like behaviors in their engagement with social media. This study sought to investigate the whether such social media dependency is associated with other mental health concerns in young people: specifically anxiety. In a pilot study, we recruited undergraduate students St. John's University to complete a novel Social Media Dependency scale as well as the Generalized Anxiety Disorder – 7 scale (GAD-7). As hypothesized, higher levels of self-reported social media dependency were correlated with higher levels of anxiety. This suggests that problematic social media use among young people may be a risk factor for broader mental health concerns. Future studies are needed to confirm if this pattern is seen in larger and more diverse samples, and to validate the novel Social Media Dependency measure. Nevertheless, these results highlight the need for robust research on the connection between social media and mental health.

12:00-1:30 PM (IV-059)

Fluid Intelligence Moderates the Relationship Between Emotion Regulation and Conspiracy Thinking. SAM AGNOLI, *Northwestern University*, MICHAEL V. BRONSTEIN, *University of Minnesota*, PHILIP CORLETT, *Yale University*, DAVID KIMHY, *Icahn School of Medicine at Mount Sinai*, TREVOR F. WILLIAMS, *Kent State University*, DANIELLE N. PRATT, *Northwestern University*, MAEVE L. HOFFMAN, *Northwestern University*, BLAIR BROWN, *University of Minnesota*, BELLA OZOMARO, *Icahn School of Medicine at Mount Sinai*, VIJAY A. MITTAL, *Northwestern University*, DAVID N. RAPP, *Northwestern University* — Understanding why people endorse conspiracy beliefs is important for contemplating potential remediations. Previous work has indicated that deficits in emotion regulation and cognitive functioning separately contribute to conspiracy beliefs. However, it remains unclear if these factors interact. The current study interrogated conspiratorial belief in general as well as vaccine-specific conspiracies specifically across a large sample (N = 794). Participants completed a measure of fluid intelligence (i.e., matrix reasoning) and the Emotion Regulation Questionnaire. Replicating prior work, greater fluid intelligence was associated with fewer conspiracy beliefs, and expressive suppression (i.e., maladaptively inhibiting emotions) was positively correlated with conspiracy beliefs. Crucially, fluid intelligence moderated the relationship between expressive suppression and conspiracy beliefs, such that expressive suppression's association with conspiracy beliefs was greater for people with poorer fluid intelligence, and nullified for people with greater fluid intelligence. These results clarify the mechanistic contributions of two factors recognized as central to conspiratorial thinking and can inform targeted intervention efforts.

12:00-1:30 PM (IV-060)

Examining the Relationship Between Partisan Identity and Crowd Emotion Perception. VISHMI DASANAYAKE, *California State University, Bakersfield*, EMMA KING, *California State University, Bakersfield*, JOSEPH CONLON, *California State University, Bakersfield*, MUKESH B. MAKWANA, *Brown University*, MARUTI MISHRA, *California State University, Bakersfield* — Social identity shapes how individuals interpret emotional expressions, particularly when evaluating individuals from opposing groups. The current study asks whether an individuals' partisan identity influences perceived emotionality of politically affiliated crowds. Specifically, whether the crowd amplification effect, where a collective's emotional state, is perceived as more extreme than it is, affected by their social identity. In an in-lab experimental study, seventy-seven participants judged groups of faces displaying varying emotional intensities of happy or angry faces, for either the Republican or Democratic Party blocks. The face set sizes ranged from 1-14, randomly. Our preliminary results show that participants who self-declared themselves as Democratic, reported amplification of happy emotion across partisan groups and set sizes. Angry emotions were less amplified compared to happy emotions. The results from this study could suggest that if people systematically perceive emotional cues differently based on political identity or any other group identity, it could reinforce divergent interpretations of social and political events.

12:00-1:30 PM (IV-061)

Controlling for Alexithymia Reveals Autism-Related Differences in Emotional Reactions. RACHEL E. DEWALD, *University of Nevada, Las Vegas*, JADE FERNANDEZ, *University of Nevada, Las Vegas*, ERIN HANNON, *University of Nevada, Las Vegas*, ANDREA KAYL, *University of Nevada, Las Vegas* — Emotional reactions to the same stimuli may differ between autistic and non-autistic individuals, though such differences may instead reflect alexithymia, which is often elevated in autistic participants. We examined emotional reactions to clips from the Database of Emotional Videos from Ottawa (DEVO) while accounting for alexithymia. Participants (N = 116) were grouped by autism traits (high vs. low) based on the Social Responsiveness Scale and for each clip rated their emotional reaction on continuous scales of affect, anxiety, pride, and energy. Before accounting for alexithymia, the groups did not differ. Controlling for alexithymia revealed higher within-participant variability in the high-autism group. This emerged because alexithymia, more concentrated in the high-autism group, was linked to a narrower range of ratings that had concealed an underlying autism-related difference. In this sample, controlling for alexithymia uncovered rather than eliminated autism-related differences in emotional reactions, suggesting that autism and alexithymia have distinct effects.

12:00-1:30 PM (IV-062)

17β-estradiol and Locus Coeruleus Integrity Interactions as Moderators of Memory in Postmenopausal Women. LORENA FERGUSON, *University of Southern California*, WENHUI ZHAO, *University of Southern California*, MARA MATHER, *University of Southern California*, TEAL EICH, *University of Southern California* — 17β-estradiol (E2), one of the primary female sex hormones, is beneficial for memory. It modulates the hippocampus as well as the locus coeruleus (LC), a brainstem structure that is the primary source of norepinephrine (NE) to the brain and is essential for maintaining cognition in late life. The detrimental impact of E2 loss on memory during menopause may therefore be partially due to reduced modulation of the LC. However, this hypothesis has yet to be tested. In the current study, we assessed how E2 levels interacted with LC integrity to impact memory performance in postmenopausal females. We found that E2 levels moderated the relationship between LC integrity and memory, such that higher E2 levels were able to compensate for low LC integrity, and vice versa. In contrast, having high E2 and high LC integrity was associated with worse memory. Thus, compensatory mechanisms may be able to spare memory in late life, while overactivation of E2 and LC systems may lead to network dysfunction and memory impairment.

12:00-1:30 PM (IV-063)

Neural evidence for information integration based on predictive processing in visual working memory. REUT PELED, *Tel Aviv University*, ROY LURIA, *Tel Aviv University* — Visual working memory (VWM) supports adaptive behavior by actively maintaining information. A central, yet neglected, aspect of VWM is its role in predicting the upcoming future, which requires the proactive manipulation of information before a predicted event or object occurs. Here, we provide neural evidence that VWM actively supports prediction by integrating visual information in advance based on prior knowledge. Across three EEG experiments (N=54), participants viewed objects moving toward integration while we monitored the contralateral delay activity (CDA), a neural marker of VWM load. We focused on the prediction period: just before the moving stimuli merged. The results revealed that VWM prospectively integrated the moving stimuli and maintained less information relative to a control condition with independently moving stimuli (Experiments 1 and 2). This reduction in VWM load was not driven by movement anticipation or predicted event activation (Experiment 3). These findings highlight VWM as a proactive, future-oriented mechanism.

12:00-1:30 PM (IV-064)

Oscillatory Dynamics of Explore-Exploit Tradeoffs During Semantic Memory Search. CHANNING HAMBRIC, *Lehigh University*, ERIKA NYHUS, *Bowdoin College*, NANCY LUNDIN, *Ohio State University*, ABHILASHA A. KUMAR, *Bowdoin College* — Recent work using the verbal fluency task (VFT; e.g., Name as many animals as you can in one minute) has shown that individuals alternate between exploiting local clusters of related items and exploring new areas of search, yet the neural mechanisms underlying this tradeoff are not well understood. In the present work, we used computational modeling to classify explore-exploit decisions in the VFT while measuring theta oscillatory power via electroencephalography (EEG) immediately before and after each response. We also examined how theta power in the VFT correlated with amplitudes of event-related potentials (ERPs) in secondary tasks related to uncertainty-based exploration (BART; P300) and prediction of semantic information (Cloze Task; N400). Overall, our results indicated that increases in theta power during the VFT were related to ERPs of predictive processing and captured signatures of optimal exploration and exploitation during memory search.

12:00-1:30 PM (IV-066)

Neural signatures of spontaneous transitions between internal and external thought. MENGQI ZHAO, *Purdue University*, MENGTING ZHANG, *Purdue University*, HAOWEN SU, *Purdue University*, PHILIP R. LIU, *Purdue University*, HONGMI LEE, *Purdue University* — Our stream of thought frequently alternates between external sensory processing and internally generated cognition. Although prior studies have linked such shifts to changes in neural activity, they have primarily used experimentally controlled, externally induced transitions. To study the neural responses preceding spontaneous internal-external thought transitions during the natural flow of consciousness, we reanalyzed our think-aloud fMRI dataset (N = 59) in which participants continuously verbalized their thoughts during a 10-minute scan. We segmented transcripts into sentences, coded each sentence as internal or external, and extracted neural activity time-locked to thought transitions. Compared to internal-to-internal transitions, internal-to-external shifts were preceded by significantly greater activation in the salience network, especially the right temporoparietal junction. Furthermore, the magnitude of this pre-transition activation scaled with acetylcholine receptor density. These results suggest that spontaneous transitions from internally to externally oriented modes of cognition involve salience-network-centered cortical responses potentially supported by cholinergic mechanisms.

12:00-1:30 PM (IV-067)

A unique neural signature of long-term memory encoding from EEG inter-electrode correlation. CHONG ZHAO, *University of Chicago*, MONICA ROSENBERG, *University of Chicago*, EDWARD VOGEL, *University of Chicago* — Classic memory models proposed that the encoding process in visual working memory (VWM) controls the bandwidth of encoding in long-term memory (LTM). Behaviorally, VWM and LTM accuracies are reliably correlated, raising the question of whether LTM encoding engages processes distinct from VWM encoding. To investigate this, we recorded EEG activity while participants completed recognition memory tasks with set sizes of 32 and 128, far beyond typical VWM capacity. Using interelectrode correlation (IC) analysis, we found that IC patterns reliably predicted individual differences in LTM across both set sizes, indicating a robust domain-general neural signature. Critically, this predictive power remained after controlling for VWM and attentional control performance, suggesting that the model captured variance specific to LTM encoding. Predictive signals emerged only after stimulus onset and persisted for 500-600 ms. Together, these findings reveal a temporally dynamic neural signature supporting individual differences in LTM encoding independent of general cognitive abilities.

12:00-1:30 PM (IV-068)

What the Pupil Reveals About the Nature of Attention Control: Evidence for a Two-Factor Model. KATE COLE, *Georgia Institute of Technology*, JASON S. TSUKAHARA, *University of North Carolina at Wilmington*, RANDALL W. ENGLE, *Georgia Institute of Technology* — Whether attention control is a unitary construct or comprises distinct subcomponents has been a longstanding debate in cognitive psychology. This study provides evidence for a two-factor theory of attention control consisting of sustained and selective attention components. Data was collected from over 250 participants across six cognitive tasks: the PVT, SACT, and SART (sustained attention), and the Antisaccade, Visual Arrays, and Stroop Squared (selective attention). During the sustained attention tasks, mind wandering probes were included intermittently, and pupil diameter was continuously recorded. Using structural equation modeling, a latent factor of mean pre-trial pupil diameter predicted the selective attention latent factor ($\beta = 0.201$, $p = 0.022$) but not the sustained attention latent factor ($\beta = -0.097$, $p = 0.292$). In contrast, latent factors of variability in pre-trial pupil diameter and mind wandering predicted the sustained attention latent factor ($\beta = -0.445$, $p = 0.001$) but not the selective attention latent factor ($\beta = 0.088$, $p = 0.401$). The clean dissociation between the two pupillometry measures and the two attention factors offers support for a distinction between selective and sustained attention control.

12:00-1:30 PM (IV-069)

ERP markers of curiosity and encoding success in younger and older adults. AALIM MAKANI, *Toronto Metropolitan University*, CARSON PUN, *Toronto Metropolitan University*, BRANDON PAUL, *Toronto Metropolitan University*, JULIA SPANIOL, *Toronto Metropolitan University* — Cognitive neuroscience research with younger adults has highlighted the neural mechanisms underlying curiosity. In a seminal study, Gruber et al. (2014) found that curiosity about trivia questions activated mesolimbic dopaminergic reward circuitry and improved memory for trivia answers. Satisfaction of curiosity has also been shown to modulate reward-sensitive event-related potentials and subsequent memory performance in younger adults (Ruterbories et al., 2024). However, the reward-related properties of curiosity remain less understood in older adults. Behavioural work suggests that state curiosity elicited by trivia questions increases with age (Whatley et al., 2025), despite age-related declines in dopaminergic function and reward-based learning (Rixon-Lindroth, 2005). The current study investigated the neural mechanisms of curiosity and curiosity-enhanced memory in younger and older adults using a trivia paradigm. We replicated curiosity-enhanced memory effects in both age groups in reward-related ERP markers, including greater P300 and LPP amplitudes for high versus low curiosity. These findings suggest that curiosity engages reward processing across adulthood, with

implications for motivation-cognition interactions in aging.

12:00-1:30 PM (IV-070)

Compositionality Projects Spatial Working Memories into an Abstract Coding Space. JOSHUA RHILINGER, *Florida State University*, DEREK EVAN NEE, *Florida State University* — Compositionality allows task components to be reused in different contexts. This core ingredient to human intelligence supports generativity, flexibility, and rapid learning. Recent work has shown that compositionality is achieved by reusing common representational subspaces across tasks (Tafazoli et al., 2025). Here, we examined the impact of compositionality on working memory (WM) representations. Participants (n=15) learned a set of rules dictating how to reflect points across Cartesian axes. The same rules were applied to axes presented separately in each visual hemifield encouraging compositional reuse across otherwise independent hemifields. Rules were applied within a 2-item double retrocue spatial WM paradigm with match/nonmatch probes. We predicted that compositional reuse of rules would induce a tendency to code each hemifield in a common abstract representational subspace (i.e., collapsing hemifield). Consistent with this prediction, nonmatch probes which matched the uncued location in the abstract subspace were false alarmed more frequently than neutral nonmatch probes ($p < .001$). These data suggest that compositionality projects WM representations into an abstract coding space with the potential for interference.

12:00-1:30 PM (IV-071)

Can You Hear Me Now?: The Influence of Adult Attachment Patterns on Initial Attitudes Toward Tele- Vs. In-Person Psychotherapy. ANNA GJERTSEN, *ACG Healthcare* — The COVID-19 pandemic sparked significant growth in the use of and demand for tele-psychotherapy (TPT; APA, 2021). Thus, it is more important than ever for therapists to understand what influences therapy customer's choice of therapist based on TPT vs. in-person therapy offerings. Because interpersonal attachment patterns have different characteristic levels of desire for interpersonal closeness, these attachment dynamics have a strong theoretical connection to preferences for more and less physically close therapy delivery methods. Existing research indicates that attachment can influence people's perception of ongoing TPT vs. in-person therapy (Békés & Aafjes-van Doorn, 2023). However, it remains unclear how attachment influences potential new clients' preconceived ideas about in-person therapy vs. different forms of TPT. The current study used a representative sample of 87 participants to explore this question. The results support a relationship between general attachment security and therapy delivery preferences that is mediated by comfort traveling outside the home and general feelings about beginning psychotherapy. Limitations of the current study and implications for future research and practice are explored.

12:00-1:30 PM (IV-072)

From Headlines to Priorities: How News Media Coverage Shapes Political Issue Salience Among Young Americans. MYKA ENOMOTO-MCLAIN, *University of California, Santa Cruz*, JOSHUA ROTONDO-VALENTINE, *University of California, Santa Cruz*, MASON COOPER, *University of California, Santa Cruz*, JEREMY YAMASHIRO, *University of California, Santa Cruz* — There are important components of generating trust in news media. Traditionally, the requisites for a trustworthy news source or report include providing sufficient information on a topic that the consumer does not already know, and furthermore, for the source to be credible enough that the information does not need further fact-checking (Garusi et al., 2025). However, there is a growing distrust in mainstream news, and an increase of Americans consuming news from social media and blogs (Fletcher & Park, 2017; Shearer, 2021; Thorbjørnsrud & Figenschou, 2022). Given the complex transformation of news consumption, we conducted a study on UCSC undergraduate students that examined imagined political changes on issues that were important to them. Participant responses were then charted along a political timeline that followed the duration of our study, and were

coded based on different timeframes that had news stories circulating important and current political topics. We aim to analyze how news media coverage of political issues may influence which political topics individuals prioritize, and the types of change Americans are envisioning in this period of distrust in conventional news outlets.

12:00-1:30 PM (IV-073)

Effects of Motivation on Attentional Scope and Bias. XIN-PEI LIU, *National Tsing Hua University*, HSUAN-FU CHAO, *National Tsing Hua University* — While prior studies have demonstrated the effects of emotional valence on attention, less is known about how motivation influences attention. The present study examined how motivational orientation and intensity influence attentional scope and attentional bias. Motivational orientation and intensity were manipulated by cue valence and magnitude, respectively. Attentional scope was measured using a Navon task, whereas attentional bias was assessed using a lexical decision task. For attentional scope, results showed an advantage for global over local processing, which was larger under low motivational intensity. For attentional bias, a three-way interaction was significant. Under avoidance motivation, responses were faster following local processing regardless of intensity; under approach motivation, local processing facilitated responses at low intensity, whereas global processing facilitated responses at high intensity. Responses also tended to be faster when stimuli were congruent with the current motivational state. These findings suggest that motivation may differentially influence attentional scope and attentional bias.

12:00-1:30 PM (IV-074)

Seeing is believing: Visual insights bias belief in spiritual claims. JOSHUA R. ORTEGA, *University of California, Santa Barbara*, JONATHAN W. SCHOOLER, *University of California, Santa Barbara* — Does discovering an idea for yourself make it feel true? Prior work shows that statements containing scrambled keywords are judged as truer when people successfully decipher them, and particularly when solutions come as an insight. However, it remains unclear whether these self-discovery effects extend to visual insights—when ambiguous images suddenly become meaningful. To test this, we used a 2 (ambiguity: present vs. absent) × 2 (modality: verbal vs. visual) between-subjects design. Participants evaluated spiritual claims presented either outright or with obscured keywords. In the verbal condition, keywords appeared as anagrams (e.g., "Wandering PSEHE are carried home by the mercy of the Lord"); in the visual condition, keywords were depicted with black-and-white Mooney images. Participants rated the truth of each claim, and on ambiguous trials, the intensity of any insights. Pilot testing of the ambiguous conditions revealed that successfully solved items received higher truth ratings than unsolved items. Moreover, solved Mooney images led to higher truth ratings and more intense insights than solved anagrams. These findings suggest insights that arise out of visual uncertainty may be a particularly strong driver of belief.

12:00-1:30 PM (IV-075)

Self-image concerns may constrain foraging for repeated dishonest behaviors. TYLER PFAHL, *Indiana University Bloomington*, PETER TODD, *Indiana University Bloomington*, KINNERET TEODORESCU, *Technion - Israel Institute of Technology* — Most laboratory studies of dishonesty examine one-shot decisions, emphasizing positive self-image maintenance while cheating by minimizing the magnitude of the act. However, many real-world dishonest acts are repeated, where avoiding detection may become more important than minimizing any single act. We developed a novel repeated die-roll task in which reporting a 4-6 yielded identical rewards, and participants were instructed to alter some losing outcomes (1-3) into winning ones while avoiding detectable patterns. When altering outcomes, participants disproportionately reported 4s (44%) relative to 5s (31%) and 6s (25%), despite all winning outcomes being equally rewarded. This preference for minimally sufficient outcomes was strongest during participants' initial dishonest reports, but weakened across later alterations, while dishonest responses diversified while recently used winners were avoid-

ed. Contrary to self-image predictions, participants showed no preference for altering higher losing numbers. These findings suggest that while self-image concerns may dominate one-shot dishonesty, repeated opportunities to cheat can recruit dynamic concealment or "foraging" strategies aimed at reducing detectability over time.

12:00-1:30 PM (IV-076)

Examining the Interplay Between Trauma and Frequency of Discriminatory Experiences on Executive Function. ALONZO LEE-ABBEY, *York University*, MELODY WISEHEART, *York University* — Discrimination is the unfair treatment of an individual or group based on factors such as race, gender, sexual orientation, socioeconomic status (SES), religion, and/or ability. Discrimination is a pervasive issue that plagues many parts of the world. Experiences of discrimination have been consistently linked to poor physical, emotional, and mental health. Our understanding of its detrimental effects on our daily cognitive functioning is unclear. The present study examines the effects of discrimination on key areas of executive function—cognitive flexibility, working memory, and inhibitory control—highlighting differences between discrimination frequency and trauma associated with discriminatory experiences. Findings provide novel insight into discriminations effects on cognitive load, and further our theoretical understanding of social stressors.

12:00-1:30 PM (IV-077)

Witches Have a More Positive Attitude Toward Science than People Who Identify as Spiritual but not Religious and People with Traditional Religious Beliefs. WILLIAM LANGSTON, *Middle Tennessee State University*, ALEXA R. SUMMERSILL, *Middle Tennessee State University*, CODY KIMBRELL, *Middle Tennessee State University* — In the United States, traditional religious belief and science are often perceived to be in conflict. Because the population of people identifying as witches is increasing, and because attitude toward science is associated with variables that influence well-being, we evaluated whether witches would have a more positive perspective on the credibility of science than traditional religious believers and people identifying as spiritual but not religious. We assessed the groups with experience, belief, behavior, and identity measures and found that traditional religious and spiritual but not religious identities were associated with a more negative perspective on the credibility of science and witch identity was associated with a more positive perspective.

12:00-1:30 PM (IV-078)

When FOMO Becomes Stressful: Emotion-Focused Coping as a Buffer in Social Media-Related Stress and Well-Being Among Young Adults. XIN YING (ERICA) HUANG, *Mulgrave School, The International School of Vancouver*, JIAYING LIU, *University of California, Santa Barbara* — When does fear of missing out (FOMO) undermine well-being? We examined whether emotion-focused coping buffers a stress pathway linking FOMO, problematic social media use tendencies, and life satisfaction. In a national survey of U.S. young adult social media users (N=592, ages 18-25), FOMO was associated with greater problematic use (β=.47, $p<.001$) and perceived stress (β=.26, $p<.001$), and stress was associated with lower life satisfaction (β=-.53, $p<.001$). Emotion-focused coping moderated the problematic use-stress link (β_int=-.07, p=.031): problematic use was associated with greater stress at low (β=.18, p=.002) and moderate coping (β=.11, p=.013), but not high coping (β=.04, p=.423). A moderated serial mediation analysis showed that the indirect association between FOMO and life satisfaction through problematic use and stress was significant at low and moderate, but not high, emotion-focused coping (index=.056, 95% CI [.008, .113]). Findings suggest that FOMO-related engagement is linked to poorer well-being when problematic use is experienced as stressful, and that emotion-focused coping may serve as a self-regulatory buffer that attenuates this stress-related pathway in everyday digital contexts.

12:00-1:30 PM (IV-079)

Gender Violations: The Impact of Gender Expression Incongruence on University Students' Perceptions of a Lecturer. SIENNA LUDKA, *California State University, Northridge*, ANAIS UNANYAN, *California State University, Northridge*, JUSTIN JOE, *California State University, Northridge*, ONYX HARRISON, *California State University, Northridge*, STEFANIE A. DREW, *California State University, Northridge* — Across the globe, a person's gender is often equated to their biological sex. Despite traditional gender norms expecting congruency between a person's gender and their clothing style, some defy these expectations through nonconforming gender expression (NCGE). Previous literature indicates that individuals who express themselves in ways deemed incongruent to their biological sex face societal backlash. Yet, few studies explore clothing's role in NCGE. Within a virtual reality learning environment, this study investigated attire incongruence on perceptions of conformity in NCGE. Forty-five participants observed one of four conditions, manipulating congruency of attire and gender. Two factorial ANOVAs revealed that nonconforming men were rated significantly less masculine than their conforming condition, $p < .001$, as opposed to nonconforming women, who were not rated significantly different from their conforming condition, $p = .945$. This indicates gender incongruence may be more notable for men teaching in traditionally feminine attire than women in traditionally masculine attire.

12:00-1:30 PM (IV-080)

Says Who?: Social Source Identity Influences Response Accuracy and Confidence. JACK HALVERSON, *Columbia University*, JANET METCALFE, *Columbia University* — This study examines how social identity cues, assessed either before or after the task, and feedback from in- and out-group sources, influence memory for and confidence about the accuracy of answers to general information questions. Participants are given general information questions that past studies have shown elicit consensual high confidence errors, such as "What is the capital of Australia?" They provide their response, rate their confidence that it's correct, and rate their curiosity. They are then shown an answer, that is not designated as being either correct or incorrect, to each question. This answer is attributed either to an in-group or out-group social source. Answers, balanced across in- and out-group sources, are either the correct answer or the incorrect but consensual answer. Later, participants are asked to provide the correct answers to all questions, as well as their confidence that their final response is correct. Changes in the accuracy of responding and in participants' associated confidence, as a function of both the Correctness of the answers provided (i.e., correct or consensual but wrong) and the Source (i.e., whether the feedback was provided by an in-group or out-group member) will be discussed.

12:00-1:30 PM (IV-081)

Messages From The Night: A Cross-Cultural Analysis of Dreaming and Cognition in American and Balinese Contexts. CINTYA ROBY, *Occidental College*, ALEKSANDRA SHERMAN, *Occidental College* — Dreams are widely understood as personal experiences associated with memory consolidation, creativity and associative thinking. However, much of this research has focused on Western beliefs, dismissing its significance cross-culturally. In Bali, dreams are interpreted as messages from spiritual forces, prompting culturally-driven dream-sharing practices. Here we have developed a cross-cultural study aimed to assess dream-sharing practices within Bali and the United States to determine how these variations may affect cognition. Participants were asked to reflect on their dreaming experiences, dream-sharing practices, as well as complete self-report measures of emotional intelligence (BEIS-10 and STEU-B), and to create a short story based on a given prompt to assess creativity. These measures aimed to assess how experiences and beliefs about dreams affect creativity and emotional intelligence across cultures. We will discuss the preliminary results of these cross-cultural surveys and their implications for how we understand dreams and their effects on cognition across cultures.

12:00-1:30 PM (IV-082)

An Investigation of Empathy and Comprehension for Transgender Protagonists in Narrative Texts. JUNE M. CONTRERAS, *University of Texas at El Paso*, COLIN SCHOLL, *University of Texas at El Paso* — Due to stigma around transgender individuals, the current study assessed perceptions of transgender protagonists in a set of experimental narratives. Participant first received an informational handout about societal issues of transgender or unhoused individuals. The protagonist in the vignettes was either cisgender or transgender, and critically, this was the only difference between passage conditions. A sample of 389 participants read 14 vignettes and then provided a rating of empathy toward the protagonist on a 1-5 Likert scale and answered two comprehension questions. We also measured participants' heteronormative attitudes, contact quantity and quality with transgender individuals, political party affiliation, and political ideology. Altogether, heteronormative attitudes were negatively associated with empathy toward all protagonists, and even more so when the protagonist was transgender. The transgender issues informational handout did not increase empathy ratings for the transgender protagonists, but did raise comprehension scores overall. This is important because informational exposure alone from the handout was insufficient to shift empathy, making quality intergroup contact central to reducing transgender prejudice.

12:00-1:30 PM (IV-083)

Cultural identity influences susceptibility to the effect of discrimination on memory in bicultural Americans. AHHYUN SEO, *University of Texas at Austin*, IVA DUJMIC, *Brandeis University*, ANGELA GUTCHESS, *Brandeis University*, AUDREY DUARTE, *University of Texas at Austin* — Chronic stress negatively influences cognition, particularly episodic memory. Discrimination, a chronic stressor, has been linked to psychological well-being in bicultural individuals. Stronger host identity may amplify stress responses due to greater feelings of identity denial. Whether the effect of discrimination on memory varies as a function of levels of bicultural identity remains understudied. In this study, Mexican Americans (MAs) and Chinese Americans (CAs) completed questionnaires assessing heritage and American identity, discrimination, and an episodic memory task. MAs reported similar levels of Mexican and American identity, whereas CAs reported stronger American than Chinese identity. Across groups, discrimination was associated with poorer memory, with MAs showing a stronger effect particularly in individuals with stronger affiliation to American relative to Mexican culture. These findings suggest that a strong connection to one's host culture may exacerbate the negative influence of discrimination on memory, particularly in cultural groups that maintain similar levels of heritage and host cultural identity.

12:00-1:30 PM (IV-084)

Remembering location of information within a text is dependent on visuospatial abilities.. CHRISTOPHER A. SANCHEZ, *Oregon State University* — When reading, readers have been shown to not only extract conceptual information from a text, but also seem to internalize spatial aspects of text presentation. For example, readers often remember where on a page a given concept is located, and this spatial information can be used in the service of forming conceptual understanding across the text. However, is the ability to remember these spatial locations contingent on individual differences in how readers process and manipulate spatial information? Across two studies, readers who varied in visuospatial ability read texts, and were asked to not only recall conceptual information within the texts, but also identify where in the text that information appeared. In both studies, results indicated that higher visuospatial abilities predicted both conceptual and location recall. This represents the first direct confirmation of such an effect, once again emphasizing the role of individual differences in text processing and comprehension.

12:00-1:30 PM (IV-085)

What's With The Tone?: Interpretation of Punctuation in Supervisor-Employee Communication. GRACEY BRYANT, *Tennessee Technological University*, STEPHANIE A. KAZANAS, *Tennessee Technological University* — Current technological advances have made online communication essential, shifting professional interactions towards informal text-based platforms such as Instant Messaging. Digital messages lack non-verbal cues—body language and facial expressions—which can be used to convey meaning. In the absence of these, individuals may attempt to draw inferences from what is physically present, such as punctuation. However, prior research suggests messages ending with periods appear less sincere (Gunraj et al., 2015) and tend to convey negativity (Houghton et al., 2018). The current study examines how varied punctuation and emotional valence influence perceived sincerity and tone in text messages with workplace supervisors. Participants completed a mood scale and viewed 45 fictitious text message scenarios interacting with their "boss." Both punctuation and emotional valence affected tone and sincerity ratings, suggesting careful consideration of these factors is important in reducing the likelihood of misinterpretation in online interactions.

12:00-1:30 PM (IV-086)

Audiovisual Retention Benefits in Native and Nonnative Listeners. VIOLET A. BROWN, *Carleton College*, A. HARRISON JAMES, *Carleton College*, ISAAC M. SMALLEY, *University of Southern California*, JULIA STRAND, *Carleton College* — Remembering information from a spoken utterance is a cognitively demanding activity, especially under adverse listening conditions. Visual cues from a talking face can reduce this cognitive load by providing complementary phonological information, which may allow listeners to allocate more resources to encoding what they heard and integrating it with their existing semantic networks. This study assessed audiovisual retention benefit—the extent to which information from short audiovisual passages is recounted better than audio-only speech—in native ("L1") speakers of English and fluent, nonnative ("LX") speakers of English. Participants were asked to summarize spoken audio-only and audiovisual passages (Aesop's fables) with and without masking noise. We found relatively similar patterns of results for L1 and LX participants, suggesting that studies of this kind may be able to recruit more linguistically diverse samples without substantially altering the effects. In addition, we examine the reliability of open-ended comprehension scoring and explore the feasibility of automated scoring approaches for analyzing recall data.

12:00-1:30 PM (IV-087)

Risky Business: Understanding how linguistic cues inform severe weather risk behavior. ALLISON NGUYEN, *Illinois State University*, ALISON GUTHRIE, *Illinois State University* — Effective severe weather risk communication depends on the public's ability to interpret language used by weather forecasters. The present study investigates understandings of forecasting language used by the National Weather Service and a common weather application. We tested to see how people judged the risk level when framed as marginal, slight/possible, enhanced/likely, moderate/very likely, and high/extreme. Numeracy, the ability to understand and interpret probabilistic information, has been shown to predict quality decision-making and protective action and was measured in this study. Participants showed significant differences in interpreting most severe weather risk terms used by the NWS and a common weather service. Notably, participants rated slight, moderate, and high as lower risk than their weather application counterpart, with no effect of numeracy on judgement. This suggests that people may over or underestimate their own personal risk depending on framing, which has implications for public policy and disaster preparedness.

12:00-1:30 PM (IV-089)

Does Informal Language Help People Learn Scientific Information? ESMERALDA D. HERRERA, *University of California, Santa Cruz*, MARTHA C. ZÚÑIGA, *University of California, Santa Cruz*, JEAN E. FOX TREE, *University of California, Santa Cruz* — We tested how language style affected learning of scientific information about vaccines. We tested two styles, formal and informal. The formal condition contained a strong use of the third-person perspective as well as proper grammar rules. The informal condition contained terms of endearment, pronouns that indicate closeness (we, you), emojis, and informational punctuation. We tested how well information was conveyed, as well as participants' perceptions of vaccines and engagement with the stimuli. Preliminary results will be discussed.

12:00-1:30 PM (IV-090)

Structure Predicts Experience: Representing Social Networks of Characters in Movies. SHU HU, *Georgia State University*, LINGFEI LUAN, *Belmont University*, JAIME LÓPEZ DÍEZ, *Complutense University of Madrid*, HÉCTOR PÉREZ, *Valencia Polytechnic University*, JOSEPH P. MAGLIANO, *Georgia State University* — Theories of narrative comprehension assume people build mental models of events as the plot unfolds. However, events are only one part of a narrative. The Storyworld Framework assumes people also build representations of characters called the character model. Character models represent the social relationships between characters as social networks, and a character's position in the network reflects their prominence in the narrative. This study explored the relationship between a main character's evolving position in the social network of a narrative and participants' affective judgments regarding that character. Participants watched one of three feature films and made identification and liking judgments about the main character while watching. We computationally derived evolving social networks from film dialogue patterns for the first 35 minutes of the movies using Character Interaction Graph Analysis (CIGA). The main character's position in the network was operationalized via character centrality (the number of connections a character has). Centrality robustly correlated with both identification and liking judgments, providing the first evidence that people build character models that reflect the evolving social network.

12:00-1:30 PM (IV-091)

Making Sure I Understand: Operationalizing Metacognitive Processes in Constructed Responses. MIRANDA MOE, *University of Minnesota Twin Cities*, VARUN ATHILAT, *University of Minnesota Twin Cities*, JORDYN THRASHER, *Georgia State University*, JASON BRAASCH, *Georgia State University*, ANTONIO GUTIERREZ DE BLUME, *Georgia Southern University*, LAURA ALLEN, *University of Minnesota Twin Cities* — Reading across multiple sources with conflicting perspectives and varying credibility requires active regulation of both understanding and source evaluation. Yet, existing research on metacognition in multiple-source contexts relies largely on post-task measures or broad indicators of metacognition, limiting insights into how metacognitive processes unfold during online reading. Think-aloud protocols offer finer-grained access to these processes, but existing coding approaches have targeted specific strategies rather than the full range of metacognitive activity. In the current study, we developed a theoretically-grounded codebook for identifying metacognitive processes in think-aloud responses during multiple-document reading tasks, aligned with the Metacognitive and Affective Self-Regulated Learning (MASRL) model. With demonstrated interrater reliability ($\kappa = 0.73$), the codebook differentiates operationalizations of metacognitive knowledge, skills, and experiences, thus providing a foundation for examining how regulatory processes unfold in real time across complex, multi-source reading environments.

12:00-1:30 PM (IV-092)

Are non-native speakers more likely to be forgiven for sins of omission? RIVES SCHERER, *Reed College*, KEVIN J. HOLMES, *Reed College* — In everyday conversation, speakers who omit relevant information incur social costs. Recent work suggests

that such costs are reduced for non-native speakers: listeners more readily choose to learn from an under-informative non-native speaker than an under-informative native speaker, as if forgiving sins of omission inferred to be unintentional. Across two experiments (N = 1,014), we investigated the robustness of this non-native speaker forgiveness effect. In Experiment 1, participants were less willing to continue learning from a speaker—and evaluated her less favorably in general—when she was under-informative than informative, but this penalty for under-informativeness was no less severe when the speaker was non-native than native. In Experiment 2, negative judgments of an under-informative non-native speaker were driven by participants who cited her under-informative utterance as influential in their evaluations, and were unaffected by whether the speaker was described using asset- or deficit-oriented labels commonly applied to multilingual students in K-12 settings. Together, these results highlight the broad social disadvantages of under-informativeness and suggest that non-native speakers may be no less exempt from them.

12:00-1:30 PM (IV-093)

Memory for Multiparty Conversation Over Time. CAITLIN VOLANTE, *Vanderbilt University*, YU ZHOU, *Vanderbilt University*, SARAH BROWN-SCHMIDT, *Vanderbilt University* — Conversation is a coordinated activity, yet memory for conversational content may differ depending on whether an idea was expressed by one's self or one's partner, and whether an idea was produced in response to a partner's question. While conversational recall rates for dialogue are low, source memory for recalled content tends to be high; whether this extends to multiparty conversation is unknown. In dialogue, knowing an utterance was said – but not by you – is a cue to source; in groups of 3 or more this "it had to be you" cue is not diagnostic. This preregistered study examines memory for three-person conversations across immediate (20-minute) and delayed recall (4-week). Ninety-six fluent English-speaking adults participated in 20-minute free conversations in triplets. Participants then completed individual written recall immediately after the conversation and again after a four-week delay, followed by a structured oral recall interview. Interview questions probed points of similarity and difference in memory across the two written recalls, and were modeled after witness interview techniques. Analyses examine recall completeness and accuracy, source accuracy, and memory similarity among partners. Data analysis is underway.

12:00-1:30 PM (IV-094)

Situational Processing: Differential ERP Effects from Deep and Shallow Comprehension. GEOFFREY LIZAR, *University of Pittsburgh*, WEIQI WANG, *University of Pittsburgh*, ANNE HELDER, *Leiden University*, TESSA WARREN, *University of Pittsburgh*, CHARLES A. PERFETTI, *University of Pittsburgh* — The present study examined situation priming effects on word processing, with a focus on the role of how the text establishes event situations. Two experiments (modeled after Delogu et al., 2019) modulated integration difficulty while keeping lexical association (word priming) strong. EEG data were recorded while participants read stories that established a situation in the first sentence, then either reinforced or violated the existing situation model in the second sentence by use of a critical word that was semantically related to the words of Sentence 1, but that was either consistent or inconsistent with the prior context. The difference between conditions was in the established scenario in Sentence 1; in Experiment 1, the situations were low-information and varied on a single word, while in Experiment 2 the situations were high-information with larger variations across multiple words. Despite the manipulations being highly similar, Experiment 2 found an N400 effect ($p < .001$), while Experiment 1 did not ($p = .957$). Combined with results from prior studies, these results suggest that the richness of the text affects whether readers rely on the situation model for subsequent word processing.

12:00-1:30 PM (IV-095)

Conversational topics guide incremental reference resolution in real-time comprehension. KELLY MARSHALL, *Johns Hopkins University Applied Physics Laboratory*, L. ROBERT SLEVC, *University of Maryland, College Park*, JARED M. NOVICK, *University of Maryland, College Park* — Conversation topics are thought to guide what speakers say and what listeners expect to hear. However, most evidence comes from offline analyses of recordings or transcripts, leaving open whether listeners use topic information to constrain comprehension online. In a visual-world eye-tracking task, 64 participants listened to recorded conversations that alternated between two topics while viewing an array of 20 critical objects, with half relevant to each topic. Critical sentences contained a referential ambiguity (e.g., "We should use the black…" when two black objects were present). On half of the trials, the two potential referents were associated with the same topic; on the other half, they were associated with different topics (one matching the current conversational topic, one not). Participants also heard the same sentences presented outside of a conversational context as a baseline. Relative to baseline, same-topic competitors attracted more and earlier looks, whereas different-topic competitors attracted fewer looks. These results demonstrate that listeners track the current conversational topic and use it to guide incremental reference resolution during real-time comprehension.

12:00-1:30 PM (IV-096)

Paying attention: An Electrophysiology study of Attentional Control, Cognitive Effort, and Language Processing. MA ANGELA EDITH MONTIEL, *University of California, Santa Cruz*, MEGAN A. BOUDEWYN, *University of California, Santa Cruz* — There is increasing evidence that language comprehension recruits cognitive control to resolve linguistic conflict, such that encountering non-linguistic conflict can confer benefits on a subsequent linguistic conflict trial (cross-task adaptation effects). Alternatively, fatigue can lessen cognitive effort to task demands. Here, we examined the impact of attentional control fatigue on cross-task adaptation effects, focusing on theta power, an EEG-derived neural marker of cognitive control. Participants completed sustained attention-to-cue task (SACT) blocks in easy and difficult conditions, each followed by a sentence reading task that included linguistic conflict (lexical ambiguity) trials, interleaved with flanker task trials. Preliminary results showed that theta power was increased for ambiguous compared to unambiguous sentences ($p<.05$). These results provide new insights into the role of attentional control and fatigue in language processing.

12:00-1:30 PM (IV-097)

Duration-controlled L2 lexical tone learning is unaffected by visual cues. DERRICK NGUYEN, *University of Missouri*, LAURA M. MORETT, *University of Missouri*, LAURA M. GETZ, *University of San Diego*, ROBIN KARLIN, *University of Missouri* — Perceiving novel sounds in an unfamiliar language is difficult due to the need to map acoustic information onto stable categories, especially when an L2 acoustic dimension is not used in the L1 such as the acquisition of lexical tone by an atonal speaker. Previous work has demonstrated that observing pitch gestures and other visual depictions of pitch height facilitates learning of Mandarin lexical tones in atonal L1 speakers. However, Mandarin tones also differ in duration and not just pitch. As visual cues are typically tenurially coordinated with the auditory signal, it is possible that learners were attending to a duration cue, rather than pitch. In this study, 28 participants learned duration-controlled lexical tones via pitch gestures, color-based visual cues, and without visual cues. Results showed modest pretest—posttest improvements in lexical tone categorization accuracy over time, but these gains did not differ across conditions. In contrast, reaction times decreased from pretest to posttest, indicating improved processing efficiency with experience. These findings suggest that multimodal cueing may not enhance learning of lexical tones when duration is not a co-occurring cue.

12:00-1:30 PM (IV-098)

Modeling Cross-Language Phonological Competition as a Function of Semantic Alignment. LINKAI PENG, *University of Connecticut*, CHRISTIAN BRODBECK, *McMaster University*, JOSE PÉREZ-NAVARRO, *Basque Center on Cognition, Brain and Language*, IHINTZA MALHARIN, *Basque Center on Cognition, Brain and Language*, PHOEBE GASTON, *McMaster University*, NICOLA MOLINARO, *Basque Center on Cognition, Brain and Language*, EMILY MYERS, *University of Connecticut*, KEVIN BROWN, *Oregon State University*, JAMES S. MAGNUSON, *University of Connecticut; Basque Center on Cognition, Brain and Language* — Multilingual listeners can show parallel activation of lexical items within and between languages. In visual-world eye-tracking, hearing a word in one language can transiently activate phonologically similar words in another. We ask what computational pressures are sufficient to produce this effect. We trained a trilingual extension of the EARSHOT speech perception model (Magnuson et al., 2020) on English, Spanish, and Basque under four conditions that varied the the degree to which translation-equivalent words were semantically linked across languages, ranging from shared translation embeddings to independent random embeddings, with constant architecture and training parameters. Models with aligned embeddings preferentially activated cross-language phonological cohort competitors over unrelated distractors, indicating clear cross-language lexical coactivation. These results suggest that cross-language cohort competition can emerge from a domain-general pressure to align semantic representational space across languages.

12:00-1:30 PM (IV-099)

Persistent Competition in Statistical Learning: Evidence from Bidialectal Spelling. TONIA WILLIAMS, *University of Oxford*, SONALI NAG, *University of Oxford*, KATE NATION, *University of Oxford* — How does spelling develop when learners are exposed to competing phonological systems? Statistical learning accounts predict that competing mappings are maintained rather than eliminated, leading to persistent competition. We tested this in a bidialectal context using a spelling task centered on Jamaican Patois TH-stopping, where standard /θ, ð/ compete with /t, d/. Across 99 participants (children and adults), spelling accuracy was high for control words but substantially reduced for TH items. Accuracy improved with reading proficiency but remained below ceiling in adults. Errors were highly systematic with misspellings overwhelmingly reflecting dialect-consistent ⟨t/d⟩ substitutions, and error type was stable across development and reading ability. This developmental change in accuracy alongside stability in error form suggests that competing mappings remain active in the cognitive system. We argue that bidialectal spelling reflects a statistical learning system balancing competing inputs, rather than a transitional stage resolved by increased literacy.

12:00-1:30 PM (IV-100)

Evidence for context-dependent grounded semantics using EEG. HARSHADA VINAYA, *University of California, San Diego*, SEANA COULSON, *University of California, San Diego* — Research on grounded semantics often utilizes human-sourced and context-free ratings to quantify sensorimotor information, such as concreteness, imageability and the Lancaster Sensorimotor Norms (LS norms; 11-dimensions, six perceptual and five action). Here, we tested whether the context-sensitive ratings from the Contextualized Sensorimotor Norms (CS norms) better predict neural responses than LS norms. EEG was recorded from 33 adults reading 164 sentences from the CS norms dataset containing 82 unique words presented in two distinct contexts (e.g., “He liked the fish market” and “He liked the stock market”). Linear mixed-effects models were fit to EEG activity 200-800 ms after final-word onset, comparing models that included word frequency with the composite measures of perceptual and action strength from either LS norms or CS norms. From 300-800 ms, CS models consistently outperformed LS models (Δ Akaike Information Criterion > 60). Perceptual strength produced a frontocentral negativity, while action strength a centroparietal positivity. Findings

suggest that sensorimotor representations are dynamically shaped by linguistic context rather than automatically activated in a context-free manner.

12:00-1:30 PM (IV-101)

Cross-Linguistic Transfer of Verb Bias among Spanish-English Adolescents. XI YANG, *Vanderbilt University*, MICHELLE PERDOMO, *Vanderbilt University*, DUANE G. WATSON, *Vanderbilt University* — The extent to which a bilingual's languages influence one another likely depends on the linguistic features involved. Using knowledge from one language to process another is called cross-linguistic transfer. This study examined whether first-language verb bias information influences second-language sentence processing in bilingual children. Verb bias provides probabilistic information about a verb's structural preference. We recruited 29 Spanish-English bilingual children aged 8-15 years old. They showed an English verb bias effect in a self-paced reading task at the sentence-final region. We also observed reverse reading times between cross-language verb bias match and mismatch conditions, suggesting potential cross-linguistic transfer from Spanish to English, particularly among low proficiency participants. In contrast, comprehension accuracy was primarily predicted by English proficiency but did not reliably reflect effects of verb bias. The findings suggest that bilingual children integrate statistical patterns from both languages during sentence processing, with cross-linguistic transfer moderated by second-language proficiency.

12:00-1:30 PM (IV-102)

Perception of Acoustically Ambiguous Phonemes in Familiarly and Unfamiliarly Accented Speech when Embedded in Semantically Disambiguating Discourse. MEL MALLARD, *Washington University in St. Louis*, KRISTIN J. VAN ENGEN, *Washington University in St. Louis* — Acoustic details such as voice onset time can signal the identity of a phoneme (e.g. GOAT vs COAT), but are not always reliable. Fortunately, disambiguating cues can often be found in semantic context. Indeed, context can occasionally bias the perception of ambiguous words towards a congruent lexical candidate (e.g. "The girl milked the ?OAT" heard as GOAT). However, these limited findings come from carefully controlled studies with repetitive stimuli and highly intelligible speakers. Contrastingly, real-world listening tasks feature dynamic conversation and diverse speakers. Thus, we reconsidered this question in a more ecological paradigm. We prerecorded English discourse about illustrated scenes, and presented both of these to participants. They believed their task was to rate the speakers' social communicative behavior. In reality, we used eyetracking to infer their phonological and lexical processing during scripted trials that were covertly edited into the discourse. These trials manipulated acoustic congruence (Congruent, Ambiguous, Incongruent) and the position of disambiguating semantic context (Preceding, Subsequent). Experiment 2 explored these effects using an unfamiliarly-accented speaker. We present preliminary data.

12:00-1:30 PM (IV-103)

Perceptual Restoration of Locally Time-Reversed Words and Pseudowords in Japanese vs. English. MAKO ISHIDA, *Keio University* — People can understand speech even when successive X-ms segments of the speech signal are reversed in time. Locally time-reversed speech does not preserve the original temporal, acoustic, and articulatory sequences of speech, but the human brain can perceptually integrate dispersed information over time. The current study examined whether the perceptual restoration process is influenced by language-specific phonotactics and acoustic structure, by focusing on mora-based Japanese (where vowels appear after every single consonant) vs. syllable-based English (where vowels can be surrounded by consonant clusters). In the experiment, native Japanese speakers and native English speakers listened to locally time-reversed word and pseudoword "targets" paired with non-reversed "standards" in their native language, and judged whether the stimuli were the same or different. The results showed low accuracy for Japanese pseudoword targets, created by changing a consonant in corresponding real words, possibly reflecting stronger lexical expectations and higher predictability of CV-based words in Japanese.

12:00-1:30 PM (IV-104)

Statistical Word Segmentation in Natural Speech: An Individual Differences Study. FERHAT KARAMAN, *Texas A&M University - Kingsville* — Transitional probabilities (TPs) facilitate word segmentation in infants, yet evidence for adult TP tracking in natural speech remains limited. We examined whether Turkish-speaking adults segment Italian using TPs, and whether native language comprehension, verbal working memory, short-term memory, and fluid intelligence predict high-TP (HTP) and low-TP (LTP) word learning. Following familiarization with naturally spoken Italian sentences, adults were tested using a 2AFC paradigm. Both word types were recognized above chance, with no reliable HTP advantage. Critically, a double dissociation emerged: HTP word learning was predicted by verbal short-term memory and verbal working memory, whereas LTP word learning was selectively predicted by native language comprehension. Fluid intelligence was not associated with either word type. These findings suggest that segmentation in natural speech is not supported by a single domain-general mechanism; rather, cognitive correlates vary with statistical structure, with memory span associated with HTP and native language comprehension with LTP word learning.

12:00-1:30 PM (IV-105)

Ambiguous phoneme identification in background noise. BRADY RIVKIN, *Carleton College*, JASON DECKER, *Carleton College*, JUSTIN LONDON, *Carleton College*, YOOLIM KIM, *Carleton College* — Background noise is known to interfere with cognitive tasks and to cause stress for a listener. The present study extends work by Bushong and Jaeger (2025) examining the role of subsequent sentential context in perception of an ambiguous phoneme to determine whether background noise impairs phoneme perception. We present stimuli from Bushong and Jaeger (2025) with and without background noise in both increasing and decreasing voice onset time (VOT) order and with sentential context biasing towards one interpretation. Listeners were asked to report the word they heard. Our findings suggest listeners switch words later when the VOT order departs from the context (the target word initially sounds like the word towards which the sentence is biased) than when the VOT order approaches the context. We also find that the difference is greater when there is background noise than when there is not. Listeners also switch back and forth between responses more often when there is background noise than when there is not. The results suggest that sentential context affects phoneme perception when the phoneme is ambiguous, and that listeners may not always rely on categorical perception. Implications for communication are discussed.

12:00-1:30 PM (IV-106)

Late but Present: Mouse-Tracking Evidence for a Moraic Bottleneck in L2 Spoken Word Recognition. YU-CHENG LIN, *University of Texas Rio Grande Valley*, MARIKO NAKAYAMA, *Tohoku University*, MASAHIRO YOSHIHARA, *Hokkaido University*, HUNG-CHU LIN, *University of Louisiana at Lafayette*, HITOMI KAMBARA, *University of Texas Rio Grande Valley* — Japanese mora-timing predicts that word-initial consonants—parsed as mora onsets rather than independent phonemes—should reach lexical competition later in L2 English. We tested this prediction with 82 Japanese–English bilinguals and 100 English monolinguals using a mouse-tracking spoken word recognition task. Despite equivalent aggregate competition (MAD, AUC, RT; all Bayes Factors ≈ 1.0), bilinguals showed a ~52 ms delay in consonant-only competition onset relative to monolinguals (GAMM; steps 23 vs. 18). A pre-registered TRACE-style simulation matched this delay at moraic-constraint parameter $\delta \approx 20$. Higher L2 proficiency progressively reduced the asymmetry. L1 mora-timing shifts when phoneme competition emerges—not whether it emerges—a distinction only time-course methods can reveal.

12:00-1:30 PM (IV-107)

Does phonetic recalibration involve perceptual or decision-level changes? An EEG investigation. SAHIL LUTHRA, *Stony Brook University*, DREW MCLAUGHLIN, *Villanova University*, BARBARA SHINN-CUNNINGHAM, *Carnegie Mellon University*, JOSEPH C. TOSCANO, *Villanova University* — Listeners adapt to talkers' accents to comprehend speech, but it is unclear whether this recalibration relies on perceptual or decision-level mechanisms. Here, we leverage two event-related potential (ERP) components to assess how adaptation shapes speech perception: the auditory N100 (indexes fine-grained acoustic detail) and P300 (indexes categorization). Listeners (target N=80, data collection ongoing) first hear ambiguous speech sounds (#) in lexical frames that bias their interpretation (e.g., croco#ile). During later test blocks, listeners hear stimuli from two continua (dime-time, sign-fine) and monitor for a target word. Categorization of ambiguous stimuli (e.g., #ime) should shift in line with previous exposure. Analyses will test whether exposure affects the N100 and/or P300 responses to ambiguous test stimuli (e.g., if #ime will elicit a /d/-like ERP). We predict that adaptation involves different mechanisms across speech sounds: For sounds that vary more across talkers (fricatives like /f/ and /s/), adaptation should drive changes in the N100, reflecting perceptual adjustment, while sounds that are more stable across talkers (plosives like /d/ and /t/) will only affect the P300, reflecting decision-level changes.

12:00-1:30 PM (IV-108)

I know that voice! Top-down knowledge can eliminate multi-talker processing costs. DREW J. MCLAUGHLIN, *Villanova University*, DAPHNE WEISS, *Basque Center on Cognition, Brain and Language*, YEVGENIY MELGUY, *University of Chicago*, EFTHYMIA C. KAPNOULA, *Basque Center on Cognition, Brain and Language*, ARTHUR SAMUEL, *Stony Brook University; Basque Center on Cognition, Brain and Language* — Switching to a new talker during spoken language processing typically increases cognitive processing load. Prior work using speeded monitoring paradigms suggests that managing multiple input sources and monitoring for changes in input (an auditory streaming framework) may explain these costs. We present physiological evidence that challenges this account, demonstrating that substantial familiarity with a talker's voice can eliminate multi-talker processing costs. Two counterbalanced groups of participants (approximately n = 40 per group) were exposed to a novel, nonnative-accented talker over the course of a week via audiobook recordings. When presented with the exposure talker and a different, novel talker (of a different nonnative-accent) in a talker-switching task, switching costs (measured with pupillometry) only emerged for the unfamiliar talker. We propose that recalibration, a mechanism extensively examined in research of accent adaptation, is a significant contributor to multi-talker processing costs unaccounted for by an auditory streaming account. Knowledge of a talker's voice can reduce the necessity of talker recalibration, reducing cognitive load.

12:00-1:30 PM (IV-109)

Eyebrow Movements Predict Sentence Intent Judgments: Evidence from a Neural Network Modeling Approach. RYAN PILI, *University of California, Santa Cruz*, AKSHITHA NAGARAJ, *University of California, Santa Cruz*, ALAN KAWAMOTO, *University of California, Santa Cruz* — Speakers convey sentence intent through visible movements of the face and head, but the relative informativity of these cues remains unclear. In a prior study, listeners viewed visual-only videos of speakers producing sentences and identified each utterance as a question or a statement with above-chance accuracy. In the current study, we assessed the relative importance of visual cues by investigating a neural network model of listeners' intent judgments. We trained a neural network to classify listeners' responses based on four eyebrow and three head-rotation measures. Leave-one-out cross-validation yielded 69.48% accuracy. To interpret the model, we examined permutation feature importance and SHAP values. Both analyses indicated that eyebrow movements at the stressed word and end of the utterance were the highest contributors to classification.

SHAP values revealed a directional effect, where greater eyebrow raising at the stressed word shifted model predictions toward statement classifications. Head rotation contributed negligible importance. The post-hoc explanations suggest that visual-only intent judgments are primarily informed by eyebrow movements, with head rotation carrying relatively little intent information.

12:00-1:30 PM (IV-110)

Effects of Exercise and Task Difficulty on Visual Statistical Learning. HELENA CALLIL TOMEI, *Grinnell College*, TANADANAI HAWSATITAM, *Grinnell College*, PAIGE SARGENT, *Grinnell College*, WIKTORIA KOWAL, *Grinnell College*, NICHOLE HENNING, *Grinnell College*, CHRISTOPHER M. CONWAY, *Grinnell College* — Statistical learning refers to the acquisition of structured patterns in the environment under incidental conditions, playing a crucial role in language, perception, and skill learning. Statistical learning is influenced by multiple cognitive and physiological factors, though the effects of physical exercise are still unclear. Across two experiments, we examined how acute exercise interacts with task difficulty (manipulated by varying the stimulus presentation rate) to influence visual statistical learning performance. Experiments 1 and 2 incorporated moderate intensity exercise prior to and during learning, respectively. Participants were assigned to either an exercise or no exercise condition and exposed to artificial grammar sequences presented at either a fast or slow rate. Initial test phase results demonstrated a medium sized interaction in which exercise impaired performance at high task difficulty (fast presentation rates) but enhanced performance under low difficulty (slow presentation rates). These findings provide valuable insight into how physiological states and task-related factors together shape the brain's capacity to statistically learn.

12:00-1:30 PM (IV-111)

Dynamic training under stress shapes learning and perceived workload. KYLE LAFOLLETTE, *University of Chicago*, DAVID J. FRANK, *Youngstown State University*, ALEXANDER P. BURGOYNE, *Human Resources Research Organization*, BROOKE N. MACNAMARA, *Purdue University* — Many occupations require training in dynamic and stressful environments. However, little is known how dynamic (vs. static) tasks and stress independently affect learning and the subjective experience of learning. Participants (N = 225) completed either a real-time dynamic or otherwise identical turn-based static task across six rounds, with half in each condition exposed to acute psychological and physiological stress. Dynamic-version learners began worse but improved curvilinearly with stress attenuating this acceleration. Static-version learners outperformed dynamic learners with stress having little effect on their gains. The subjective experiences also differed. Even after accounting for performance and emotion-cognition traits, task environment shaped workload perception: static pacing and stress each reduced the perceived effort needed to perform, while perceived physical demand depended on dynamic pacing and stress condition. Task environment affects learning and feelings of learning, which has implications for designing training environments.

12:00-1:30 PM (IV-112)

Evaluating a Creativity Intervention in STEM. ALEXANDER G. KNOPPS, *University of Minnesota Duluth*, BENJAMIN BALAS, *North Dakota State University*, KATHRYN WISSMAN, *Otterbein University* — Creativity is a skill that is essential for academic success (Karimi & Pina, 2021), and in turn research has investigated ways to promote the development of the skill (Anderson et al., 2022; Katz-Buonincontro et al., 2024). Preliminary data collection involved asking STEM students and age-matched controls to complete the Creative Mindset Survey, Self-Efficacy Survey, and creative insight problems. Results showed creative mindset and creative self-efficacy did not predict creativity performance, and that overall creative performance was

low. As such, Experiments 1A-B aimed to test an intervention to promote creative performance in the same two populations. The "Be Creative" instructional manipulation (compared to control instructions) was used, and participants completed both a divergent thinking task and a convergent thinking task. Results show the intervention increased performance on the divergent thinking task, but not the convergent thinking task. These outcomes inform potential ways to support creativity in authentic classrooms.

12:00-1:30 PM (IV-113)

The Impact of Self-Explanation and Analogical Images on Science Text Comprehension. ZHAOCHENG WU, *Mississippi State University*, ALLISON J. JAEGER, *Mississippi State University* — Analogies are commonly used to support learning from science text. Additionally, self-explanation (SE) can support learning from science text by helping students integrate across text and images to create mental representations. Self-explanation can also help students to make more accurate judgments of learning. This study examined whether SE impacts comprehension and judgments of learning when geology texts include no analogy, a text analogy, or a text and image analogy. Participants were randomly assigned to a 2 (SE, no SE) × 3 (Base, Analogy, Image) between-subjects design. They read short geology passages, completed judgments of understanding (JOU), and took a comprehension test. There was no effect of SE, analogy condition, or interaction on test performance. However, JOUs were lower in the SE group than in the no-SE group ($p < .01$). Participants in the SE group also rated analogies as less helpful. These findings were surprising as they suggested that self-explanation did not support improved comprehension and actually made people more skeptical of analogies. The content of students' self-explanation statements and the accuracy of their judgments of understanding will also be discussed.

12:00-1:30 PM (IV-114)

Back to the Scene: Can Reinstatement Improve Eyewitness Identification Performance? KAYLIE BRUNDAGE, *East Texas A&M University*, CURT CARLSON, *East Texas A&M University*, MARIA CARLSON, *East Texas A&M University* — Eyewitness (mis)identification (ID) is one of the leading causes of wrongful convictions, and researchers have tested several methods for increasing the accuracy of eyewitness IDs. While basic memory research has found significant effects of context reinstatement and mental reinstatement, few have investigated their effect on eyewitness ID performance. Experiment 1 used several mock crime videos and a 48-hour delay to determine whether context or mental reinstatement improved performance relative to no reinstatement. Results suggested that context reinstatement may improve performance compared to mental reinstatement and control; however, overall performance was too poor to draw conclusions. Experiment 2 improved encoding with longer views of static images of targets, either 30 seconds or 2 minutes, using the same 48-hour retention interval. Preliminary results suggest that context reinstatement may improve performance only when combined with longer encoding, providing a potential explanation for Experiment 1's results. Data collection should be completed in Fall 2026.

12:00-1:30 PM (IV-115)

The Paradox of Aphantasia: Recognizing Faces Without Mental Imagery. HEATHER M. KLEIDER-OFFUTT, *Georgia State University*, ASHLEY M. MEACHAM, *Georgia State University* — Accurate identification of a perpetrator is crucial to their apprehension; however, some individuals have low/no visual imagery and struggle with face recognition—aphantasics. Using a small sample of aphantasics in a previous study (N = 16; Kleider-Offutt & Meacham, in press), the initial pattern of findings suggested that providing a facial description of a perpetrator may have facilitated subsequent lineup identification for these individuals relative to normal imagers—counter to concerns that description interferes with accurate identification (i.e., verbal

overshadowing). In the current study, with a larger sample of aphantasics (N = 160) we replicated the findings with younger adult (18-64 years old) aphantasics relative to normal imagers, while older adult (65+ years old) aphantasics did not benefit from verbalization. These finding suggest that verbalization may not be an alternative process to fill in the visual imagery gaps for all aphantasics. Follow up questions probe alternative explanations.

12:00-1:30 PM (IV-116)

Racial Disparities in Wrongful Convictions Revealed in an Archival Examination of Pre- and Post-1989 Exoneration Cases. MICHAEL P. TOGLIA, *Cornell University*, GARRETT L. BERMAN, *Roger Williams University*, LULU G. MIKULA, *Cornell University*, ELEANOR R. WYNNE, *Cornell University* — Archival research is one of the primary empirical tools employed by researchers to understand wrongful convictions. While our previous research investigated causes (e.g., mistaken identifications) of erroneous convictions, our current analyses explored exoneration trends for the Pre-DNA (1989) and Post-DNA eras documented in the National Registry of Exonerations (NRE). Our previous findings involving wrongful conviction cases showed patterns of bias (more so Pre-1989) favoring Whites compared to Minorities but a disturbing racial shift emerged Post-1989 uncovering disturbing racial disparities for official misconduct and exculpatory evidence withheld incriminating minorities (62.4%; 76.2%) more often compared to whites (37.6%; 23.8%), respectively. An access vs. opportunity explanation is offered for this pattern. Although, NRE and the Innocent Project databases vary widely on the causes of wrongful convictions, all databases, (including international datasets), highlight the serious existence of worldwide miscarriages of justice. A better understanding of these injustices is required with the goals of avoiding such convictions with creative research (archival, experimental) investigations and promoting criminal justice reform.

12:00-1:30 PM (IV-117)

What were you like in the '90s? Revisiting Simultaneous vs Sequential Lineups. CHARLES A. GOODSELL, *Canisius University*, CURT CARLSON, *East Texas A&M University*, KAYLIE BRUNDAGE, *East Texas A&M University*, TAYLOR EVANS, *Canisius University*, AVA WERTMAN, *Canisius University* — In two experiments we tested eyewitness identification performance from simultaneous or sequential lineups. In Experiment 1, we varied encoding conditions and sequential suspect position. Weaker encoding resulted in a simultaneous lineup advantage and differences in early vs. later sequential suspect positions. Because we used a stop rule in the sequential lineup, witness who choose an innocent filler prior to viewing the suspect never got the opportunity to see him. If these witnesses are able to choose the guilty suspect and avoid the innocent suspect, then this could result in similar performance to the simultaneous lineup. Alternatively, these witnesses may simply continue to choose, and therefore not show improved discriminability. In a large pre-registered follow-up, experiment 2 tested this idea by allowing witnesses to make additional choices in the sequential lineup. We utilized different sequential decision rules (first choice, suspect choice, last choice) to investigate the impact of sequential suspect placement.

12:00-1:30 PM (IV-118)

Does the Crowd Matter? How Filler-Filler Similarity Reshapes Eyewitness Decision Dynamics. JESSE GRABMAN, *New Mexico State University*, GIOVANNA C. DEL SORDO, *New Mexico State University*, EBEN DAGGETT, *New Mexico State University*, MAYTE ALONSO CARRILLO, *New Mexico State University*, MICHAEL C. HOUT, *New Mexico State University* — Eyewitness lineups are often described as visual search tasks, yet this analogy has rarely been tested using formal perceptual-similarity measures. Although similarity is known to influence lineup performance, prior work has focused on target–filler similarity (distinctiveness), leaving the role of filler–filler similarity (homogeneity) underexplored. To model psychological similar-

ity among lineup faces, 20 participants completed a Spatial Arrangement task on the Meissner database, and we used the resulting multidimensional scaling space to construct lineups with controlled similarity structure. Next, 171 participants completed ten four-person simultaneous lineups (five target-present) in which zero to three fillers were perceptually similar to the target, jointly manipulating target distinctiveness and filler homogeneity. Heterogeneous fillers helped differentiate accurate from inaccurate identifications based on RTs and confidence, particularly when the target was highly distinctive. These findings provide the first evidence that filler homogeneity shapes lineup decision dynamics and support integrating psychological-similarity metrics with visual-search-based models.

12:00-1:30 PM (IV-119)

Algorithmic vs. Human Identification Evidence: How Jurors Weigh Facial Recognition Systems and Eyewitness Identifications. RACHEL L. GREENSPAN, *University of Central Florida*, BRANDON GARRETT, *Duke University* — Decades of research have shown that eyewitness identifications are imperfect. Law enforcement increasingly relies on an algorithmic form of suspect identification, facial recognition systems (FRS), but these systems also carry a risk of error. Despite the rapid spread and ubiquitous use of FRS, little is known about how jurors weigh this form of identification evidence, either in isolation or relative to a human eyewitness. In the current study, participants were randomly assigned to read a robbery case in which algorithmic identification (absent, low-quality, high-quality) and eyewitness identification (absent, present) were independently manipulated. We explored whether participants were sensitive to the quality of the FRS match, whether they weigh FRS evidence similarly to a human eyewitness identification, and whether the two types of identification evidence have an additive effect. We measured how both of these forms of evidence influence juror verdicts and decision-making, surveyed participants' views of each, and assessed perceptions of their error rates.

12:00-1:30 PM (IV-120)

Match Made in Fairness? Filler Selection Influences Eyewitness Discriminability and Lineup Characteristics. ALYSSA R. JONES, *Tarleton State University*, CURT CARLSON, *East Texas A&M University*, ROBERT LOCKAMYEIR, *Finger Lakes Community College*, MARIA CARLSON, *East Texas A&M University*, ALYSSA R. ALLEN, *Tarleton State University* — Lineup guidelines recommend selecting fillers who match the eyewitness's description, but it remains unclear which details should guide filler selection. We tested whether different description-matching procedures produce equivalent identification outcomes when lineups are nominally fair. Participants completed 20 simultaneous lineup trials after encoding target faces. Lineups varied across filler-selection method (target-matched vs. 5 description-matched conditions: genera-characteristics, internal-feature, external-feature, and mixed internal-external-feature). All lineups were fair by Tredoux's E′ estimates. ROC analyses showed collapsing across description-matched conditions obscured discriminability differences. Separately, mixed internal-plus-external lineups clustered with target-matched lineups and outperformed general-characteristic and external-feature lineups. Fairness estimates varied by condition but did not map cleanly onto discriminability. Exploratory FaceNet512 analyses suggest average facial similarity was less informative than unevenness in lineup similarity. And, "match-to-description" is not one, singular procedure (i.e., filler-selection information may alter lineup structure and ID performance).

12:00-1:30 PM (IV-121)

Instruction-Based Inferences in Eyewitness Identification. MOLLY B. MORELAND, *Hood College*, CARLI J. HATCHER, *Hood College* — The present study examined the influence of lineup instructions on witness inferences. After a mock-crime, participants completed a knowledge validation task (e.g., Halldorson and Singer, 1996), measuring bridging inferences generated during reading. Next, the critical manipulation comprised a lineup instructions procedure mirroring the knowledge validation task

structure. Participants received biased or unbiased instructions, viewed a guilty or innocent-suspect lineup, then responded to a critical question ("Could a suspect be guilty/innocent?"), a proxy for bridging inferences between instructions and the lineup. Participants then made an identification decision. Results showed faster responses to the critical question following unbiased compared to biased instructions, implying that general knowledge about guilt or innocence may be more robustly activated with unbiased instructions. Faster responses to the critical question were also associated with increased identification accuracy after unbiased instructions. The results have implications for how information from different sources in identification procedures impacts eyewitness inferences and performance.

12:00-1:30 PM (IV-122)

Face Memory Through Two Routes: Trait- and Feature-Based Description Produce Dissociable Effects on Recognition and Confidence. DAWN R. WEATHERFORD, *Texas A&M University - San Antonio*, GABRIELLA CANTU, *Texas A&M University - San Antonio*, JASMINE R. NICHOLS, *Texas A&M University - San Antonio*, CURT A. CARLSON, *East Texas A&M University*, KRUEGER LACY, *East Texas A&M University - San Antonio* — Face memory involves perceptual and social processes that operate in parallel to form first impressions and support later face recognition. Nevertheless, this later process of face recognition is fragile – forgetting faces is sometimes far easier than remembering them. Our research explores how describing a face may facilitate memory. Participants (N = 105) studied 24 faces, each presented for 2 or 6 seconds followed by a 30-second encoding task (feature description, trait description, or backwards counting). After a distractor task, participants completed a yes/no recognition test (24 old, 24 new faces) with confidence ratings and metacognitive vividness probes. Both description conditions outperformed Counting. Trial-level analyses revealed a theoretically informative dissociation: Trait description quality predicted recognition accuracy but not confidence, whereas Featural description quality predicted confidence across correct and incorrect trials alike — suggesting feature-based encoding inflates decisional confidence independent of memory accuracy. Vividness ratings further differentiated conditions. We discuss implications for verbal encoding as a memory strategy in everyday face recognition.

12:00-1:30 PM (IV-123)

Investigating How Mental Imagery Influences the Effects of Interleaving and Blocking on Category Learning. ASH R. WILKINS, *Texas Woman's University*, ADDISON BABINEAU, *Texas Woman's University* — Interleaving items during category learning typically benefits classification performance (see Firth et al., 2021). Current theory suggests that interleaving supports learning by encouraging comparisons between exemplars. Thus, mental imagery may have a substantial impact on the benefit of category comparisons, such that engaging with intentional mental imagery during learning could enhance the effects of interleaving. The present work explores the impact of mental imagery on interleaving as an experimental manipulation, as well as an individual difference. Specifically, participants learned to classify paintings in an interleaved order and blocked order (similar to Kornell & Bjork, 2008). During learning, imagery instructions were manipulated between participants. Following several classification tests, participants completed the Vividness of Visual Imagery Questionnaire (VVIQ) to assess individual imagery ability. The results demonstrated the impact of mental imagery instructions on interleaving effects. Further, performance was influenced by imagery ability. These findings inform theory and educational application in category learning.

12:00-1:30 PM (IV-124)

Tracking Readiness: Using Knowledge and Well-being Data to Predict Student Performance. LEAMARIE GORDON, *Assumption University*, KAI FERNANDES, *Boston University*, RENEE DECARO, *Butler University*, AMY SMITH, *Blank Slate Technologies* — Across educational contexts, readiness is often inferred from repeated knowledge assessments, assuming student performance reflects stable proficiency and overlooking time-varying

factors that may influence performance even when knowledge is intact. The present research tested whether prediction of academic performance improves when brief, repeatable well-being measures are added to frequent knowledge assessments. In two undergraduate course samples, students used a mobile app across a semester to complete course knowledge tests and weekly ratings of sleep quality, stress, burnout, mental health, and self-efficacy. Hierarchical regression models compared prediction of final course grades using knowledge accuracy alone versus knowledge accuracy plus a composite well-being score. Knowledge accuracy robustly predicted performance in both samples. In one study, adding well-being significantly improved prediction, whereas in the other the improvement was small and not significant, suggesting boundary conditions. Overall, the findings indicate that brief well-being measures can be feasibly collected over a semester and may, under some conditions, improve prediction of academic performance beyond knowledge-based indicators.

12:00-1:30 PM (IV-125)

Socioemotional Selectivity Theory and Aging for Learning New Technology: Follow-Up Report with Web- and Paper-Based Questionnaire Study. ETSUKO T. HARADA, *University of Tsukuba*, TOMOYASU SAWADA, *Chukyo University*, SATORU SUTO, *Shizuoka University* — In the previous report (Harada, et al. 2025), the relationship between the Future Time Perspective (FTP) and the technology acceptance (TA) was mostly mediated by the intellectual curiosity (IC) by a path analysis with the whole data together, however, this mediation effect showed the interaction with age; with older adults IC had small but negative mediation effect. There was another surprising result as the positive effects of age on TA. Why this happened? Because the previous study was executed by web-based online questionnaire, we worried about sampling biases only with older participants. To test and dispel those possibilities, we collected additional data only with older adults by paper-and-pencil questionnaire. Unfortunately, the result did not change much and the effects of the study media was small: While younger adults showed the positive effect of IC on TA, older adults showed none (with paper-based questionnaire) or negative effect (with web-based questionnaire), with positive relationship between age and TA. So, what are we measuring with older adults by the Technology Acceptance Scale? We need further research.

12:00-1:30 PM (IV-126)

Do Parent Beliefs about Study Strategy Effectiveness Predict Beliefs and Usage in Middle School Students? STACY LIPOWSKI, *High Point University*, LILY GRACE FOISTER, *High Point University*, CONTESSA KIM, *High Point University*, KELLIE LANGA, *High Point University*, GENEVIEVE SCHULTZ, *High Point University* — Considering that college students have misconceptions about study strategy effectiveness (Blasiman et al., 2017), it would not be surprising if children hold inaccurate beliefs. However, little is known about middle schoolers' beliefs about studying, even though it is the age at which students are expected to learn more independently. Research in Japan has shown that parent beliefs regarding the effectiveness of study strategies predict the beliefs of their students (Lieder et al., 2023); however, the generalizability of those findings is unclear. The current study is using an online survey to examine the beliefs held by middle schoolers and their parents across the United States. Although data collection is in progress, initial results show that students endorse ineffective strategies, and their beliefs about effectiveness do not predict strategy use. Also, although most parents report teaching their children how to study, parent strategy beliefs do not predict student beliefs or usage.

12:00-1:30 PM (IV-127)

Preweek Planning and Self-Testing Engagement in an Online Research Methods Course. KALIF VAUGHN, *Northern Kentucky University* — This exploratory study investigated whether providing preweek planning resources (including an instructional video, PDF guide, and weekly reminders) could increase student engagement with a self-testing website and improve performance outcomes in an online Research Methods course. Participants were

randomly assigned to either a preweek planning condition or a control condition based on course section enrollment. Self-testing activity (logins, trials, and accuracy) and performance metrics (pre/post-test scores and final course grades) were analyzed using linear mixed-effects models. Although all students showed general improvement over time, the preweek planning intervention did not significantly increase self-testing engagement or yield meaningful improvements in assessment performance or course grades. Future research with larger samples is warranted to further explore these relationships.

12:00-1:30 PM (IV-128)

Collaborative Recall Elevates Judgments of Learning but Does Not Enhance Study Time Allocation or Test Performance Relative to Individual Recall. YUNFENG WEI, *Washington University in St. Louis*, NICHOLAS SODERSTROM, *Montana State University*, MICHELLE MEADE, *Montana State University* — In the current study, we examined how collaborative recall influences learners' judgments of learning (JOLs) and subsequent self-regulated learning (SRL). After initial acquisition, participants were randomly assigned to recalling information in dyads, recalling information individually, or restudying conditions. All participants then restudied the materials at their own pace, followed by an individual memory test two days later. Compared to the two recall conditions, restudy led to higher JOLs, less time restudying, and worse final test performance. Importantly, collaborative recall elevated JOLs compared to individual recall but did not enhance study time allocation or final test performance. In addition, learners were able to predict both their own and others' future performance relatively accurately after retrieval. Mediation analyses further showed that restudy time mediated the relationship between JOLs and test performance. Thus, although students often prefer collaborative recall, our results suggest that such group testing is no better than being tested individually, possibly because any differences between retrieval formats may be overshadowed by the robust effects of testing itself.

12:00-1:30 PM (IV-129)

The Role of Proportional Reasoning in Supporting Fraction Understanding. KAHANA FURUMOTO, *Waseda University*, NOBURO SAJI, *Waseda University* — Fraction understanding is difficult because of whole number bias, in which numerators and denominators are treated as separate whole numbers (Vamvakoussi & Vosniadou, 2004). Proportional reasoning is important because it requires integrating part-whole relations (Fitzpatrick & Hallett, 2019). However, its contribution to aspects of fraction understanding remains unclear. This study examined whether a proportional reasoning intervention improves fraction number line estimation and magnitude comparison performance. Forty-four 4th graders completed a pretest, activities (intervention or control), a posttest, and a follow-up. Tests assessed proportional reasoning, fraction number line estimation, and magnitude comparison. The intervention group played a tablet-based game comparing ratios of water and juice concentrate. Results showed greater improvement on the number line task in the intervention group, whereas proportional reasoning and magnitude comparison improved similarly across groups. These findings suggest the intervention supports spatial aspects of fraction understanding. However, symbolic fraction skills may require additional activities that encourage students to discover, verbalize, and manipulate quantitative relations.

12:00-1:30 PM (IV-130)

Generation and Repetition in Memory: Additive Rather Than Interactive Effects. GILBERT B. APPIAH, *New Mexico State University*, DOMINIC A. SIMON, *New Mexico State University* — Generation of to-be-learned information, rather than simply reading it, enhances memory, yet little research has examined how repetition influences the generation effect. In the present study, participants (N = 40) studied cue-target word pairs under Generate and Read conditions across three repetition levels (1P, 2P, and 3P). During Generate trials, participants repeatedly reconstructed the same vowel-removed target words from the same cues across repetitions. Memory was assessed after a 24-hour delay using

cued recall. Results revealed significant main effects of Learning Activity and Repetition. Recall was significantly higher for generated than read items, and recall improved with repetition, with the highest performance observed after three presentations. The Learning Activity × Repetition interaction was not significant, indicating that repetition benefited generated and read items similarly. These findings suggest that generation and repetition make independent, additive contributions to long-term memory performance.

12:00-1:30 PM (IV-131)

I Belong in Science: A Social-Belonging Intervention May Improve Psychology Students' Grades in Statistics and Research Methods. GRACE W. OLSEN, *Oregon State University*, KRISTI LEMM, *Western Washington University* — Many psychology students feel anxious about taking their first statistics course, often doubting their abilities and labeling themselves as "not a science or math person." Research in STEM suggests that this mindset contributes to low belonging and self-efficacy in science, especially among marginalized students. Study 1 extended this work to the field of psychology. A survey of 714 Western Washington University students found that students of color and first-generation students had lower GPAs, course grades, and sense of belonging or efficacy than their advantaged peers. Additionally, sense of belonging mediated the relationship between psychology self-efficacy and academic performance. These findings suggest social-belonging interventions could help close achievement gaps. Therefore, Study 2 tested this with a pretest-posttest design (N = 114). While the intervention did not raise grades or narrow the achievement gap, it did increase post-test science self-efficacy compared to the control. The intervention also reduced disparities in belonging uncertainty.

12:00-1:30 PM (IV-132)

Investigating the Effect of Feedback Timing on the Generation Effect. MICHAELA RITCHIE, *University of New Brunswick Saint John*, ALEX LUI, *University of New Brunswick Saint John*, JONATHAN WILBIKS, *University of New Brunswick Saint John* — The generation effect refers to the phenomenon in which actively generated information is better remembered than passively read information. Although it is well established in laboratory settings, less is known about the generation effect in applied learning scenarios. This study investigated how feedback timing influences memory performance on generation tasks. In a 2 X 2 factorial design, participants (N = 87) completed read and generate tasks, with feedback timing (immediate vs. delayed) manipulated between subjects. Participants were exposed to unfamiliar old English words (cue words) and either read or generated a corresponding one-word definition (target word) before receiving feedback about the correct target. After a brief distraction, participants completed a cued recall test. An analysis of variance and Bayesian analyses were conducted to assess cued recall accuracy across conditions. A large negative generation effect emerged ($\eta p2 = .20$), and feedback timing did not significantly interact with encoding task (generate vs. read). Across conditions, higher recall was observed when feedback was delayed. The findings of this study contribute to the limited literature on the role of feedback timing in active learning.

12:00-1:30 PM (IV-133)

Individual Differences in Generalization in Multiple Domains. SHANTI A. ASTRA, *University of Wisconsin - Madison*, C. SHAWN GREEN, *University of Wisconsin - Madison* — Generalization - the ability to apply skills and knowledge to circumstances different from how they were initially experienced - is an essential component of learning. However, generalization does not always occur. Instead, individuals trained in one task often fail to perform better at a related task compared to those with no relevant training. Such specificity of learning poses a significant challenge in perceptual and academic

learning. While research on generalization has primarily focused on how learning tasks can be better designed to promote generalization, recent research suggests that meaningful individual differences may also contribute to generalization outcomes. Here we examined participant learning and generalization across learning tasks in different domains, seeking to determine if consistent patterns of generalization are observed. A time-continuous Bayesian model was used to fit trial-by-trial data for the different learning tasks and was used to assess two types of generalization: immediate improvement in performance, and improvement in learning rate. These were then compared across learning tasks.

12:00-1:30 PM (IV-134)

Low-Variability Training Outperforms High-Variability Training in Real-World Category Generalization. DANIIL AZAROV, *Indiana University Bloomington*, ROBERT L. GOLDSTONE, *Indiana University Bloomington*, ROBERT M. NOSOFSKY, *Indiana University Bloomington* — Classic categorization research suggests that exposure to high-variability training examples leads to better generalization. But this may be a methodological artifact – high-variability categories are harder to learn, so training to a performance criterion gives those learners more exposure. Recent research shows that when training trials are equated, low-variability training yields superior generalization. These findings come from designs using prototype-distortion techniques to construct artificial categories. We examined whether this pattern extends to real-world categories. Participants were assigned to low- or high-variability conditions based on an MDS solution applied to rock images across three categories. A subsequent test phase assessed categorization of both studied and novel items. Contrary to classic findings, high-variability training did not improve generalization. Instead, the low-variability group outperformed the high-variability group for both studied and novel items. These results suggest that the low-variability advantage extends to real-world, perceptually rich categories. We test alternative computational models on their ability to account for these results.

12:00-1:30 PM (IV-135)

The Typing Task: A Dual-Task Paradigm for Measuring Cognitive Load. ALEJANDRO CARRANZA, *University of California, San Diego*, TIMOTHY C. RICKARD, *University of California, San Diego*, EMMA H. GELLER, *University of California, San Diego* — The most common approaches to measuring cognitive load in the cognitive load theory (CLT) and cognitive theory of multimedia learning (CTML) literature rely on self-reported measures or inferred measures such as exam performance. Dual-task paradigms offer an objective, online alternative, yet remain underutilized in CLT and CTML research. This study introduces a dual-task paradigm, termed the typing task, in which participants learn a finger-tapping sequence executed concurrently with a primary task consisting of arithmetic and algebraic problems. Using a 2×2 within-subjects design, we manipulated task load through problem complexity (simple arithmetic vs. one-step algebra) and attentional focus (prioritize typing vs. prioritize math). Pilot data indicated that participants were unable to reliably shift attention between tasks when instructed to do so, and the typing task did not reliably differentiate cognitive load across difficulty levels. Future iterations should refine instructions and calibrate difficulty to improve sensitivity to load differences.

12:00-1:30 PM (IV-136)

Using Generative AI to Answer Practice Questions Impairs Learning. HOSAIN HESHMATI, *University of Arizona*, JONATHAN G. TULLIS, *University of Arizona* — Students increasingly use generative artificial intelligence (genAI) to support learning, but the cognitive and metacognitive consequences of relying on these tools remain unclear. In this study, we examined how using genAI to answer practice questions, rather than answering them oneself, impacts learners' retention and metacognition. Participants studied brief text passages and either answered practice questions from memory or used ChatGPT to generate answers. After answering each question, they received either simple or elaborated feedback and predicted their future memory. On a one-week delayed test, participants who answered

questions themselves remembered significantly more than those who relied on genAI to answer the questions, regardless of feedback type. Participants also predicted better learning after answering questions themselves and after receiving elaborated feedback. Relying on genAI to answer practice questions can impair long-term learning, and learners are at least partly sensitive to this cost. These findings underscore the importance of using genAI as a scaffold for practice rather than as a substitute for active retrieval.

12:00-1:30 PM (IV-137)

EEG Correlates of Memory in a Naturalistic Spatial Environment. JOYCE LI, *University of Pennsylvania*, ADAM W. BROITMAN, *University of Pennsylvania*, MICHAEL J. KAHANA, *University of Pennsylvania* — Prior studies have identified patterns of neural activity associated with subsequent mnemonic success, typically observed in highly controlled laboratory environments. In this study, we investigated whether behavioral and neural correlates of successful encoding and retrieval extend to a memory task within a naturalistic spatial environment. We recorded scalp EEG in 36 young adults as they navigated to different landmarks in a desktop virtual environment. Study items appeared both visually and auditorily during navigation, and subjects later recalled the items vocally. Behavioral data demonstrated primacy, recency, and temporal clustering effects, consistent with findings from past research. Spectral EEG analyses mostly replicated previously characterized biomarkers of retrieval success, but the same patterns did not emerge during encoding, possibly because the dual-task nature of the paradigm complicated the relationship between EEG activity and subsequent mnemonic success. Future research seeking to translate neural markers of memory into practical tools for optimizing learning or remediating memory disorders should account for the complex relationship between neural activity and memory performance in real-world settings.

12:00-1:30 PM (IV-138)

The Pictorial Superiority Effect in Late Adulthood. JOANA MONTELONGO, *Louisiana State University*, EMILY M. ELLIOTT, *Louisiana State University*, KATIE E. CHERRY, *Louisiana State University* — We examined recall of simple line drawings and matching words to provide new evidence to inform the development of memory aids for very old adults. Archival data was extracted from the Louisiana Healthy Aging Study (LHAS) to represent groups of middle-aged (45-69 years), older (70-84 years) and oldest-old (85+ years) adults. We added a younger group (18-37 years) to extend the age range of the sample. During acquisition, 16 line drawings and words were presented in blocked order across two study/test trials. Across age groups, memory performance decreased with age, yet all showed a pictorial superiority effect (PSE), with older adults demonstrating a numerically larger pictorial benefit. This pattern aligns with the environmental support framework, where meaningful stimuli ease self-initiated processing, which becomes more difficult with advanced age. The present findings imply that pictorial illustrations can serve as effective memory support for cognition in very old age.

12:00-1:30 PM (IV-139)

Aha! Moments in Categorized Memory Retrieval: Effects of List Length. MORGAN PALADINO, *Texas A&M University*, VISHEETA CHANDOLIA, *Texas A&M University*, MATTHEW KIDD, *Texas A&M University*, STEVEN M. SMITH, *Texas A&M University* — An aha! moment is a metacognitive report of something coming to mind suddenly and unexpectedly. People report aha! moments while solving problems requiring restructuring and when generating new ideas, like coming up with members of a category. Here we tested whether people also reported aha! moments when recalling words from categorized lists. When we saw recall-related aha! moments, we then tested whether they were more likely explained by a restructuring or serial order account of aha! moments. We found that there was a

greater incidence of aha! moments for words recalled from a different category from the previous word. In addition, when we varied the length of the lists presented, we found variability in the number of aha! moments as a function of list length. However, we did not find more aha! moments later in the task, which may implicate that aha! moments are indicative of a restructuring during memory recall rather than a serial order effect.

12:00-1:30 PM (IV-140)

Voting with Your Feelings: Affective Forecasting, Hindsight Bias, and Emotional Memory Reconstruction Following the 2024 U.S. Presidential Election. JOSEPH ROMAGANO, *Lehigh University*, ALMUT HUPBACH, *Lehigh University* — This study examined how Trump and Harris voters predicted, experienced, and remembered their emotional reactions to the 2024 U.S. presidential election, with a focus on affective forecasting, hindsight bias, and emotional memory. Immediately after the election and four months later, Trump voters reported greater happiness, excitement, and surprise, whereas Harris voters reported greater sadness and anger. Prior to the election, Harris voters overestimated how angry they would feel following a Trump victory, whereas Trump voters underestimated their surprise. Four months later, Harris voters remembered feeling angrier than they had originally reported. This amplification of anger memory was not explained by perceived personal or broader importance, rehearsal, discussion, or media exposure. Hindsight bias followed a different trajectory. Immediately after the election, participants remembered their predictions about a Trump victory as more accurate than they actually were, but this hindsight bias disappeared four months later. Together, the findings suggest while hindsight bias fades, emotional memories, particularly anger among individuals whose preferred candidate lost the election, may become increasingly reconstructed.

12:00-1:30 PM (IV-141)

Mnemonic benefits of guessing on memory for degraded pictures. JIAAN SHANG, *Purdue University*, JEFFREY D. KARPICKE, *Purdue University* — Three experiments examined whether attempting to guess the identity of degraded pictures before studying the intact versions produces a mnemonic benefit. In degraded picture conditions, subjects studied pictures of common objects that were monochromatic and binarized. They attempted to guess their identity before studying the intact versions. In a study-only condition, subjects studied the intact pictures without first viewing the degraded versions. Subjects rarely identified the degraded pictures, but on a free recall test, they recalled more items in the degraded condition than in the study-only condition. In an additional condition, subjects saw the intact pictures before viewing degraded versions and indicated what they would have guessed if they had only seen the degraded version. Although this condition outperformed the study-only condition, it did not enhance retention to the same extent as attempting to guess the identity of degraded pictures prior to studying them. The results are consistent with prior work showing benefits of guessing and the "effort-after-meaning" phenomenon with verbal materials.

12:00-1:30 PM (IV-142)

Revisiting the Centrality × Emotion Interaction: Evidence from Dynamic CCTV Footage. KAITLYN SIEVERS, *Kansas State University*, STELLA MANSPEAKER, *Kansas State University*, HEATHER BAILEY, *Kansas State University* — The interaction between centrality and emotion has been demonstrated using static images but has been infrequently examined using dynamic video stimuli. Our lab initially attempted to replicate the centrality × emotion interaction using a forced-choice recognition paradigm alongside the effect of encoding instructions. Participants watched CCTV footage that was either neutral (e.g., typical bank activities) or emotional (e.g., a bank robbery) under incidental or intentional encoding conditions. In the original study (n = 76), the interaction was not replicated, nor were instructions significant, with similar results using

free recall responses. A follow-up study (n = 59) used both free recall and an old/new recognition test. Results again failed to replicate the centrality × emotion interaction across recognition analyses, including d′. Ongoing analyses of confidence judgments will further assess relationships among memory performance, centrality, emotion, encoding instructions, and metacognitive awareness. One explanation for the discrepancy with previous research is that CCTV footage lacks the attentional cues necessary for emotion-related centrality effects to emerge in the higher cognitive load of dynamic video stimuli.

12:00-1:30 PM (IV-143)

Age-Related Shifts in Emotional Memory for Narrative Details Across Retrieval Delays. JULIA M. ST. GEORGE, *Boston College*, SAMANTHA HUTCHINSON, *Boston College*, BRIANNA LENZA, *Boston College*, LEONARD FAUL, *Boston College*, BRYN FECKO, *Boston College*, MACKENZIE WALLES, *Boston College*, LAUREN K. VOSO, *Boston College*, JACLYN H. FORD, *Boston College*, ELIZABETH A. KENSINGER, *Boston College* — Retrieval-induced forgetting (RIF) work suggests that recalled information may inhibit competing information, though how RIF effects operate for emotional memory of narratives remains understudied. To test this, 293 participants (ages 18-86, M=52) read four stories and freely recalled each story immediately and at one day, one week, and one month delays. Recalls were scored for the total number of positive, negative, and neutral details using GPT 5.5. GPT showed acceptable inter-rater reliability among narratives that were scored by a human (range: 0.72-0.92). A repeated-measures ANCOVA revealed no evidence of RIF. Instead, an age*valence*timepoint interaction ($F(5.60, 1512.42)=2.17$, pes=.008, $p=.047$) showed that increased age exhibits a convergence in positive and negative recall over time and a general decline in recall of neutral information compared to younger ages. An age*valence interaction ($F(1.75, 472.34)=38.02$, pes=.123, $p<.001$) further suggests that age is associated with better recall of emotional real-world material, reducing age differences in memory.

12:00-1:30 PM (IV-144)

Interest and Interference: Examining the Mechanism of the Seductive Details Effect. ZOË F. WARREN, *University of California, Riverside*, ANNIE S. DITTA, *University of California, Riverside* — Seductive details (SDs) are attention-grabbing pieces of information embedded within learning materials that are designed to make learning interesting. However, previous research suggests that SDs negatively impact student learning when assessed via free recall, such that when present, participants recall significantly fewer main points (SD effect). Previous literature suggests that potential mechanisms for the SD effect lie in cognitive load and diversion of schema acquisition. Our previous work found that while participants tested through free recall exhibit the SD effect, those tested via cued and recognition tasks do not, suggesting main point information learned with SDs may not be forgotten, rather not effectively retrieved. We hypothesize that these differences in main point retrieval may be due to output interference, such that SDs retrieved first within a free recall task may hinder retrieval of main points. Our preliminary analysis suggests that participants exposed to SDs had overall lower probabilities of accurately recalling main points across free recall output positions. These results contribute to a deeper understanding of the underlying mechanisms of the SD effect.

12:00-1:30 PM (IV-145)

Conceptual Combination Alters Contextual Diversity Effects in Cued Recall. MACKENZIE G. WILLIAMS, *Louisiana State University*, HEATHER D. LUCAS, *Louisiana State University* — Contextual diversity (CD) refers to the number of different contexts in which a word may be encountered. Prior cued recall studies have shown that low-CD cues facilitate retrieval, whereas high-CD targets are more readily retrieved. However, it remains unclear whether these effects depend on encoding processes that capitalize on pre-existing semantic structure versus those that involve constructing emergent conceptual representations. In this study, participants studied un-

related noun pairs in which target and cue CD were orthogonally manipulated. Participants completed two sessions, one involving semantic relatedness judgments during encoding and another involving the generation of novel compound meanings for the word pairs. Replicating previous work, cued recall was best for words with low-CD cues and high-CD targets. Critically, however, the high-CD target benefit was significantly attenuated for word pairs encoded via conceptual combination. These findings suggest that combinatory encoding reduces reliance on a target word's broad semantic structure during retrieval, consistent with the idea that target meanings become less independently represented within an emergent compound interpretation.

12:00-1:30 PM (IV-146)

Independent Repulsive and Attractive Effects of Repetition on Temporal Memory. JIE ZHENG, *Ohio State University*, SAMI R. YOUSIF, *Ohio State University*, BRYNN E. SHERMAN, *Ohio State University* — Our memory for when an event occurred is not an accurate reflection of the passage of time. Rather, temporal memory is prone to systematic distortion by a variety of factors. Repetition is one such source of distortion, though prior work has identified two seemingly opposing effects: Repeated events are remembered as having first occurred earlier in time (temporal repetition effect), but they are also remembered as having most recently occurred closer to the present (recency effect). Here, we asked whether these two effects would emerge simultaneously within the same paradigm, and if so, whether they may be related to one another. In three experiments, participants encoded sequences of images and subsequently placed both the first and most recent presentations of each image along a timeline. Though we found robust evidence for both effects, they were uncorrelated with each other both within and across participants, even when temporal judgments were made simultaneously. These findings suggest that repetition exerts opposing yet independent influences on temporal memory, a pattern that cannot be accounted for by any existing theory and that points to fundamental gaps in our understanding of how mental timelines are constructed.

12:00-1:30 PM (IV-147)

Learning and Memory Through Language Production and Generation. YU ZHOU, *Vanderbilt University*, SARAH BROWN-SCHMIDT, *Vanderbilt University* — Memory depends not only on the information learners encounter, but also on how they engage with it during learning. Speaking aloud and generating missing information can each improve memory, but it remains unclear how different learning activities support learning, retention, generalization, and relearning. In this study, forty-three adults learned novel item descriptions under three conditions: listening, reading aloud, and reading aloud while generating missing words. Memory is assessed through free recall, recognition, category generalization, and relearning across three sessions. Our preliminary analysis showed reading aloud enhanced memory relative to listening, and that generating missing words while reading aloud produced the greatest benefit by combining overt production with active retrieval. We are further investigating if these benefits persist over time and support relearning.

12:00-1:30 PM (IV-148)

Interdependent Self-Construal Predicts Object–Scene Congruency Effects in Episodic Memory. ZHUO LI, *University of Texas at Austin*, AHHYUN SEO, *University of Texas at Austin*, IVA DUJMIC, *Brandeis University*, ANGELA GUTCHESS, *Brandeis University*, AUDREY DUARTE, *University of Texas at Austin* — Objects are often remembered better when encoded with semantically congruent than incongruent contexts. Most evidence for this congruency effect, however, comes from Western samples predominantly consisting of non-Hispanic Whites (NHW). Research suggests that people from interdependent cultures, more typical of Easterners, are particularly sensitive to contextual mismatch, potentially because interdependent self-construal promotes attention to object–context relations. The present study examined object–scene congruency effects in episodic memory by extending research to compare NHW Americans and two major groups with relatively interdependent cultural orientations: second-generation Chinese and Mexican Americans.

Participants encoded and later retrieved congruent and incongruent object–scene pairs. Memory congruency effects did not differ by group. However, across groups, individuals' self-assessments of interdependent self-construal were associated with the magnitude of the object-memory congruency effect. These findings suggest that individual differences in cultural orientation, rather than group-level measures, may better account for variation in memory congruency effects within second-generation groups.

12:00-1:30 PM (IV-149)

Behavioral change is not a unique signature of change in memory structure. SHIKANG PENG, *University of Toronto*, IGOR UTOCHKIN, *University of Chicago*, BRIAN LEVINE, *University of Toronto*, WILMA A. BAINBRIDGE, *University of Chicago* — When recognition performance changes across tasks, researchers often infer that memory organization has changed. But behavior is produced jointly by the similarity relations among studied items and the decision process turning them into a response, so behavioral change does not identify which has changed. We tested whether memory reorganization is necessary to explain such changes by fixing item relations in advance through an independently measured object-image similarity space (THINGS; Hebart et al., 2020). Because object concepts are hierarchically nested, we described their distances using hyperbolic geometry, which captures such nesting better than a Euclidean description. We then asked whether this space predicts behavior across delays (Experiment 1) and category-constrained study lists (Experiment 2), two manipulations commonly linked to memory reorganization. Although both manipulations changed recognition performance, behavior remained systematically linked to the same externally fixed relational space, under either geometric description. Behavioral change is therefore not a unique signature of structural change, and inferring reorganization requires showing the original relational model no longer accounts for behavior.

12:00-1:30 PM (IV-150)

The Effects of Dividing Attention During Encoding of Visual and Auditory Objects. HANNAH M. SHIREY, *University of Nevada, Las Vegas*, FARNAZ NOROUZIZADEH, *University of Nevada, Las Vegas*, COLLEEN M. PARKS, *University of Nevada, Las Vegas* — Dividing attention during encoding is a standard manipulation in recognition memory that consistently reduces recollection and has little, if any, effect on familiarity. Thus, it was surprising when we found that dividing attention with an n-back task substantially reduced recollection and familiarity of visual objects and familiarity for auditory objects, but had little to no effect on auditory recollection. However, the n-back is an atypical way of dividing attention. Therefore, we manipulated how attention was divided (task switching vs. continuous monitoring of a secondary source of information) to determine whether the odd patterns are specific to the n-back task. If the pattern generalizes to another kind of divided attention task, there would be reason to suspect that attention affects auditory and visual recollection differently. If it does not, there would be reason to suspect that dividing attention by task switching and continuous monitoring affect memory differently.

12:00-1:30 PM (IV-151)

Assessing the Effects of Vagus Nerve Stimulation on Attentional Control and Memory Encoding Processes. KYLER SPILLARS, *Coastal Carolina University*, BRITTNEY BISHOP-CHRZANOWSKI, *Coastal Carolina University* — Research on vagus nerve stimulation (VNS) suggests that VNS may support cognitive functions such as attentional control (AC) and memory, but is unclear whether there is an optimal level of stimulation to enhance these cognitive functions. The current study examines effects of VNS on AC and memory encoding, and whether such an optimal level of stimulation may exist. Participants experienced one of three conditions: sham VNS, moderate intensity VNS administered by the researcher, or self-administered VNS at the maximum intensity comfortably tolerated.

Participants then encoded and categorized text-based stimuli. To induce lapses in AC, 85% of items came from a single category. Following the encoding task, participants completed a recognition memory test consisting of both encoded and new, matched items. We expected to see differences in behavioral markers of AC based on VNS condition. We also predicted that participants receiving active vs. sham VNS will perform better on the subsequent memory task. Results for AC will be discussed in terms of response times and accuracy during the categorization task; memory will be evaluated in the context of old items correctly recognized relative to new items incorrectly perceived as old.

12:00-1:30 PM (IV-152)

How Inhibitory Demand Impacts Memory Encoding.. BRODY A. TERRY, *University of Arkansas*, GRANT S. SHIELDS, *University of Arkansas*, MICHELLE M. RAMEY, *University of Arkansas* — Prior work using go/no-go tasks during memory encoding has found that memory for stimuli encoded on go trials (when a response is made) is greater than for stimuli encoded on no-go trials (when a response must be inhibited). There is debate as to whether this effect represents an inhibition-induced reduction in no-go trial encoding due to a shared resource between inhibition and encoding, or if encoding is boosted on go trials due to motor excitement. To address this debate, we manipulated inhibitory demand in a go/no-go task (N=167) by altering the ratio of stimuli (faces) between conditions: more go than no-go (high inhibitory demand), equal go and no-go (moderate inhibitory demand), and less go than no-go (low inhibitory demand). We replicated the original effect in the moderate and low inhibitory demand conditions such that recognition was poorer for stimuli encoded during no-go trials than go trials. Unexpectedly, however, the effect was robustly reversed for the high inhibitory demand condition: memory was better for no-go than go trials. This is the opposite of what is predicted by shared resource theories. In fact, no current theory can explain this pattern of results, indicating that alternative theories are needed.

12:00-1:30 PM (IV-153)

Von Restorff Effects for Recognition Memory. LIANA Y. THIELECKE, *University of South Florida*, KENNETH MALMBERG, *University of South Florida*, SIRI-MARIA KAMP, *Trier University* — We report the results of four recognition memory experiments on the von Restorff effect (cf. Kamp et al., 2025). The von Restorff effect is observed when an item presented in a different form on a study list (i.e., an isolate) is better remembered than the remaining items on the study list. In each experiment, a robust effect of the isolate was observed. When the isolate was tested in the form in which it was studied, the isolate effect was much larger than effect observed when the isolate is tested in a neutral form. In addition, when isolates are studied in a blocked fashion, the isolate effect is not different from that observed when isolates presentations are spaced throughout the study list. Finally, there is not a significant difference between recognition accuracy for the first and second isolates in a block.

12:00-1:30 PM (IV-154)

Turning Memorability on Its Head: How Robust Is Image Memorability to Inversion? QIAOXI A. YANG, *University of Illinois Urbana-Champaign*, WILL DENG, *University of Illinois Urbana-Champaign*, KARA D. FEDERMEIER, *University of Illinois Urbana-Champaign* — Image memorability refers to an intrinsic property that makes some images consistently more likely to be recognized, yet its underlying mechanisms remain unclear. Previous ERP research suggests that high memorability images are processed more efficiently at high-level perceptual (N300) and semantic stages (N400). Here, we used image inversion to test whether these effects persist under perceptual disruption. Participants completed a continuous recognition task with upright and vertically inverted high- and low-memorability images, each repeated once; mean N300 and N400 amplitudes were analyzed. For upright images, high memorability was associated with facilitated N300 (especially on repetition) and N400 responses, as in prior work. Inversion modulated responses to low memorability images, which, however, showed sim-

ilar repetition patterns to their upright counterparts. Notably, however, inversion had little impact on responses to high-memorability images, both at first presentation and repetition. This pattern suggests that highly memorable images are more robust to perceptual disruption.

12:00-1:30 PM (IV-155)

Effects of Encoding and Emotion Regulation Strategies on Memory. MEGAN E. YELINEK, *Towson University*, JACQUELINE S. LEVENTON, *Towson University* — Memory for emotional items (Kensinger, 2009) and deeply encoded items (Craik & Lockhart, 1972) tends to be enhanced. The present study investigated the effect of encoding depth alongside emotion regulation on memory for negative, neutral, and positive images. Participants (N = 43) encoded images by completing either a writing task (deep encoding), a reading task (medium encoding), or viewing the image (shallow encoding). For writing and reading tasks, participants either maintained or lessened the emotion. Approximately one week later, participants engaged in a recognition task and rated the valence and arousal of images. No memory enhancing effects of encoded image valence or emotion regulation were observed; images that were more deeply encoded were remembered more than those encoded less deeply. Images viewed by participants received more positive valence ratings than those with deeper encoding. No effects of encoding depth or emotion regulation were observed for arousal ratings.

12:00-1:30 PM (IV-156)

The Sound of Recognition Memory Decisions in Older and Younger Adults. XINRAN Y. ZHANG, *Washington University in St. Louis*, IAN G. DOBBINS, *Washington University in St. Louis* — When people make recognition memory judgments, they may justify those judgments by articulating the specific details that informed their decision. Recent research in recognition and eyewitness memory demonstrates that acoustic and prosodic features of spoken decisions and justifications—such as loudness, rate of speech, and pauses—predict memory accuracy. However, it is unknown whether these characteristics remain similarly predictive during healthy aging, given the typical changes in speech that occur. Here, Older (N=16) and younger (N=16) adults completed a verbal recognition test requiring spoken justifications for a random sample of accurate and inaccurate recognition claims. The rate of pauses was similarly predictive of recognition accuracy across the age groups. In contrast, use of filler words and mean articulation duration well-predicted age group (greater for younger adults) but were unrelated to recognition accuracy. , but similarly so across age groups. Exploratory analyses on 88 acoustic features from the GeMAPS parameter set is underway to see if any differentially predict accuracy across age cohorts.

12:00-1:30 PM (IV-157)

Division of Labor in Human-Human and Human-Machine Teams. LAITON HEDLEY, *University of Newcastle*, LUKE RUSSELL, *University of Newcastle*, MURRAY BENNETT, *Ohio State University*, JONATHON LOVE, *University of Newcastle*, SCOTT D. BROWN, *University of Newcastle*, AMI EIDELS, *University of Newcastle* — Complex tasks often require teamwork. How teams distribute labor among agents can influence performance – sometimes enhancing outcomes and other times hindering them. Human-Human (HH) teams typically demonstrate relatively equal Division of Labor strategies, which are known to benefit performance, but little is known about Human-Machine (HM) teams. We devised a simple computerised game to assess Division of Labor in HH and HM teams, and examined how these strategies shape performance. Two agents controlled horizontally-moving paddles to deflect falling balls. Participants were assigned randomly to play with another human (HH) or with a machine agent (HM team). We measured the performance of the teams and applied time-sensitive analyses to quantify Division-of-Labor. HH teams divided labor more equally than HM teams, and that equality in labor distribution strongly predicted superior performance. We also found partial evidence that humans in HM teams tended to offload more labor to the machine partner, while in HH teams, stronger

teammates took on a greater share. These findings suggest that human transactive processes support balanced coordination, whereas HM teams (at least with the agents we tested) lack such mechanisms.

12:00-1:30 PM (IV-158)

Pupil Response as a Measure of Cognitive Effort in Anticipation of Motivated and Unmotivated Deceptive Responding. EVAN M. BRENNAN, *Montana State University*, KEITH A. HUTCHISON, *Montana State University* — We assessed individual differences in working memory capacity and attentional control, and then cued participants to respond deceptively and honestly to autobiographical questions, with a fixed 5,000 ms fixation delay between presentation of the cue and presentation of questions. During the fixation delay we measured the change in pupil diameter to assess cognitive effort in anticipation of responding. We further motivated half of the participants to lie convincingly by informing them of a proposed relationship between lying ability and intelligence. We predicted that pupil diameter (1) would be greater prior to deceptive trials than truthful trials, (2) would be greater for motivated than unmotivated participants, (3) that participants higher in cognitive ability (assessed through the cognitive individual difference measures) would engage cognitive effort more efficiently than participants lower in cognitive ability, and (4) that attentional control would account for unique variance in preparatory cognitive effort. We found support for our first and second hypotheses, partial support for our fourth hypothesis in the unmotivated condition, but no support for our third hypothesis.

12:00-1:30 PM (IV-159)

Flexible Task Representation? Using Transitional Response Times to Evaluate Task Hierarchy. TOBIN DYKSTRA, *University of Michigan - Dearborn*, ELIOT HAZELTINE, *University of Iowa* — Dykstra and colleagues (2022) developed a technique to evaluate task representation. Results showed strongly-connected adjacent responses when all stimuli shared a set, and strong within-category links when two sets were present in the array. Therefore, many task components, including stimulus properties and response locations, contribute to the representational organization of a task. Yet, how these properties combine to determine representational structure remains poorly understood. The present study examines the relative contributions of neighbor status and stimulus set under varying stimulus conditions. Two groups of participants used 8 response keys mapped to either 8 shapes or 4 shapes and 4 colors. All participants responded to shapes with the leftmost responses, but the rightmost keys were mapped to distinct sets of stimuli for the two groups. Task representation was then visualized using graph theory. In the shape-only condition, we observed strong connections between adjacent responses, while the shape-color condition revealed strong within-category links. This pattern suggests that there is task structure within a stimulus set, and that multiple task components contribute to the organization of the task representation.

12:00-1:30 PM (IV-160)

More Trials, Better Trials, or More Tasks? Simulation Insights on Cognitive Task Design for Individual Differences. HAN HAO, *Tarleton State University* — Conventional cognitive tasks are often initially optimized for detecting experimental effects, yet contemporary individual-differences research generally requires measures that accurately capture stable person-level constructs. Prior work on these reliability issues shows that increasing the number of trials can help separate trial noise from individual variability, but may not improve the measurement of the intended cognitive process (Parsons et al., 2019; Rouder, 2023). The current study uses simulation to examine the potential impact of adding more trials, adding critical trials, or adding tasks (or conditions) on behavioral-level ability estimation/recovery. Simulated participants varied in target cognitive processes, general task-performance ability, and task-specific "noise" processes. Binary accuracy data were generated under an item-response framework. Within-task trial expansions and across-task design decisions were simulated and contrasted. Reliability

estimation, target process recovery, "noise" process control, and the latent broad-level construct were compared to tap into a broader design question in cognitive research: which trials, in which tasks, are sufficient to measure the intended cognitive construct?

12:00-1:30 PM (IV-161)

Intentional Forgetting of Environmental Sounds: Effects of Traditional and Auditory-Based Forgetting Instructions. LORENA E. REID, *University of Wisconsin - Oshkosh*, JUSTYNA OLSZEWSKA, *University of Wisconsin - Oshkosh*, TYLER BOZRZICK, *University of Wisconsin - Oshkosh*, NONA KNEPPLE, *University of Wisconsin - Oshkosh*, OLIVIA GROENIER, *University of Wisconsin - Oshkosh*, NOAH RAFFEL, *University of Wisconsin - Oshkosh* — The present study examined directed forgetting (DF) for environmental sounds, an understudied class of auditory stimuli that has received little attention in the DF literature. In addition to a traditional DF condition, we evaluated two alternative post-stimulus instructions - auditory imagery and humming - designed to redirect attention away from recently presented sounds. We hypothesized that these tasks would interfere with maintenance of target sounds and produce DF effects comparable to or greater than those generated by traditional forget instructions. Participants completed a DF task involving environmental sounds followed by either remember/forget cues or one of the alternative auditory tasks. Results revealed a reliable DF effect on recall measures. Interestingly, participants in the traditional DF condition demonstrated lower memory accuracy for remember-cued sounds than participants in the imagery and humming conditions, suggesting that the nature of the post-stimulus instruction influenced encoding and retention processes. These findings provide initial evidence that directed forgetting can be observed for environmental sounds and extend DF research to ecologically valid auditory stimuli.

12:00-1:30 PM (IV-162)

Predicting Performance and Fatigue: Resilience in Sonar Monitoring. JESSICA G. BELKNAP, *Michigan State University*, SYLVIA B. GUILLORY, *Naval Submarine Medical Research Laboratory*, JEFFREY B. BOLKHOVSKY, *Naval Submarine Medical Research Laboratory*, CHAD PELTIER, *Leidos*, ERIK M. ALTMANN, *Michigan State University*, KIMBERLY M. FENN, *Michigan State University*, JOSEPH GINGELL, *Michigan State University* — Sustained attention is essential to operational tasks like sonar monitoring. Using two sessions, we examined how cognitive abilities covary with performance and/or resistance to time-on-task (TOT) fatigue during a simulated sonar monitoring task. In session 1, participants completed 1) a measure of placekeeping (PK), where a series of steps had to be performed in a specific order without repetitions or omissions, and 2) a cognitive battery (CB) that assessed attention, working memory, and other abilities. Session 2 involved a four-hour audiovisual sonar monitoring simulation requiring sonar signal identification and classification. Missed sonar signals increased over time, indicating performance decline. Correlations revealed that higher PK performance was associated with both greater sonar performance and smaller performance decrements over time, and that higher performance on the CB was related to greater sonar performance but not changes in performance over time. These findings demonstrate that PK may help identify vulnerabilities to TOT fatigue, providing a cognitive framework to integrate PK metrics into operator screening and mitigate performance decrements during prolonged surveillance.

12:00-1:30 PM (IV-163)

Desperately Seeking Stability-Flexibility Tradeoffs: Relating Switch Costs to Pre-Switch Stability Across Levels of Analysis. SOPHIA V. ANGLETON, *University of Oregon*, NEHA NARGARKAR, *University of Oregon*, DOMINIK GRAETZ, *University of Oregon*, ULRICH MAYR, *University of Oregon* — While some theories of cognitive control suggest a tradeoff between stable task representations and adapting flexibly to new

ones, empirical evidence is inconclusive and has rarely considered the different levels on which such tradeoffs occur. As a sensitive test of tradeoffs, we analyzed task-switch costs as a function of pre-switch stability (by manipulating task conflict), and we simultaneously examined (a) average experimental effects, (b) within-subject, trial-to-trial dynamics, and (c) inter-individual relationships. Across two experiments (Exp 1: N=100, Exp. 2: N=78), average effects showed no consistent tradeoff while within-subject dynamics revealed increased switch-costs following particularly stable (i.e., fast) pre-switch trials (i.e., a tradeoff). On the inter-individual level, the pattern reversed: individuals with greatest pre-switch stability also showed greatest flexibility. These results add to increasing doubts about the stability-flexibility tradeoff as a general organizing principle and point to distinct mechanisms operating at within- versus between-subject levels.

12:00-1:30 PM (IV-164)

Examining Crowding Effects on Sequential Presentation in Visual Working Memory. TARYN GREEN, *Louisiana State University*, NARIA QUAZI, *University of California, Berkeley*, JASON SCIMECA, *Louisiana State University* — Previous studies on visual crowding – constraints on cognition due to object spacing that are typically observed during perception – demonstrated that crowded perceptual displays drive crowding effects during visual working memory (VWM) maintenance. However, recent studies suggest that crowding effects emerge in VWM when objects are not crowded at perception. To address this debate, we hypothesized that crowded objects would impair VWM maintenance even when uncrowded during perception. Experiment 1 presented sequentially displayed colors that were either close together (crowded) or farther apart. Participants reported the color at a cued location using a continuous color wheel. Memory for crowded items was significantly impaired with model-based analyses revealing increased spatial binding errors (swaps). Furthermore, adjacent colors were swapped more frequently than non-adjacent ones. Experiment 2 will test this using orientation. Together, these results support the role of cortical competition in the visual cortex as a constraint on working memory performance.

12:00-1:30 PM (IV-165)

Mouse Tracking Reveals Multiple Control Adjustments Following Frequency-Based Response Conflict. JAEWON HAN, *Korea University*, MIN-WOO JB KIM, *Ulsan National Institute of Science and Technology*, MYEONG-HO SOHN, *George Washington University*, YANG SEOK CHO, *Korea University* — Biased response frequency induces response conflict by creating competition between a prepotent response tendency and the required response activation. Using computer mouse tracking, this study investigated how multiple forms of control adjustment unfold across processing stages to reduce frequency-induced conflict in the absence of selective control over task-irrelevant stimulus dimensions. Participants alternated between horizontal and vertical two-choice mouse-tracking tasks, moving the cursor to one response box more frequently than the other within each task. Results showed that after experiencing frequency-based conflict, participants delayed movement initiation and started movements more slowly, suggesting a cautious adjustment that persisted from movement initiation to execution. In contrast, the effects of current response frequency on x-coordinates and movement speed were sequentially reduced on the subsequent trial, a reduction emerging primarily during the initiation phase. Moreover, y-coordinate trajectories showed that participants avoided the previously conflict-associated region. Together, these findings reveal how distinct, stage-specific control mechanisms dynamically manage frequency-induced response conflict.

12:00-1:30 PM (IV-166)

The Role of Subjective Workload in Open and Closed-Loop Transcranial Direct Current Stimulation (tDCS) Effects on Multitasking Performance. HANNAH HART-POMERANTZ, *Tufts University*, LINDSEY K. MCINTIRE, *Air Force Research Laboratory*, SAMANTHA TRACEY, *Tufts University*, TAD T. BRUNYÉ, *U.S. Army DEVCOM Soldier Center; Tufts University*, HOLLY A. TAYLOR, *Tufts University*, NATHAN WARD, *Tufts University* — Multitasking is critical in high-stakes settings, where demands can lead to cognitive overload and performance errors. tDCS has shown promise for enhancing multitasking performance, but findings are mixed, and sources of variability in tDCS response remain unclear. We examined whether subjective workload influences the effects of open versus closed-loop tDCS on multitasking performance. Participants completed three tDCS sessions (open-loop, closed-loop, sham) during the Air Force Multi-Attribute Task Battery. Closed-loop stimulation was triggered by EEG-detected high workload, whereas open-loop stimulation used fixed timing. After each task block, participants rated subjective workload across multiple dimensions using the NASA-TLX. Workload ratings were significantly higher during high-demand blocks, confirming that the workload manipulation was effective. Generalized linear mixed models indicated that higher subjective workload was associated with reduced performance on several subtasks, with some evidence that workload-performance relationships varied across tDCS conditions. These findings suggest that subjective workload reflects multitasking performance and may help explain variability in responses to different tDCS protocols.

12:00-1:30 PM (IV-167)

How does Mind Wandering Influence Dual-task Performance? AMELIE C. JUNG, *University of Greifswald*, SANDRA LANGE, *University of Greifswald*, RICO FISCHER, *University of Greifswald* — Mind wandering refers to engaging in task-unrelated thoughts and may negatively affect performance on the main task (McVay & Kane, 2012; Smallwood & Schooler, 2006). In the present study, we aimed to investigate whether these attentional lapses may also account for losses in multitasking performance. To do so, we used a typical dual-task paradigm with identical tasks across seven blocks (Fischer et al., 2018). Dual-task trials were interspersed by random thought probes requiring the participants to rate their focus of attention prior to the probe as on or off task. In two experiments (using different assessments of mind wandering), we examined whether probes of increased mind wandering came along with dual-task trials of decreased task shielding, i.e., a larger backward-crosstalk effect (BCE). Therefore, we restricted the analysis to the last four trials before every thought probe. Results revealed that mind wandering affected overall task performance, i.e., reaction times and accuracy, but not the BCE in both experiments. Thus, attentional lapses seem to impair general dual-task performance while leaving interference control unaffected.

12:00-1:30 PM (IV-168)

Smooth pursuit of kinetic edges. MARKUS LAPPE, *University of Muenster*, KRISCHAN KOERFER, *University of Muenster* — Certain types of non-rigid environmental motion like water waves or wind sweeping across a grass field pick up the motion of elements (water molecules or grass stalks) at their leading edge and drop them back into static at their trailing edge. We have recently observed that such motions can be perceived as moving entities but not pursued by smooth eye motion (Koerfer et al., Science Adv. 2024). Here, we measured the dependence of pursuit gain on speed and duration of the pick-up motion. Stimuli consisted of a field of 10,000 static white dots on a black background. A leftward sweeping invisible bar picked up dots at its leading edge, upon which these dots moved vertically at a fixed speed between 2 and 32 deg/s. At the trailing edge the dots dropped back into static. Bar width varied between 0.25 deg and 60 deg. Participants were asked to pursue the leading edge of the bar. Eye movements were recorded with the Eyelink 1000. Results: As expected, pursuit was very poor at low vertical velocities but increased for higher vertical velocities. Surprisingly, pursuit gain was

lower for wide than for small bars. This suggests that inability to pursue such motion is linked to the travel duration or path of the elements after pick-up.

12:00-1:30 PM (IV-169)

Kinematic Characterization of Voluntary and Sensory-Driven Locomotion Using a Transparent Wheel Platform in Head-Fixed Mice. PRATIK S. PARANJAPE, *University of Nevada, Las Vegas*, TAHOURA MOHAMMADI GHOHAKI, *University of Nevada, Las Vegas*, JULIETTE BRINKMAN, *University of Nevada, Las Vegas*, MARYAM LALEKA, *University of Nevada, Las Vegas*, SAMSOON INAYAT, *University of Nevada, Las Vegas* — Whether self-initiated and externally evoked locomotion are kinematically equivalent remains unclear under head-fixed conditions. We used a transparent wheel-based setup to compare spontaneous, air-evoked, and cue-associated locomotion in head-fixed mice. Five wildtype mice underwent repeated exposure to the wheel, air-stream training, and tone-air pairing, in which a tone preceded air delivery. Wheel movement was quantified with a rotary encoder; ventral videography enabled paw-level tracking. We hypothesized that air-evoked locomotion would show shorter initiation latency, greater sustained speed, and more abrupt termination after stimulus offset than spontaneous locomotion. Preliminary encoder analyses show that air delivery reliably increased running speed and organized locomotor activity around air-on and air-off periods. During tone-air pairing, activity also increased around tone onset, suggesting cue-associated locomotor modulation. Ongoing kinematic analyses compare paw placement, interlimb coordination, and movement timing across spontaneous, air-evoked, and tone-associated locomotion. This work provides a framework for dissociating self-initiated, sensory-driven, and predictive locomotor control in head-fixed mice.

12:00-1:30 PM (IV-170)

A Cognitive Perspective to Financial Literacy: Explaining Key Financial Concepts Through Data Visualizations. ZEYNEP EYLUL GUL, *Koç University*, ZEYNEP DERYA CAKMAK, *Koç University*, CEREN CELIK, *Boğaziçi University*, SINEM BALKANAL, *Koç University*, AYŞECAN BODUROGLU, *Koç University* — Financial literacy requires an understanding of compounding and its long-term consequences for debt and savings. Limited understanding of these key concepts contributes to poor financial decisions and wellbeing. We tested whether a scalable, visualization-based educational module can improve understanding of compounding and its implications for interest-driven savings and debts. Participants viewed an educational module in either video or brochure format, explaining the key constructs of accumulation and compounding, and how these relate to interest, savings, debt and long-term gains from retirement. Across formats, participants had significantly better understanding of compounding and its implications for savings after the modules. Yet, their performance did not improve on questions targeting costs of cash advances, highlighting the need for further refinement. Neither the format nor the framing of the retirement module impacted retirement intentions and allotment to a hypothetical private pension fund. In sum, scalable, just-in-time educational modules grounded in cognitive principles may improve some aspects of financial literacy, but more nuanced targeting concerns and misunderstandings may be critical for broader impact.

12:00-1:30 PM (IV-171)

Testing Perceptual and Motor contributions to Auditory Representational Momentum. LEMIRA V. ESPARZA, *University of Texas at San Antonio*, REGAN SIMS, *University of Texas at San Antonio*, EDWARD J. GOLOB, *University of Texas at San Antonio* — The perceived offset of a moving sound is often displaced ahead of the true location (representational momentum, RM), which may compen-

sate for sensory delays. We hypothesized that motor demand would add more delay and increase RM. Participants heard targets moving towards midline (20 or 40 °/sec velocity). Targets stopped automatically (perceptual condition) or by button press (motor condition). Subjects judged if a subsequent probe and target were at the same/different location, which was used to calculate displacement. The motor task had significantly larger forward displacements for the slower velocity, and larger backward displacements in the faster velocity ($p<.001$). Findings partially support the hypothesis, but only for longer-duration stimuli. Backward displacement can occur with shorter durations, indicating insufficient compensation, and the additive effect may reflect perceptual and motor interactions.

12:00-1:30 PM (IV-172)

The role of central auditory processing in speech perception and subjective listening effort. HILAL ASLAN, *University of Texas at San Antonio*, EDWARD J. GOLOB, *University of Texas at San Antonio* — Speech perception feels effortless in quiet but effortful in noise. The Ease of Language Understanding (ELU) model proposes that in noise, working memory facilitates the matching of speech and semantic representations. Working memory engagement, in turn, subjectively feels effortful. Two hypotheses were tested. 1) If working memory engagement is proportional to processing depth, there would be greater effort with deep (semantic) vs. shallow (perceptual) processing. 2) individual differences in central auditory processing (CAP), particularly speech-in-noise, would negatively relate to effort. Participants made either deep (living/non-living) or shallow (pitch) judgments of speech-in-noise, rated effort dimensions (workload, fatigue), and completed CAP tests. Workload and fatigue were significantly greater in deep vs. shallow processing. Better CAP was associated with lower fatigue, but not workload. Findings support ELU predictions that deeper processing increases workload and fatigue, despite identical stimulus conditions. Individual differences in CAP may reduce listening-related fatigue during effortful speech perception.

12:00-1:30 PM (IV-173)

Reward Makes Sounds Easier to Find: Insights from EEG. JONATHAN CONRADY, *University of South Carolina*, JESSICA GREEN, *University of South Carolina* — Auditory spatial processing becomes less precise under vision-restricted conditions. We previously demonstrated that non-monetary rewards enhance vision-restricted sound source localization (SSL) performance. Here, we examined the neurophysiological mechanisms governing these effects in 31 participants performing a vision-restricted SSL-reward task. Sounds were projected across left and right hemifields of space, and participants earned 5 points for correct localizations in rewarded hemifields (RH); no reward was earned for correct localizations in unrewarded hemifields (UH) or incorrect localizations. Using electroencephalography (EEG), we found several modulations of event-related potentials (ERPs), including near-significant enhancement of auditory N1 amplitude and significant decreases in P2 and contingent negative variation (CNV) amplitudes for RH sounds, suggesting value-driven attentional prioritization. Correct feedback in RH (reward gain) evoked the largest reward positivity (RewP) and P300 amplitudes, implicating the dopaminergic reward system and top-down attentional processes. Together, these findings indicate that reward-driven enhancements of SSL engage interacting attentional and reward-related neural mechanisms.

12:00-1:30 PM (IV-174)

Differences in Workload Capacity for Musicians and Nonmusicians Recalling Simple Melodies. IAN DEVINE, *James Madison University*, JAMES T. TOWNSEND, *Indiana University*, JENNIFER J. LENTZ, *Indiana University* — We evaluated short-term memory of sequential musical tones in musicians and non-musicians using a memory-scanning experiment. The set consisted of 12 notes ranging from C4 (middle C) to B4. Participants heard lists of 1, 2, or 3 notes randomly selected from the set and indicated whether a probe was part of the list or not. We applied the tools of Systems Factorial Technology (Townsend & Nozawa, 1995; JMP) and the assessment function (Townsend & Alteri, 2012; Psych

Review) to evaluate workload capacities for musicians and non-musicians. With increasing list size, accuracy decreased - becoming particularly poor for non-musicians - and RTs increased for both groups. Workload capacities and assessment functions suggest that musicians adopted different strategies than non-musicians and that the superior performance of musicians was more than simply being faster and more accurate. Despite RTs increasing with list size, we found little evidence for a serial strategy in musicians.

12:00-1:30 PM (IV-175)

Social sound change detection in neurotypical and autistic children. ANNA Y. LIU, *University of Toronto Mississauga*, RENEE LEOW-GUERVILLE, *University of Western Ontario*, RYAN A. STEVENSON, *University of Western Ontario*, CHRISTINA M. VANDEN BOSCH DER NEDERLANDEN, *University of Toronto Mississauga* — Autism spectrum disorder (ASD) is characterized by differences in social communication and interaction, alongside sensory differences, relative to non-autistic individuals. Despite this, ASD individuals still show biases for social (e.g., speech) over non-social sounds. Yet, little work has examined social sound biases in coherent settings that reflect real-world listening experiences. Here, we compared 6- to 12-year-old neurotypical (NT) and ASD children's social sound change detection abilities in coherent auditory scenes (e.g., a park). Children heard pairs of auditory scenes and were asked to detect whether a sound has changed between the two scenes. Changes occurred in one of four sound categories: social (e.g., speech), animal (e.g., cat meow), natural world (e.g., rainfall), and mechanical (e.g., car honk). We also collected measures of IQ and ASD traits. Preliminary data suggests that both groups show a social sound bias, but it is more pronounced in NT children. With continued data collection, we will explore whether ASD traits relate to differences in detection of social sounds in all participants. Overall, we hope to better understand the factors that influence ASD children's social attention in busy auditory settings.

12:00-1:30 PM (IV-176)

The Influence of Top-Down Processing and Stream Segregation on Comodulation Masking Release. AVA (ERICSON) SALASEL, *Capilano University; Adler University*, TINA SALASEL, *Capilano University*, JASON P. LEBOE-MCGOWAN, *University of Manitoba*, TODD MONDOR, *University of Manitoba*, DOUGLAS W. TOMALIN, *Capilano University; University of Manitoba* — Abstract Comodulation masking release (CMR) refers to improved auditory signal detection when comodulated masker components perceptually group into an auditory object. We examined whether pre-trial auditory cues modulate CMR by directing selective attention toward different components of an auditory scene. Across four experiments, participants completed a two-interval forced-choice detection task in which a 200-ms target tone was embedded within a 1000-ms amplitude-modulated narrowband noise masker, with flanking bands either present or absent. Contrary to predictions, cueing target frequency did not enhance CMR. In Experiment 1, target-frequency cues reduced CMR relative to no-cue trials, and Experiment 2 showed no difference between target-matching and target-mismatching trials. In contrast, cues matching perceptually grouped masker components enhanced CMR. This included cuing flanking bands (Experiment 3) or masking noise (Experiment 4). These findings suggested that attentional cueing modulates CMR selectively, when attention is directed toward acoustically grouped stimulus components rather than the target signal.

12:00-1:30 PM (IV-177)

Visuotactile Interaction in Local Motion Perception: Cross-modal Effects Under the Aperture Problem. KAZUHIKO YOKOSAWA, *Japan International University*, YOSHIMUNE NOZAKA, *Japan International University*, JUNJI OHYAMA, *National Institute of Advanced Industrial Science and Technology* — In visual motion perception, the aperture problem causes misperception of the true direction of motion. While similar integration exists in touch, the interaction between simultaneous visual and tactile stimulus remains unclear. This study used

a VR system to present visual motion incongruent with physically presented tactile motion in order to examine whether these modalities integrate into a single motion vector. Twenty-four participants identified motion directions under visual, tactile, and combined conditions. Results confirmed that both visual and tactile aperture illusions occurred. Crucially, participants did not perceive a vector sum of orthogonal visual and tactile directions. Instead, tactile information generally dominated the final judgment. However, visual motion significantly influenced the perceived direction when a tactile aperture illusion was present. These findings suggest that although tactile signals are weighted more heavily due to direct physical contact, visual information acts to compensate for tactile ambiguity during motion perception.

12:00-1:30 PM (IV-178)

Confidence Shapes Multisensory Integration. APRIL PILIPENKO, *University of California, Santa Cruz*, AIDEN BENTON, *University of California, Santa Cruz*, WEI DOU, *University of California, Santa Cruz*, ALEXANDRA MCGOWAN, *University of California, Santa Cruz*, JASON SAMAHA, *University of California, Santa Cruz* — How the brain combines multisensory information into a single percept remains an open question. A dominant account proposes that each modality is weighted by their respective reliabilities, as in maximum-likelihood estimation (MLE). However, MLE predictions often fail to capture empirical data. We propose that subjective confidence, which can be distinct from sensory reliability, contributes to this weighting process. To test this, we developed a visual dot-cloud paradigm that dissociates accuracy from confidence by manipulating stimulus variability, paired with a spatial white-noise burst. Participants performed left/right localization judgments under aligned and spatially conflicting audiovisual conditions, alongside unimodal audio and visual tasks to estimate sensory reliability. This design enabled comparison between predicted sensory weights (based on MLE) and observed behavior under matched performance but differing confidence. Across several studies, our results indicate that subjective confidence influences audiovisual weighting, suggesting that perceived, not just sensory, reliability shapes multisensory integration.

12:00-1:30 PM (IV-179)

Imagining alternative sound sources relieves reactions to misophonic trigger sounds. NICOLAS DAVIDENKO, *University of California, Santa Cruz*, GHAZALEH MAHZOUNI, *University of California, Santa Cruz* — People who suffer from misophonia experience strong aversive reactions to certain trigger sounds, like chewing and sniffling. In previous work, we showed that these aversive reactions can be modulated by presenting Positive Attributable Visual Sources (PAVS) alongside the trigger sounds that provide a plausible alternative source of the sound (for example, a crunchy chewing sound synchronized with a video of someone walking on dry leaves). In the current study, neurotypical participants listened to eight common trigger sounds twice, once paired with the Original Video Source (OVS) and once with a PAVS. Subsequently, participants were presented with the sounds again with instructions to imagine that the sound was produced by either the original or the alternative source. After each trial, participants rated the success of their mental imagery as well as the distress, disgust, and bodily sensations they felt while listening to the sound. Behavioral ratings showed robust effects of mental imagery instructions: sounds were rated as significantly less aversive when participants successfully imagined alternative sources. We discuss the clinical implications for misophonia interventions.

12:00-1:30 PM (IV-180)

Factors Influencing Whole-body Ownership Induced by Visuotactile Stimulation: Effects of the Number and Location of Stimulated Body Parts. RENTARO KADOWAKI, *University of Tokyo*, MICHIKO ASANO, *University of Tokyo* — Previous research has shown that synchronous visuotactile stimulation of a single body part induces illusory whole-body ownership; however, the mechanisms underlying its occurrence and enhancement remain unclear. To address this, participants received syn-

chronous or asynchronous visuotactile stimulation to one (the back) or two (the back and forearm) sites. In virtual reality, participants observed an avatar from a third-person perspective. We assessed whole-body ownership subjectively via a questionnaire and objectively through a mental imagery task (MIT: judging self-location relative to an approaching virtual ball). The questionnaire revealed significant main effects of stimulation timing and number of stimulated sites: synchronous (vs. asynchronous) and two-site (vs. one-site) stimulation enhanced subjective ownership. In contrast, MIT showed no significant difference between synchronous and asynchronous conditions, contradicting previous studies. These results suggest that increasing the number of stimulated sites enhances whole-body ownership, although caution is warranted regarding the lack of effects in the objective measure.

12:00-1:30 PM (IV-181)

Universality and diversity in cross-modal aesthetic perception. NAOMI LYTLE, *Ohio State University*, SAMI R. YOUSIF, *Ohio State University* — What would the word "somniff" look like? It has been long understood that people appreciate cross-modal aesthetic correspondences, but there remain many unanswered questions about them. Do people always agree on cross-modal fit? Do some people agree more than others? Here, participants judged cross-modal associations for six hundred item pairs across three item types: (1) abstract images, (2) pseudowords, and (3) abstract audio clips. Participants were shown each pair (e.g., an image and a word) and asked to rate their 'fit'. For all item combinations, judgments of fit were reliable (ps<.001), meaning that people generally agreed with one another. But in addition, we found that some participants had a more 'typical' cross-modal sense, whereas others were more idiosyncratic. Finally, we found that (a) people were unaware of their own level of typicality in comparison to the group and (b) the fit of the pairing predicted how familiar the item would seem in a serial memory test. Therefore, we show that there is hidden systematicity in cross-modal preferences, and such preferences have consequences (e.g., for memory). These data lay the groundwork for understanding underappreciated variability in multisensory experience.

12:00-1:30 PM (IV-182)

Temporal Asynchrony Modulates the Audiovisual Time-Flow Illusion. ACHINT SHARMA, *University of California, Merced*, HEATHER BORTFELD, *University of California, Merced*, KRISTINA C. BACKER, *University of California, Merced* — The Audiovisual Time-Flow Illusion (AVTFI) demonstrates that when auditory speech is temporally altered by excising a portion or adding a pause, individuals often perceive a similar, illusory temporal alteration ("skip" or "pause") in the visual speech stream (Gonzales et al., 2022). However, it is unknown how the duration of the temporal alteration affects the robustness of the AVTFI. We hypothesized that AVTFI illusory perception would increase as the duration of the temporal alteration in the auditory signal also increases, as a result of increased temporal asynchrony between the auditory and visual speech signals. To test this hypothesis, participants completed the AVTFI task (i.e., listen to AV speech and indicate if the video is skipping, pausing, or unchanged) and a Simultaneity Judgment (SJ) task (i.e., indicate whether AV speech stimuli are synchronous or asynchronous), with the duration of the temporal alteration or AV asynchrony ranging from 50 to 200 ms. Indeed, as the duration of the auditory pause or skip increased, perception of the AVTFI also increased. We observed a significant correlation between AVTFI and SJ perception, indicating that asynchrony between the auditory and visual signals may underlie the AVTFI.

12:00-1:30 PM (IV-183)

Sensorimotor and EEG Dynamics of Virtual Echoacoustic Localization. SOFIA KRASOVSKAYA, *Smith-Kettlewell Eye Research Institute*, RYAN TAM, *Smith-Kettlewell Eye Research Institute*, SANTANI TENG, *Smith-Kettlewell Eye Research Institute* — Some blind individuals use active echolocation to support perception and navigation,

interpreting echoes from self-generated tongue clicks to represent their surroundings. Here we examined echolocation from an active-sensing standpoint, recording EEG while a blind proficient echolocator performed a virtual echoacoustic orientation task. On each trial, the task was to localize a virtual target by adjusting "head" orientation via keyboard, with synthetic click-echo waveforms delivered upon each button click. Thus, we preserved participant-initiated clicks and the self-paced structure and timing of a naturalistic echolocation task while retaining experimental control. Analyses target the temporal progression of echo representations across a trial, contrasting neural responses to spatially distinct targets (e.g. left vs. right) and examining search-related oscillatory dynamics leading up to the localization response. These pilot data capture how spatial representations are actively refined through iterative sensorimotor decisions, illustrating the complex neural dynamics underlying realistic echolocation behavior.

12:00-1:30 PM (IV-184)

A Sequential Multiple-Attempt Extension of Cognitive Diagnosis Models. JYUN-HONG CHEN, *National Cheng Kung University*, BO-YAO CHANG, *National Cheng Kung University* — Cognitive diagnosis models traditionally rely on single-attempt data, often ignoring the diagnostic information embedded in multiple-attempt (MM) test formats. To capture the dynamic process of eliminating incorrect options, we propose a sequential MM extension within the generalized deterministic inputs, noisy "and" gate (G-DINA) framework to accommodate sequential multiple-choice attempts. The GDINA-MM model accounts for guessing and varying levels of partial misinformation at each attempt, which traditional models fail to address. This allows for a more precise estimation of examinees' latent attribute profiles. A comprehensive simulation study was conducted to evaluate the model's psychometric properties under various conditions. The results demonstrate that the GDINA-MM model yields excellent item parameter recovery. Furthermore, incorporating sequential multiple-attempt data significantly improves attribute classification accuracy compared to traditional scoring based on single-attempt data. This extension offers a rigorous quantitative tool for enhancing diagnostic measurement in assessments allowing multiple attempts.

Poster Session V

Saturday, November 21, 2026, 6:00-7:30 PM PST

6:00-7:30 PM (V-001)

Free Ordering of Multi-Instance Tasks. RYAN LIEW, *University of California, Riverside*, ARINEH MORADIAN, *University of California, Riverside*, DOMINIC A. SIMON, *New Mexico State University*, DAVID A. ROSENBAUM, *University of California, Riverside* — Choosing the order in which to perform tasks is a common yet understudied component of performance. Prior work has typically constrained participants to complete tasks in a prescribed order, leaving unclear how people order tasks when free to choose. We addressed this issue by using a touchscreen paradigm in which university student participants were free to choose the order of completion of multiple instances of two tasks: an easier visual search task and a harder judgment task. Participants generally started and completed all instances of the easier task before beginning the harder task. Most interestingly, the harder task was completed more quickly when performed second rather than first. The most commonly chosen order (easy first) also yielded the shortest overall completion times. We interpret this as evidence that starting with the easier task afforded ongoing preparation for the harder task, suggesting that the chosen order enabled parallel processing.

6:00-7:30 PM (V-002)

Uncontrollable Fantasy: Examining Maladaptive Daydreaming and Intentionality of Mind Wandering. JOSEPHINE F R NICHOLSON, *University of Manitoba*, NICHOLAUS P. BROSOWSKY, *University of Manitoba* — Maladaptive daydreaming (MD) is characterized by excessive, immersive,

and uncontrollable fantasy resulting in functional impairment and significant psychological distress. By definition, MD involves a shift in attention from external stimuli to internally generated thought, or mind wandering. Though MD is described as an intentional process, involving deliberate, conscious engagement with off-task thought and mental imagery, it is also characterized by a lack of control and an inability to disengage from fantasy. This lack of control aligns more closely with spontaneous mind wandering, an involuntary form of off-task thought that is associated with feelings of diminished control, sharing many of the same psychopathological associations as MD. While current research indicates that MD is related to increased rates of mind wandering and vivid mental imagery, the role of intentionality and controllability of mind wandering in those with MD remains unclear. Thus, this study aimed to examine the relationship between mind wandering and MD. The results of this study allow us to map the nomological network between mind wandering, MD, and the related psychopathologies, and assist in identifying the underlying mechanisms of MD.

6:00-7:30 PM (V-003)

Can robust Stroop brain-behavior relationships be identified at the single-trial level? ANTONIO SOARES DE ALMEIDA, *Washington University in St. Louis*, TODD BRAVER, *Washington University in St. Louis* — In the Stroop EEG literature, the N450 ERP component is a commonly explored neural marker of conflict processing and cognitive control, which is enhanced on incongruent trials, and sensitive to aging and key experimental factors, including list-wide proportion congruency and task rule manipulations. Here, we tested for single-trial relationships between the N450 and Stroop reaction time (RT) in a sample of N=84 younger and older adults, with a task design that included both experimental factors. Linear mixed effect models identified a robust single-trial N450-RT relationship that was sensitive to participant and experimental factors, as well as between-subject N450 amplitude effects, but still present even when these were statistically controlled. A further control analysis found that the N450-RT relationship could not be explained in terms of conflict prediction errors. Lastly, a response-locked analyses demonstrated that this single-trial brain-behavior relationship was observed even in the pre-response ERP, ruling out confounds resulting from the RT generation process itself. These results suggest the N450 tracks neural processes that are functionally and potentially causally linked to trial-by-trial RT fluctuations.

6:00-7:30 PM (V-004)

Frontal theta oscillations suggest similar executive control mechanisms between item and ensemble emotion processing while attentional scope is narrowed. BRADLEY E. BUCHANAN, *University of South Florida*, LARAMIE LJ STARLING, *Texas Tech University*, JACOB ZEPP, *University of Zurich*, GAVIN HEINDORF, *University of South Florida*, HAROLD ROCHA, *University of South Florida*, EMILY A. RANCORN, *University of South Florida*, CHAD DUBÉ, *University of South Florida* — When performing in front of an audience, it may be necessary to rapidly extract summaries of our audience's emotions so that impromptu adjustments can be made. But our processing of group emotion, or Ensemble Emotion Processing (EEP), is not well understood. That is, the role of executive control in EEP is debated, particularly when attentional scope is narrowed. Some accounts (Zepp & Dubé, 2026) suggest that EEP may be a result of veiled controlled processes while others (Baek & Chong, 2020) suggest more explicit control mechanisms. Frontal Theta oscillations are considered a well-established marker of executive control demands. Using a dual-task paradigm (Liu & Ji, 2024), Bayesian mixed-effects models suggest that theta band power was modulated by attentional scope but not by judgment type (item or ensemble). These findings indicate that item and ensemble emotion processing recruit comparable executive control processes when attentional scope is narrowed.

6:00-7:30 PM (V-005)

Individuals Lower in Working Memory Capacity benefit more from both Proactive and Reactive Support within the Stroop Task. BROOKE Z. CHARBONNEAU, *St. Jude Children's Research Hospital*, JASON M. WATSON, *University of Colorado Denver*, KEITH A. HUTCHISON, *Montana State University* — Individual differences in working memory capacity (WMC) may moderate an individual's dependence on external support for cognitive control. Support for proactive control (e.g., using mostly incongruent lists) helps sustain goal maintenance whereas support for reactive control (e.g., using mostly congruent items) supports transiently overcoming response competition. WMC may provide internal support for proactive control, reactive control, both, or neither. To examine differential benefits from proactive and reactive support, participants were given a Stroop task that (1) increased proactive support by incrementally decreasing the list congruency and (2) increased reactive support by embedding mostly incongruent items within the lists. Results showed WMC interacted with both proactive and reactive support. For RTs, proactive and reactive support separately reduced WMC differences. However, for errors, all three factors interacted such that the benefit of one type of support depended upon the other. The results suggest that those with lower WMC require both proactive support (i.e., mostly incongruent lists) and reactive support (i.e., mostly incongruent items) to perform at the level of higher WMC individuals.

6:00-7:30 PM (V-006)

Self-Supervised Temporal Convolutional Network Modeling of Eye Gaze Reveals Implementation Strategies in Proactive Cognitive Control. DYLAN M. DIAZ, *California State University, San Bernardino*, VISHWA BHATT, *California State University, San Bernardino*, JONATHAN MARTINEZ, *California State University, San Bernardino*, CHARLOTTE HALL, *California State University, San Bernardino*, JENNIFER JIN, *California State University, San Bernardino*, KEVIN P. ROSALES, *California State University, San Bernardino*, JASON F. REIMER, *California State University, San Bernardino* — Proactive cognitive control involves maintaining goal-relevant information to guide behavior in anticipation of upcoming demands. Reimer et al. (2025) showed that gaze behavior during the cue–probe delay of the AX-CPT indexes individual differences in proactive control, but predefined AOI analyses may collapse across distinct gaze-based implementation strategies. The present study used self-supervised sequence modeling to examine dynamic implementation of proactive control during the cue–probe delay of a spatial AX-CPT. A Temporal Convolutional Network, trained without access to cue identity or behavioral outcomes, extracted latent representations of trial-level gaze trajectories that were clustered into four gaze states: sustained cue fixation, cue-congruent anticipatory orienting, cue-incongruent orienting, and diffuse rightward orienting. Critically cluster prevalence predicted individual differences in proactive control, dissociating effective from ineffective forms of proactive implementation. These findings indicate that proactive control varies not only in degree but also in implementation quality and demonstrate that self-supervised temporal modeling can recover interpretable, behaviorally meaningful gaze-based strategies.

6:00-7:30 PM (V-007)

When are explicit pre-cues used for proactive control? THOMAS DUDEY, *Washington University in St. Louis*, TODD BRAVER, *Washington University in St. Louis* — A surprising finding from cued task-switching (Cued-TS) literature is that implicit trial history is utilized preferentially over explicit (but probabilistic) pre-cues when preparing for an upcoming task (Jiang et al, 2018). In the current study, we tested the hypothesis that utilization of probabilistic task pre-cues for proactive control might increase in more uncertain task contexts. Participants (N=71) performed Cued-TS with probabilistic pre-cues and stimuli that simultaneously varied across 4 task dimensions, but they were assigned to either a 2-task (tasks performed in pairs that rotated across blocks), or a 4-task (any task could be performed and switched across trials) condition. In the 4-task condition, pre-cue probability not only

improved accuracy and RT, but also showed novel effects, relative to the 2-task condition, in reducing switch costs on both accuracy and RT. A reinforcement learning model-based analysis provided supportive evidence for a stronger reliance on pre-cues relative to implicit trial history in the 4-task condition. These results suggest that explicit pre-cues are more likely to be used for proactive control in contexts where they provide substantial information gains regarding the upcoming task.

6:00-7:30 PM (V-008)

A Learning Model of Cognitive Control in Language Production. SHANHUA HU, *Indiana University Bloomington*, TOM VERGUTS, *Ghent University*, NAZBANOU NOZARI, *Indiana University Bloomington* — Interference abounds in language production, presumably requiring some form of cognitive control. However, to date, there is no single computational model that explains all the relevant empirical data. Here, we propose the first unified computational model of cognitive control in language production. Using Hebbian learning as its core mechanism to implement cognitive control, the model is tested on a variety of tasks without parameter changes between the tasks. It successfully captures data associated with interference from contextual similarity in continuous and blocked-cyclic naming paradigms, as well as sequential control effects in tasks that require the suppression of a prepotent response. We further test this model in task-switching paradigms, which include non-linguistic tasks, to show that the model successfully captures cross-task, as well as within-task, dynamics of cognitive control.

6:00-7:30 PM (V-009)

A Silver Lining of Stress? Enhancement of Selective Attention Control. JOANNA M. JAMES, *Michigan State University*, ALEXANDER P. BURGOYNE, *Human Resources Research Organization*, KIMBERLY M. FENN, *Michigan State University* — Stress is known to affect attention control, but findings are equivocal. One potential explanation is that stress may differentially affect different aspects of attention control. We investigated this possibility by examining the effect of stress on two aspects of attention control, sustained attention and selective attention, as measured by the three-minute Squared tasks. Participants first completed the Trier Social Stress Test for Groups (TSST-G) or a control procedure. The TSST-G induces a physiological stress response by instructing participants to perform public speaking and mental arithmetic in front of a panel of evaluators and peers. Participants then completed a battery of attention control tasks, including two measures of sustained attention – the Psychomotor Vigilance Task and the Sustained Attention to Cue Task – and three measures of selective attention – Stroop, Flanker, and Simon Squared. Preliminary results suggest that stress improved performance on the Squared tasks but did not significantly affect performance on the sustained attention tasks. These results may lend insight into the equivocal findings in the literature and highlight a potentially important distinction across measures of attention control.

6:00-7:30 PM (V-010)

Individual Differences in Reactive Control: A Precision Neuroscience EEG Approach. YOON LEE, *Washington University in St. Louis*, ANTONIO SOARES DE ALMEIDA, *University of Kentucky*, JOSET A. ETZEL, *Washington University in St. Louis*, TODD BRAVER, *Washington University in St. Louis* — Reactive control is thought to be transient and stimulus-triggered, potentially in response to conflict, and subject to both state and trait variation. In the current study, we utilized a precision neuroscience design to reveal and dissociate these sources of variation. A small set of participants performed the AX-CPT paradigm with concurrent EEG, under both baseline and reactive control conditions, across many (4+) task sessions. Two distinct participant subgroups emerged, one exhibiting a stable behavioral signature of reactive control (increased probe-related RT interference with reduced errors), whereas the other showed no evidence of this effect. The EEG data supported this distinction, with both increased theta band activity emerging shortly after an implicit conflict-predictive cue and single-trial brain-behavior relationships detectable only in the reactive subgroup. The subgroups were further differentiated by

relevant phenotypic but not state-related variables. These findings suggest the presence of trait-related variation in reactive control linked to detection and utilization of implicit predictive cues, while also showcasing a new methodological approach to investigate individual differences in cognitive control.

6:00-7:30 PM (V-011)

Effects of Inspiratory–Expiratory Ratio on Breath Counting Performance, Heart Rate Variability, and Awareness During a Meditation-Like Cognitive Task. MELISSA M. LOPEZ, *California State University, San Bernardino*, MARISSA SANCHEZ, *California State University, San Bernardino*, OM DAVE, *California State University, San Bernardino*, NATALIA GARCIA, *California State University, San Bernardino*, VISHWA BHATT, *California State University, San Bernardino*, ALESSIA IBRAHIM, *California State University, San Bernardino*, ARTOM VOLODII, *California State University, San Bernardino*, HIDEYA KOSHINO, *California State University, San Bernardino*, JOHN CLAPPER, *California State University, San Bernardino* — Slow-paced breathing is thought to enhance autonomic regulation and could be an important factor underlying the known benefits of mindfulness meditation. In this experiment, participants completed a Breath Counting Task (BCT) while practicing slow- paced breathing (10 s per breath) with either a 1:1 or 3:7 inspiration-to-expiration (I:E) ratio. Participants showed significant increases in heart rate variability (HRV) and HRV coherence during the BCT compared to their resting baseline. I:E ratio had no effect on BCT performance, but the 1:1 condition showed higher HRV and greater self-reported awareness during the task. Better counting performance was associated with higher task motivation and lower reported mind wandering. Trait mindfulness (MAAS) was associated with fewer resets in the BCT, supporting the BCT as a measure of trait mindfulness. These findings suggest that slow-paced breathing increases HRV and physiological coherence, with I:E ratio possibly exerting some effects on physiological markers and experienced attention.

6:00-7:30 PM (V-012)

Attentional control amplifies target encoding and comparison-tone evaluation across the auditory ERP. MARK PILLAI, *Georgia Institute of Technology*, RANDALL W. ENGLE, *Georgia Institute of Technology* — Attentional control (AC) predicts cognition broadly, yet where it acts within the auditory response remains unclear. In a demanding two-tone pitch-discrimination task (N = 202), we modeled AC as a continuous predictor of single-trial ERP amplitude to the to-be-encoded first tone (T1) and the comparison second tone (T2). AC reshaped distinct, non-overlapping components on the two tones. On T1, AC modulated the early encoding complex: higher AC was associated with a larger P1, a smaller N1, and a larger P2 component. On T2, AC instead modulated higher-order components: higher AC produced a larger N2 and a larger late-stage positive component (P300/LPC; Tone × AC, $p < .0001$), with the reverse profile at low AC. AC therefore shapes early sensory encoding of the to-be-remembered tone, then governs the later comparison and evaluative processing elicited by the second tone, linking a psychometric construct to a sensory-to-evaluative progression across the auditory response.

6:00-7:30 PM (V-013)

The cost of voluntary switching between internal and external attention modes. JAIME ALI H. RIOS, *Duke University*, BRIANNA SILVA, *Duke University*, TOBIAS EGNER, *Duke University* — Daily life requires us to frequently switch between attending to information from external (perceptual) and internal (memory) sources. Recent work has documented that such transitions between external and internal attention modes incur a switch cost. However, this prior work has solely relied on cued designs to probe the cognitive processes reflected in such switch costs. Here we utilized a voluntary framework where participants chose whether to engage internally- or externally-directed attention across trials. We found significant mode switch costs that deviate from the traditional cued-based attention switching literature. Further, despite showing no preferences between attention modes based on choice behavior, we observed significantly higher

tendencies for participants to repeat the engagement of internal attention compared to external. These findings provide the first evidence that individuals incur a mode switch cost when voluntarily choosing which attention mode to engage and sheds light on the preferential dynamic between such modes of attention.

6:00-7:30 PM (V-014)

Attentional Blink (AB) Results Solely from Topological Changes (TC) in Space and/or Time: Evidence from a Single-Target RSVP Paradigm.. LIN CHEN, *Chinese Academy of Sciences*, YUANYU SHI, *Chinese Academy of Sciences*, TIANGANG ZHOU, *Chinese Academy of Sciences* — The topological account of AB posits that topological changes (TC) between adjacent items are the essential cause of AB. To test this hypothesis, we employed a single-target (rather than the typical two-target) RSVP paradigm, in which the single target to be identified was slightly brighter than the other items in the stream, and TC in space (i.e., a change in the number of holes) or TC in time (i.e., a gap exceeding ~15 ms, as observed) could occur between two adjacent items, without participants being informed of these changes. Across a series of experiments, we rigorously controlled for non-topological features, including different local geometrical properties, luminous flux, temporal duration, color salience, and semantic content. The results consistently demonstrated that TC in space and/or time alone reliably triggered AB, as indicated by decreases in TC|no TC accuracy. Furthermore, in additional experiments where the target and TC were presented in two spatially separate RSVP streams respectively, AB responses were still consistently observed. Overall, these findings support the abstract and space-independent nature of unified spatiotemporal gestalts that are initiated by TC and may serve as an underlying mechanism for AB.

6:00-7:30 PM (V-015)

Someone May Sit There: Social Affordances Shape Visual Perspective-Taking. XUCONG HU, *Zhejiang University*, TIANXIN HUANG, *McGill University*, YITONG ZHENG, *Zhejiang University*, HUI CHEN, *Zhejiang University*, MOWEI SHEN, *Zhejiang University*, JIFAN ZHOU, *Zhejiang University* — Visual perspective-taking, the ability to represent what others can see, is essential for social interaction, yet the conditions that trigger it remain debated. Previous studies show that perspective-taking effects emerge when a scene includes seats or other locations that afford human occupation, suggesting that environmental affordances may trigger spontaneous perspective-taking. We propose an alternative account: these effects are driven by social affordances, defined as the potential for social interaction implied by physical spaces and objects, especially cues to another person's possible presence. Across two experiments with 352 participants, we manipulated social affordance while holding environmental affordance constant. In one experiment, antique chairs and baby chairs reduced social affordance, although they remained occupiable. In another, bags and books left on seats enhanced social affordance by implying that someone might return. Perspective-taking effects decreased when social affordance was reduced and increased when it was enhanced. These findings suggest that visual perspective-taking is sensitive to potential human presence in a scene, rather than merely to whether a location can be physically occupied.

6:00-7:30 PM (V-016)

Does Self-Esteem Predict Self-Prioritization? A Large-Sample Null Result. KYUNGMI KIM, *Wesleyan University*, JOELY HENRY, *Wesleyan University* — The self-prioritization effect (SPE) refers to faster and more accurate responses to self-relevant information compared to non-self-relevant information. The SPE has been reliably replicated across stimulus modalities, yet the role of individual differences remains underexplored, with inconsistent findings for explicit self-esteem and only one prior study examining implicit self-esteem. Using a shape-label

matching paradigm in a substantially larger sample than previous studies, we investigated whether explicit self-esteem (Rosenberg self-esteem scale) and implicit self-esteem (name letter preference task) relate to SPE magnitude. We found a robust SPE in response time and accuracy. However, neither explicit nor implicit self-esteem significantly predicted SPE magnitude. These null findings suggest that self-prioritization is largely independent of how positively one evaluates oneself. Future research should examine alternative mechanisms underlying the SPE and further characterize sources of variability in self-prioritization.

6:00-7:30 PM (V-017)

Baseline Attention as a Predictor of Socioemotional Change Following Computerized Cognitive Training. KEVIN P. ROSALES, *California State University, San Bernardino*, EUGENE H. WONG, *California State University, San Bernardino*, LISA LOONEY, *California State University, San Bernardino*, KEMBERLY MEJIA, *California State University, San Bernardino*, IMELDA SAUCEDO, *California State University, San Bernardino*, SASHA A. TESORO, *California State University, San Bernardino*, AMBER L. WARDELL, *California State University, San Bernardino* — Computerized cognitive training (CCT) is often evaluated in terms of transfer to cognitive abilities, yet less is known about how CCT implementation in school contexts relate to socioemotional outcomes. This field-based study examined the intersection between baseline attention and changes in self-reported perceived value for school following CCT among at-risk adolescents in a day-school (N = 15). Students completed 20 total hours of research assistant-led CCT. Among other cognitive measures, attention was assessed at pretest and posttest and calculated using a composite score of two subtests from the WRAML-3, and perceived value for school was assessed before and after training. After determining that assumptions were met, a simple linear regression indicated that baseline attention significantly predicted change in perceived value for school. Lower baseline attention predicted greater increases in perceived value for school, $\beta = -.66$, $p<.01$, 95% CI [-.88, -.23]. These preliminary findings suggest that CCT may have socioemotional implications and support a compensatory hypothesis that adolescents with weaker initial attention may show the greatest gains in perceived value. Further implications are discussed.

6:00-7:30 PM (V-018)

Vigilance: why aren't we all like dolphins? WILLIAM HELTON, *George Mason University* — During the Second World War Norman Mackworth discovered people tasked with searching for infrequently occurring critical signals were unable to maintain detection performance with time on task. The observers increasingly made errors of omission, missed signals, and when they did correctly respond to critical signals, they made their responses slower and slower. This phenomenon was labelled as the vigilance decrement or decrement function. This finding is one of the most replicated phenomena in experimental psychology. In addition, the decrement function occurs in a wide variety of terrestrial animals, from spiders to humans. There is, however, a species that so far has failed to have a vigilance decrement in empirical studies: dolphins. The question given the importance of critical signal detections is: why are we all not like dolphins? This question will be explored and possible explanations for the differences between species will be presented.

6:00-7:30 PM (V-019)

Fighters & Fungi: A pilot study assessing the impact of psilocybin mushrooms on ex-contact sport athletes with repeated head injury. XAVIER LT CELAYA, *University of California, Riverside*, NIGE NETZBAND, *Onaya Science*, WAIFUNG TSANG, *Onaya Science*, SIMON RUFFELL, *University of Exeter*, HOLLY WILSON, *Onaya Science*, NATHAN WHITE, *University College London*, GIORGIA CASPANI, *University of British Columbia*, SHAYAM SUSEELAN, *King's College London*, PATRICK KLEINE, *King's College London*, BRANDON WEISS, *Johns Hopkins University School of Medicine*, GENE BREWER, *University of California, Riverside* — Repeated head impact (RHI) history in elite combat sports is associated with

chronic neurophysiological deficits, often manifesting as blunted attentional capabilities and diminished cortical inhibitory control. The current pilot study investigated the potential for a single psilocybin retreat to remediate these deficits in a cohort of ex-professional athletes. Participants underwent high-density EEG protocols and a battery of clinical psychometric assessments before and after a legal psilocybin session in Oregon. In this combat sports population with RHI history, psilocybin retreat restored a neural proxy of inhibitory processing (P300) and produced convergent reductions in the behavioral and affective manifestations of inhibitory failure. The intervention resulted in consistent, broad-spectrum symptom reduction following a single psilocybin retreat in elite athletes, with particularly strong evidence for the reduction of depression and anxiety. These findings suggest that psilocybin may facilitate the normalization of neurobiological signatures associated with chronic head trauma, offering a promising mechanism for the recovery of cognitive and emotional regulation in populations with extensive impact histories.

6:00-7:30 PM (V-020)

Distinct Neural Dynamics Support Continuous and Noncontinuous Interhemispheric Handoffs During Attentional Tracking. HUIQIN CHEN, *University of Chicago*, KEISUKE FUKUDA, *University of Toronto Mississauga*, EDWARD VOGEL, *University of Chicago* — When an attended object crosses the vertical midline, the contralateral delay activity (CDA) flips polarity, reflecting an interhemispheric handoff of object representations (Drew et al., 2014). Our previous work established that this handoff is time-locked to the target's real-time position, and is triggered by the target's own positional change across the midline — independent of distractor motion. These findings support a "soft handoff" model, in which the original hemisphere maintains the object representation until the receiving hemisphere has acquired it. This study explores this hemispheric handoff mechanism and its dependence on spatiotemporal continuity during attentional tracking. Here, we ask whether continuous motion through the midline is necessary for this soft handoff. Participants tracked a pair of dot stimuli while EEG was recorded. In the critical wrap condition, dots slid through the edge of a virtual window and re-entered from the opposite side, instantaneously shifting hemifields without traversing the midline. Preliminary data suggest that the CDA flip may occur later during discontinuous crossing, indicating a more temporally conservative handoff compared to continuous motion.

6:00-7:30 PM (V-021)

Effects of Transcranial Direct Current Stimulation on Vigilance and Cognitive Fatigue During Sustained Attention Tasks. CHARLES COUTURE, *Université Laval*, LÉANNE CLOUTIER, *Université Laval*, EMMANUEL VOLANT, *Université Laval*, DANIELLE BENESCH, *Thales cortAIx Lab*, FRANÇOIS VACHON, *Université Laval*, ALEXANDRE MAROIS, *Université Laval* — Vigilance is a critical cognitive function in operational environments. Prolonged cognitive demands may induce cognitive fatigue, which is associated with reduced vigilance and performance. Transcranial direct current stimulation (tDCS) is a technique known to modulate attentional functioning. Yet, evidence regarding its effects on vigilance, especially for single session interventions, remains inconsistent. This study examined dorsolateral prefrontal tDCS following cognitive fatigue induction. Sixty participants were randomly assigned to active tDCS or sham stimulation in a double-blind protocol including pretest, cognitive fatigue induction, stimulation, and posttest phases. Vigilance was measured via the Psychomotor Vigilance Task (PVT) at pre- and posttest. The Attention Network Task was performed concurrently to stimulation. Subjective mental state indicators of fatigue were collected throughout the study. Analyses revealed a significant decline in PVT performance at posttest while subjective fatigue significantly increased in the sham group only. Findings add to the mixed evidence on dorsolateral prefrontal tDCS, suggesting potential benefits for cognitive fatigue but limited effects of a single session on vigilance.

6:00-7:30 PM (V-022)

Hidden Markov Modeling of Attentional States Using Behavioral Indicators. HUNTER WALATKA, *University of Notre Dame*, MATTHEW K. ROBISON, *University of Notre Dame* — Attention fluctuates over time, producing moment-to-moment changes in goal-directed behavior. In laboratory settings, attention is often measured using summary metrics such as mean reaction time or task unrelated thought proportion from probes, which obscure these moment-to-moment attentional dynamics and treat it as noise. To address this, we applied Hidden Markov Models (HMMs) to reaction time data from two different continuous performance tasks to infer underlying attentional states. Using data from the Psychomotor Vigilance Task (PVT) and Sustained Attention to Response Task (SART), we examined whether patterns of performance could be modeled as coming from distinct hidden states. We also compared models with different numbers of hidden states to determine how many attentional states seemed present. Model state predictions were significantly correlated with thought probe responses. Further, an exploratory analysis found that transition probabilities and state entropy may provide useful individual differences measures of sustained attention. These findings suggest that HMMs can capture fine-grained temporal structure in attentional performance and serve as a bridge between behavioral variability and latent cognitive states.

6:00-7:30 PM (V-023)

Neurophysiological Effects of Language Experience on Phonetic Encoding in Bilingual Heritage Spanish Speakers. MADISON C. LACANLALE, *University of California, Merced*, HEATHER BORTFELD, *University of California, Merced*, KRISTINA C. BACKER, *University of California, Merced* — The extent to which individual differences in language experience modulate the neural mechanisms underlying phonetic encoding is not well understood. Using electroencephalography (EEG), we investigated neural adaptation during phonetic encoding in adult heritage Spanish bilinguals and English monolinguals. Participants listened to sequences of consonant-vowel syllables (CVs) that are present in Spanish and English (/ba/) and in English only (/va/). We examined auditory evoked potentials (AEPs) and theta (4-8 Hz) oscillatory activity in response to the first and last CVs in all-/ba/ and all-/va/ sequences. Both groups showed adaptation to /ba/ sequences. However, only bilinguals showed adaptation to /va/ sequences as evidenced by both AEPs and theta power. Additional analyses of spectral power revealed that bilinguals may have more precise phonetic encoding for /ba/ and /va/ than monolinguals. These preliminary results suggest language experience may shape the neural mechanisms underlying phonetic encoding, reflected in spectral power modulations in the theta band.

6:00-7:30 PM (V-024)

Characterizing Speech Fluency in Bilinguals: Effects of Language Dominance and Self-Reported Attentional Difficulties. ANGELICA VASQUEZ, *University of Texas at El Paso*, IVA IVANOVA, *University of Texas at El Paso* — Bilingual language production requires continuous monitoring across co-activated languages, placing demands on attentional control. Prior work suggests that ADHD-related attentional difficulties impact speech and language production, yet little is known about how attentional variability shapes discourse-level speech fluency in bilinguals. The present study examines whether self-reported attentional difficulties, measured using the Adult ADHD Self-Report Scale (ASRS v1.1), relate to speech fluency in Spanish-English bilingual adults and whether these effects differ by language dominance. Participants produce two spoken narratives (one in Spanish and one in English; order counterbalanced) based on visual story prompts and complete a language history questionnaire. Speech will be analyzed for disfluency types (pauses, repetitions, repairs) and speech rate. We hypothesize that greater attentional difficulties will predict increased disfluencies and reduced speech rate, particularly in the nondominant language. Findings will clarify how attentional variability interacts with bilingual language control during connected speech production.

6:00-7:30 PM (V-025)

Neural Mechanisms of Phonemic Restoration in Monolingual and Bilingual Listeners. KRISTINA C. BACKER, *University of California, Merced*, ZUNAIRA J. IQBAL, *University of California, Merced* — Phonemic Restoration (PR) is an illusory phenomenon whereby a listener perceives a noise-interrupted speech stimulus as continuous through the noise. However, it remains unknown how a listener's language experience might modulate the neural mechanisms of PR. In the present study, we used electroencephalography (EEG) to examine neural activity while English monolinguals and heritage Spanish bilinguals listened to noise-interrupted words and pseudowords under active and passive listening conditions. We observed significant group differences in gamma band activity from 40-50 Hz surrounding the noise-interruption onset, such that bilingual listeners had enhanced gamma power for the words (but not pseudowords) relative to the monolingual listeners during active (but not passive) listening. This effect was especially prominent in left fronto-central electrodes, which may reflect the engagement of auditory-motor activity to perceptually restore noise-interrupted speech. Moreover, given the putative role of gamma band activity in predictive processing, these preliminary results suggest that language experience as a monolingual or bilingual may modulate the engagement of predictive processing mechanisms that facilitate PR.

6:00-7:30 PM (V-026)

The Role of Early Language Environments in Bilingual Toddlers' Language Development. SIRADA ROCHANAVIBHATA, *San Francisco State University*, NATSUKI ATAGI, *California State University, Fullerton* — Bilingual children represent a growing population in the United States, yet most research on language development has focused on English monolingual children. This gap contributes to limited understanding of bilingual language development trajectories and the under- and over-diagnosis of language disorders among dual language learners. This study examines how young bilingual children's language environments shape word learning in their two languages. The final sample will include 40 Spanish-English bilingual families with 24- to 36-month-old toddlers from the Greater Los Angeles and San Francisco Bay areas. On Day 1, families complete questionnaires on language experiences and vocabulary development checklists. Toddlers' language input is then audio-recorded across 8 hours using the Electronically Activated Recorder. On Day 2, families listen to the recordings and identify the contexts in which speech occurs. Transcribed recordings are analyzed to examine how the quantity and contextual diversity of language input predict children's vocabulary across languages. Findings will inform our understanding of the mechanisms that support early bilingual language development, with implications for educational and clinical practices.

6:00-7:30 PM (V-027)

To Se or Not to Se? An Eye-tracking Study on Inalienable Possession in Heritage Spanish Speakers. JAIME ANTOSHAK, *San Diego State University; University of California, San Diego*, GREGORY D. KEATING, *San Diego State University* — Not every child gets enough language exposure to fully acquire their native language. A grammatical construction in Spanish that may be affected by reduced exposure to input in early childhood is possession of inalienable objects such as body parts, called inalienable possession. In Spanish, it is usually marked by the clitic se and a definite determiner (Juan se rompió *el* brazo) whereas English uses a possessive determiner (John broke *his* arm). Heritage Spanish speakers (HSs) are the ideal population to study this construction given that they experience a significant shift in input from Spanish to English at or before the time of schooling. In adulthood, HSs often produce variants of the target structure, omitting se and/or using the English-like possessive determiner. Our study investigates how these spoken variants are represented in the mental grammar of HSs by presenting them in a sentence reading task and recording their eye movements. We predict that HSs will prefer the target structure (se + definite determiner) over the variants (se + possessive determiner; omission of se

+ possessive determiner) but that these effects will be modulated by individual differences in exposure to and use of Spanish.

6:00-7:30 PM (V-028)

The Role of Language Experience in Heritage Speakers' Resolution of Temporarily Ambiguous Relative Clauses in English and Spanish: An Eye-tracking Study. GIUSEPPINA HAZEN, *San Diego State University; University of California, San Diego*, GREGORY D. KEATING, *San Diego State University* — Research on the resolution of ambiguous relative clauses (The sonNP1 of the nurseNP2 [RC who lived in Ohio]) shows language-specific preferences, with Spanish favoring attachment to NP1 and English to NP2. In contrast, studies on Spanish heritage speakers (HSs) have not clearly shown whether they maintain distinct, monolingual-like preferences in both languages or adopt a single strategy for both languages. This study addresses the conflicting findings using a time-course sensitive processing measure, testing both languages, and, crucially, including measures of language experience as predictors of attachment bias. Spanish HSs completed a two-session (one per language) eye-tracking study. Preliminary group analyses show a numerical trend toward using a single strategy (NP2 attachment) in both languages. Reading times in the critical regions reveal striking individual variability, suggesting that group-level analyses obscure individual differences inherent to this heterogeneous population. Analyses of reading frequency, codeswitching, and entropy (diversity of language use) revealed significant effects and emerging patterns, suggesting that current language experience plays a role in shaping HSs' processing of syntactic ambiguity.

6:00-7:30 PM (V-029)

Language Science Needs Network Science: Mapping Interpersonal Dynamics Using the Bilingual Interactional Network (BiNet) Survey. JIAZE LI, *University of California, San Diego*, CATHERINE MAXIMOUS, *University of California, San Diego*, YUMENG SHEN, *University of California, San Diego*, ANNE L. BEATTY-MARTÍNEZ, *University of California, San Diego* — Growing evidence in the language sciences suggests that variability in bilingual experience is not noise to be controlled, but a critical source of insight. However, traditional language-history questionnaires typically operationalize bilingualism as a set of stable individual traits, overlooking how language use is socially embedded across interlocutors and contexts. To address this gap, we provide a tutorial introducing Network Science approaches for characterizing bilingual experience as an interactional system shaped by interpersonal relationships. Using illustrative example data from the Bilingual Interactional Network (BiNet) survey, we outline procedures for preprocessing and transforming personal network responses and deriving both compositional and structural network measures. Key metrics include the language E–I index, which captures integration versus segregation across language groups, and ego language betweenness centrality, which quantifies individuals' roles as bridges between linguistic communities. To support transparency and reproducibility, all preprocessing pipelines, analysis scripts, and accompanying R packages are openly available through our GitHub repository.

6:00-7:30 PM (V-030)

Language Experience as a Driver of Variation in Language and Cognitive Outcomes. CATHERINE MAXIMOUS, *University of California, San Diego*, JIAZE LI, *University of California, San Diego*, ANNE L. BEATTY-MARTÍNEZ, *University of California, San Diego* — Heritage bilingualism is the most common but least studied form of bilingualism in the US. It offers a powerful lens for understanding how language experience shapes cognition and behavior. The present study investigates how experiential factors drive this variability by incorporating

personal network analysis as a tool to quantify how patterns of language use structure language experience. We recruited Spanish-English heritage speakers (n=100) from the San Diego region and administered a customized personal network survey, a battery of language production measures in both languages, and the AX-Continuous Performance Task as a measure of cognitive control. Preliminary results indicate that maintenance of the heritage language is supported by network composition in which bilinguals with a higher proportion of Spanish-speaking individuals in their personal networks show greater proficiency in the heritage language. The planned analysis aims to identify which specific, unexamined variables are most predictive of language and cognitive outcomes further suggesting that plasticity in language learning extends beyond childhood and is a continuous adaptive process throughout the lifespan.

6:00-7:30 PM (V-031)

Language Status as a Moderator of Working Memory and Interference Control. YASMINE OUCHIKH, *City University of New York, Graduate Center*, KATHERINE PAULINO-GOMEZ, *City University of New York, Graduate Center*, KLARA MARTON, *City University of New York* — Working memory (WM) limitations may arise from interference between representations because of cue-overload, familiarity-based recognition, and inadequate suppression of irrelevant information, resulting in proactive interference (Oberauer et al., 2016). This study examined interference control in 29 bilingual English-Spanish speaking children (8-13 yrs) with language disorder (BiDLD) and without it (BiTLD), using a cue-based retrieval task with 4 distractor types (new item, interference lure, intrusion lure, binding lure). Although data collection is still ongoing, preliminary results suggest that in BiDLD, Spanish proficiency and exposure predicted accuracy on interference and intrusion lures, with higher proficiency and exposure being associated with increased lure accuracy. In BiTLD, neither language ability nor bilingual experience predicted performance on any of the lures. The bilingual experience may support performance in the presence of proactive interference linked to familiarity rather than cue-overload in children with DLD, suggesting a potential compensatory role when language ability is impaired. Findings highlight the importance of examining the bilingual experience when assessing WM in children with BiDLD.

6:00-7:30 PM (V-032)

The Neural Bases of Theory of Mind: The Role of Language Profile. HANNAH G. TREADWAY, *University of Florida*, ESTER NAVARRO, *St. John's University*, ELEONORA ROSSI, *University of Florida* — Theory of mind (ToM) may be modulated by bilingualism, as navigating between languages may strengthen executive functions supporting mental state reasoning and increase demands on representing interlocutors' language knowledge across interactional contexts. The present study examines experiential variation in the neural signatures of belief reasoning among Spanish-English heritage bilingual and English monolingual adults (expected n=35 per group). Participants completed a belief-reasoning task during EEG recording, followed by measures of language history, executive control, and metalinguistic awareness. Consistent with prior work, false-belief trials elicited a larger Late Positive Component (LPC/P3b), reflecting increased processing demands during perspective updating. Critically, individual differences in language experience modulated this effect: greater home use of a non-societally dominant language was associated with reduced overall LPC amplitude, especially during true-belief reasoning, suggesting more efficient deployment of perspective-based belief-reasoning processes. Heritage bilingualism emerges as an adaptive life experience that tunes the neural underpinnings of social cognition into adulthood.

6:00-7:30 PM (V-033)

Over-Weighting of Social Information During Reinforcement Learning in Autism. BAT-SHEVA HADAD, *University of Haifa*, RENANA TWITO, *University of Haifa*, URI HERTZ, *University of Haifa*, SARIT SZPIRO, *University of Haifa* — Social learning is critical for efficient decision-making, yet how autistic individuals integrate social cues during

reward learning remains unclear. We evaluated 32 autistic and 31 non-autistic participants on a social two-armed bandit task, where participants repeatedly choose between two options with asymmetric and unknown reward probabilities, in three conditions: Control (no social cues), Advice (character recommends a choice), and Observation (observing a character's choice). Behavior was analyzed using computational reinforcement learning and GLMMs. Baseline reward learning was comparable between groups, with similar learning curves, learning rates, and choice consistency. Both groups maintained the same hierarchical pattern of higher compliance for advice than observation. However, autistic participants demonstrated overall greater compliance with social information across conditions ($F(1, 61) = 4.388$, $p = .040$, $\eta g2 = .051$). These findings demonstrate intact reward learning, alongside an over-weighting of external social information in autism.

6:00-7:30 PM (V-034)

On the Psychophysics of Morality: Moral Choices Obey Weber's law. ANSGAR ENDRESS, *City St George's, University of London*, PETER AYTON, *University of Leeds* — Moral decisions are often framed as a conflict between utilitarianism (maximizing good) and deontology (following rules). We propose a unitary psychophysical model where moral decisions operate like other perceptual systems and track the subjective (information-theoretic) certainty that outcomes achieve the greater good, given the psychophysical noise in a magnitude-estimation system governed by Weber's law, where utilitarian and deontological responses are the high- vs. low-uncertainty limit cases. Participants rated the acceptability of sacrificing fewer 'victims' to save more 'beneficiaries.' Consistent with our model, acceptability tracked the ratio of beneficiaries to victims (beneficiary:victim Weber ratios), but not utility (net survivors) or harm (victims). When uncertainty was decreased (in decisions about economic goods that had clearer values than human lives) responses became more 'utilitarian'; when the attention to victims was increased via emotional manipulations, responses became more 'deontological', but always tracked the Weber ratio of beneficiaries to victims. LLMs generally prioritized harm or utility over beneficiary:victim ratios. Thus people, not machines, seek the greater good, but under perceptual noise.

6:00-7:30 PM (V-035)

The Effects of Decision Perspective and Social Anxiety on Framed Decision-Making. ASHLEI M. KELLEY, *College of Wooster*, PEIYAO CHEN, *College of Wooster* — The framing effect refers to the phenomenon that our decisions are influenced by how information is presented. Individuals tend to be more risk-averse when options are framed as gains and more risk-seeking when the same options are framed as losses (Tversky & Kahneman, 1981). However, it remains unclear how the framing effect is shaped by internal traits, such as anxiety levels, and external factors, such as perspective. The present study examined the effects of framing (gain vs. loss), perspective (self vs. other), and social anxiety on decision-making across health, financial, and social domains. A total of 253 participants completed a series of framed decision-making scenarios in which they made choices for themselves and for another individual. The results replicated the classic framing effect, with participants making more risk-seeking choices in loss frames than in gain frames. Decision perspective influenced decision-making only in the social domain, whereas social anxiety did not modulate the framing effect. These findings suggest that framing is a robust determinant of decision-making and that the influence of perspective may depend on the specific domain and context.

6:00-7:30 PM (V-036)

Threat assessment, visual attention, and the decision to shoot before and after police training. YIYANG CHEN, *Nova Southeastern University*, JOSEPH CESARIO, *Michigan State University*, TAOSHENG LIU, *Michigan State University*, TIMOTHY PLESKAC, *Indiana University Bloomington* — We used a novel Attention-Integrated Model-based Shooting Simulator (AiMSS) to study visual attention and dynamic threat assessment during decisions to shoot. Police cadets (N=56) completed the AiMSS

twice: during their first week and last week at the academy. We collected shooting decisions, dynamic threat assessments, gaze, and pupil data. Higher threat assessments predicted erroneous shootings of unarmed suspects. Before training, threat assessments were higher for Black than White suspects, especially for unarmed suspects, but this difference dissipated after training. Visual attention also predicted errors: before training, shooting errors were associated with failing to attend to the suspect's face or hands, but this association did not differ by suspect race and disappeared after training. Pupil dilation tracked the decision to shoot and was smaller overall after training. Drift diffusion modeling indicated that threat assessment predicted evidence accumulation and accounted for pre-training race differences in drift rates. These findings show how dynamic threat assessment and visual attention contribute to deadly force decisions and how training may alter the processes underlying these decisions.

6:00-7:30 PM (V-037)

Examination of Stereotypical Beliefs. AMAN DHALIWAL, *University of Texas at Arlington*, DANIEL LEVINE, *University of Texas at Arlington* — In English-speaking countries there are common inaccurate myths about mathematics and mathematicians. Many people believe that math is mechanical and uncreative; that mathematical problems can be solved in only one way; and that mathematicians are mentally detached from human interactions. Our study sought to test how prevalent these beliefs are in the population, whether their prevalence differs by various demographic factors, and whether these beliefs correlate with existing scales of math anxiety. Math anxiety was positively correlated with belief in math myths, $r(371) = .29$, $p < .001$; math stereotypes, $r(371) = .30$, $p < .001$; and mathematician stereotypes, $r(371) = .27$, $p < .001$. Participants from Great Britain reported significantly higher math myth scores than participants from the United States ($p = .03$). Math anxiety across educational attainment levels was significant, $F(6, 366) = 3.69$, $p = .001$, $\eta 2 = .06$. Participants with associate degrees reported significantly higher math anxiety than participants with bachelor's degrees ($p = .007$). Math stereotypes, $\beta = .18$, $t = 2.97$, $p = .003$, and math myths, $\beta = .16$, $t = 2.76$, $p = .006$ were significant predictors of math anxiety.

6:00-7:30 PM (V-038)

Content Modality and Decision-Making: Evaluating the Influence of Short-Form Video and Pamphlet Communication. TEAIRRA EVANS, *Louisiana State University*, KAYLA R. DIAZ, *Louisiana State University*, NIYA MOGHEETH, *Howard University*, ELLA RAE ZANDERS, *Louisiana State University* — This study examined how information delivery method influences perceptions of contraceptive information, specifically ease of comprehension, engagement, and perceived helpfulness. Participants received educational content about contraceptive methods, including method descriptions, usage patterns, advantages, and disadvantages, presented either as a short-form video or a pamphlet. An independent-samples t-test was conducted to assess differences between delivery modes. Results revealed a significant effect of information mode on perceived helpfulness, $t(85) = 2.16$, $p = .033$, with participants in the video condition ($M = 4.17$, $SD = 0.86$) rating the information as more helpful than those in the pamphlet condition ($M = 3.77$, $SD = 1.06$). Delivery mode was not significantly associated with ease of understanding ($r = .12$, $p = .213$) or engagement ($r = .05$, $p = .585$). However, ease of understanding was strongly correlated with engagement ($r = .61$, $p < .001$) and moderately correlated with helpfulness ($r = .33$, $p < .001$). These findings suggest that video-based contraceptive education may enhance perceived usefulness while comprehension remains a key factor influencing engagement and perceived value.

6:00-7:30 PM (V-039)

Risk Trajectories in Sequential Decision Making: An Angling Risk Task for Decreasing-Risk Environments. SULE GUNEY, *University of California, Irvine*, KEVIN KAPADIA, *University of Southern California*, YUNXIU TANG, *University of Southern California*, RICHARD S. JOHN, *University of Southern California* — Behavioral measures of risk

taking, such as the Balloon Analog Risk Task and Angling Risk Task, are often interpreted as indexing stable risk propensity, yet behavior in these tasks may also reflect sensitivity to environmental structure. Most such tasks examine environments in which risk increases over time. Here, we introduce a decreasing-risk version of the Angling Risk Task to test how people adapt when continued action reduces, rather than increases, the probability of loss. Participants (N = 272) completed increasing-, constant-, and decreasing-risk variants under either known-probability ("Sunny") or ambiguous ("Cloudy") conditions, followed by the Balloon Analog Risk Task. Censored Bayesian mixed-effects models showed that participants took more actions when risk decreased than when it remained constant or increased, especially when decreasing loss probability was explicitly known. Under ambiguity, participants were more cautious and showed little sensitivity to improving risk. These findings suggest that behavioral measures of risk taking capture sensitivity to risk trajectories, probability information, and learning demands, rather than merely domain-general risk propensity.

6:00-7:30 PM (V-040)

Perceived Information Costs Shape Hypothesis-Guided Search. MAI PHUONG PHAM, *Georgia Institute of Technology*, RICK THOMAS, *Georgia Institute of Technology*, DAVID A. ILLINGWORTH, *California State University, Long Beach* — A key imperative of hypothesis testing involves evaluating the diagnostic value of information relative to its cost. The Hypothesis Generation (HyGene) cognitive model formalizes this behavior as the sequential generation and updating of hypotheses from available evidence. However, in real-world decisions, information costs may discourage exploration of all available sources despite their recognized informativeness. This study investigates how cost perceptions influence valuation judgments and decisions to terminate search. We first model the hypothesized dynamics using a HyGene simulation, demonstrating that higher costs may override hypothesis-guided valuation to prompt earlier termination, and exposure to initial costs influences later stopping decisions. To test these predictions, 198 participants completed a medical diagnosis task, using learned associations between symptoms and test outcomes to diagnose fictitious diseases. Information costs were operationalized as the expenditure of simulated funds to access test results. Test selection behaviors indicated sensitivity to cost variations, while initial exposure to a particular cost regime produced a contextual contrast effect that shaped subsequent termination preferences.

6:00-7:30 PM (V-041)

Decision Making under Constraints: Scheduling and Allocation of Limited Resources to Multiple Tasks. LUKE RUSSELL, *University of Newcastle*, GUY E. HAWKINS, *University of Newcastle*, SCOTT D. BROWN, *University of Newcastle*, PEIZHAO XIE, *University of Melbourne*, DANIEL R. LITTLE, *University of Melbourne*, AMI EIDELS, *University of Newcastle* — Life requires us to undertake any number of tasks within a day, many of which cannot be completed at the same time. This requires us to consider the order in which to apply our limited resources to complete these tasks and achieve our goal(s). While the order is often left up to us, it can also be constrained or dictated by external factors, such as when following a recipe. Task Scheduling refers to the order in which we assign our limited resources to process tasks, and is a common problem among individuals, teams and organizations. Despite its ubiquity, scheduling of multiple tasks is an area overlooked in decision making research. We compare scheduling performance and behavior in individuals and teams, and how this changes under limited time and when externally constrained. Participants were required to order, select and complete a number of perceptual tasks of varying difficulty under limited time, both by themselves and with another agent. This experiment introduces a unique, extensible format to study performance and behavior when scheduling multiple tasks and under different constraints. Results are used to construct a model of scheduling performance.

6:00-7:30 PM (V-042)

Valence-dependent reorganization of sequential decision-making: Evidence from joint modeling of choices and response times. NICOLA A. SCHNEIDER, *Heidelberg University*, STEVEN MILETIĆ, *Leiden University*, ANDREAS VOSS, *Heidelberg University* — Sequential decisions have been studied almost exclusively in environments where learners seek rewards. How outcome valence and feedback completeness restructure the computational architecture of sequential decision-making remains largely unknown. We adapted a two-stage decision-making task to a 2 × 2 between-subjects design crossing valence (gain vs. loss) with feedback completeness (partial vs. full; N = 115), and modeled choices and response times jointly within a reinforcement-learning diffusion decision model (RL-DDM), alongside a choice-only softmax framework. Within each framework we compared absolute versus relative value coding. Loss environments favored relative value coding whereas gain environments favored absolute coding. Under absolute coding, valence appeared to modulate nearly every learning and decision parameter, but under relative coding these effects collapsed and concentrated on the rate at which the context-dependent reference point was updated. The RL-DDM further localized model-based planning to partial-feedback conditions. Valence thus reshapes sequential decision-making chiefly by altering how outcomes are referenced against learned expectations, rather than by reconfiguring the decision process itself.

6:00-7:30 PM (V-043)

Attraction Effects: Does Adding a Similar but Worse Option Shift Moral Choices? ILARIA SIRINER, *Syracuse University*, EMMA B. CAMPBELL, *Syracuse University*, LAEL SCHOOLER, *Syracuse University* — When making decisions, adding a seemingly irrelevant decoy that is similar but worse than one of the existing options can shift choices toward the similar-but-better (target) option, known as the attraction effect (Huber et al., 1982). We tested whether the attraction effect extends to moral choices using the footbridge dilemma (adapted from Greene et al., 2001), in which participants decide whether to push a bystander off a footbridge to save five people. Participants (N=243) were randomly assigned to either a two-option condition (push one person or do nothing) or a three-option condition that included the decoy (push two people). The attraction effect is defined as an increase in the probability of choosing the target option when a decoy is added (Trueblood et al., 2013). We found a small (Cohen's h = 0.26) attraction effect: target (push one) choice share significantly increased from 45% in the two-option condition to 58% in the three-option condition. These findings build on Hao and Lewis (2024), who demonstrated attraction effects in moral vignettes, and further connect moral cognition to the broader judgment and decision-making literature by showing that moral choices are sensitive to seemingly irrelevant options.

6:00-7:30 PM (V-044)

Caring about time: The impact of temporal relevance and eventfulness on temporal perception. MIYAH RAY-MORALES, *University of Texas at El Paso*, CHRISTOPHER A. KURBY, *Grand Valley State University*, ASHLEY S. BANGERT, *University of Texas at El Paso* — Perception of time in everyday experiences may depend both on how relevant time feels during an experience and how eventful it is. In the present study, participants watched movies showing everyday activities. Periodically, they were asked to encode a target 30 second interval during eventful and uneventful movie segments; they then reproduced the target interval while the movie was paused. College-aged participants were assigned to either a high temporal relevance condition, where activities were framed as time-sensitive and personally important, or a low temporal relevance condition with no urgency manipulation. A mixed-effects ANOVA revealed an effect of eventfulness ($p<.05$), with participants making longer reproductions after encoding the target during uneventful movie segments. This is consistent with prior work from our lab, suggesting that events may pull attention away from time during initial encoding of a target interval. An examination of the reproduction means hinted that the eventfulness effect was reduced during the

high temporal relevance condition, suggesting that global changes in perceived relevance may influence the manner in which events are used to keep track of time during everyday experiences.

6:00-7:30 PM (V-045)

Determining the Contribution of Medial Pre-frontal and Hippocampal Connectivity and Inter-subject Correlation to the Age-related Difference Observed in Memory for Events. RUJUTA PRADHAN, *Kansas State University*, JAMES BARTOLOTTI, *University of Kansas*, KRISTEN MCGATLIN, *Kansas State University*, MORGAN BRUCKS, *University of Kansas*, LAURA MARTIN, *University of Kansas*, HEATHER BAILEY, *Kansas State University* — While age-related differences have been consistently observed in memory for events, evidence for this difference in hippocampal response to event boundaries has been inconsistent. In the current study we examined if this age-related difference in memory is better predicted by functional connectivity between the medial prefrontal cortex (mPFC) and the hippocampus. Participants watched a 30-minute video of the first episode of BBC's Sherlock inside the scanner and performed a free recall task outside the scanner. Results showed young adults (n = 39) recalling greater number of events than older adults (n = 38). Brain imaging results indicated there was no interaction effect of age and mPFC-hippocampal functional connectivity at event boundaries predicting memory. We also did not observe a main effect of Age in mPFC and hippocampal connectivity at event boundaries. Whether the age-related difference in behavioral performance is better explained by inter-subject correlation rather than functional connectivity is further discussed.

6:00-7:30 PM (V-046)

Emotional Context Transitions Drive, Predictions Modulate Event Segmentation. BURHAN BAĞLAR, *Sabancı University*, BERNA GÜLER, *Sabancı University*, EREN GÜNSELI, *Sabancı University* — Predictions and emotional context changes have each been claimed to influence event segmentation. Yet, emotional context transitions may or may not be predicted, leaving their independent roles and interaction poorly understood. To investigate these, participants encoded image lists consisting of alternating neutral and emotional sequences and completed temporal memory tests. The number and timing of emotional sequences were varied to increase unpredictability. Participants reported their moment-to-moment predictions of emotional context transitions during encoding. Emotional context transitions drove segmentation, as indexed by the dilation of temporal distance judgments. Moreover, predictions modulated this segmentation. Predicting the transition reduced dilation, whereas failing to predict amplified it. Crucially, when context remained stable, predictions did not affect temporal dilation. These results suggest that predictions and context transitions jointly influence event segmentation: context transitions generate it, predictions modulate it.

6:00-7:30 PM (V-047)

The contributions and limits of event segmentation in the perception of the subjective present. CHRISTOPHER A. KURBY, *Grand Valley State University*, ASHLEY S. BANGERT, *University of Texas at El Paso* — The psychological present has been characterized by a 2-3s temporal integration window (TIW) whereby ongoing perceptual integration is pre-semantic. However, research on event processing has shown that perceivers chunk, or segment, ongoing perceptual experience into meaningful units called events. Here we tested to what extent event segmentation guides perceptual integration within the 2-3s TIW, supporting the formation of the psychological present. Participants segmented animations of shapes moving around the screen, played at increasing speeds. The main question was whether event segmentation behavior produces similar, meaningful event structure for the animations, even at very fast speeds. Additionally, we examined whether participants perceive events with durations shorter than 2s. Three experiments confirmed that participants segment the same animation similarly but do not produce event segments shorter than 2 seconds, regardless of playback speed. Additionally, at the fastest speeds, memory for the animations was

less reliant on event information. This suggests that event segmentation has a temporal limit of 2s below which the perception of distinct events is disrupted.

6:00-7:30 PM (V-048)

Neural State Segmentation and Environmental Feature Changes During Naturalistic Goal-directed Activities. YINING DING, *Washington University in St. Louis*, TAN T. NGUYEN, *Stripe, Inc.*, JEFFREY M. ZACKS, *Washington University in St. Louis* — Large areas of cortex show stable neural patterns that shift at event boundaries during film viewing. How are these coupled to changes in features in the environment? Here, we analyzed fMRI data from participants viewing unedited everyday activities, using a data-driven approach to identify (1) cortical neural state boundaries and (2) boundaries corresponding to changes in environmental features, including skeletal motion and object semantics. Replicating prior findings, higher-level associative regions showed longer neural states than lower-level sensory cortices. Overall durations (20-70s) exceeded those for edited films, suggesting continuity editing effects. Neural state boundaries aligned with behavioral event boundaries across the cortical hierarchy, with visual and somatomotor regions aligning with fine-level behavioral boundaries and some associative regions with coarse-level ones. Skeletal and semantic feature changes further tracked state boundaries in early and dorsal visual areas. In sum, these results indicate that naturalistic viewing elicits a nested hierarchical structure of neural patterns tied to environmental feature changes.

6:00-7:30 PM (V-049)

Pause, Play, Perceive: The Effect of Non-Rigid Transformations on Shape Discrimination. AMBAR NARWAL, *Indiana University Bloomington*, BENJAMIN A. MOTZ, *Indiana University Bloomington*, ROBERT L. GOLDSTONE, *Indiana University Bloomington* — Previous research has shown that exposure to smoothly changing features of an object is critical for developing viewpoint-invariant recognition. While viewpoint-invariance requires processing objects that undergo rigid transformations (e.g. rotation), relatively little work has explored how we process objects that undergo non-rigid shape transformations (e.g. bending, twisting). Our current study used a 2x2 mixed factorial design to examine how passive exposure to a non-rigid transformation animation affected shape discrimination in a 4AFC task. The shape dimension that underwent transformation during the animation phase was manipulated between subjects, while the dimension that was relevant during subsequent discrimination was manipulated within subjects. Across two experiments (N = 177), we found that even though there was a significant improvement in shape discrimination ability across four blocks, the preceding animation exerted no selective influence on performance. These findings suggest that passive exposure to a brief animation neither facilitates nor hinders shape discrimination. Future research shall explore how a supervised active learning phase affects participants' performance on the same task.

6:00-7:30 PM (V-050)

Aperiodic EEG Dynamics During Event Segmentation of Narrative Movies. YIWEN WANG, *Cornell University*, KHENA M. SWALLOW, *Cornell University*, KAREN SASMITA, *Cornell University* — People segment continuous experience into meaningful events in real time, generating event boundaries when one event ends and another begins. Prior work has shown that event boundaries coincide with the updating of event representations in memory, but how the brain carries out these updates is unclear. In this study, we asked whether event boundaries are marked by changes in the ratio of excitatory to inhibitory neural activity (E:I ratio), which may track cognitive control and attentional engagement. Scalp EEG was recorded while participants (N = 40) viewed two ~7-min clips from commercial films. Each clip was viewed twice, followed by a third viewing in which participants marked perceived event boundaries. Time-resolved spectral parameterization estimated the aperiodic slope, which is inversely related to the E:I ratio, across each viewing period. Aperiodic slope increased at event boundaries during all viewings, but especially during active segmentation. Thus, event boundaries may be

accompanied by greater inhibitory relative to excitatory activity across the brain. This shift in activity is consistent with greater cognitive engagement when the brain encounters changes in ongoing events and updates event representations.

6:00-7:30 PM (V-051)

Integrating Statements & Photos in Truth Judgments: Summation or Weighted Averaging? KIAH EARLE, *Davidson College*, KRISTI S. MULTHAUP, *Davidson College* — Repeated exposure to statements increases their perceived accuracy, a phenomenon known as the illusory truth effect (Hasher et al., 1977). Related work on the truthiness effect demonstrates that claims accompanied by non-probative photos are judged as more true than claims without photos (Newman et al., 2012). What remains unclear is whether these effects operate independently. Two experiments used a 2 (exposure: old, new) × 3 (photo presence: old-photo, new-photo, no photo) × 2 (statement truth: true, false) design. After an exposure phase, participants judged statements' truth. Both experiments replicated the illusory truth and truthiness effects. Experiment 1 found no interaction between the two effects, however, Experiment 2, which altered the photo-to-no-photo ratio from 2:1 to 1:1, did. These findings can be understood through recent work on truth-cue integration. Ingendahl et al. (2025) found that when people encounter multiple pieces of information, truth judgements follow a weighted averaging rule in which each cue dilutes, rather than amplifies, the others. The present results provide the first evidence that this averaging rule extends beyond statement repetition.

6:00-7:30 PM (V-052)

The persuasive force of AI debunking reflects the strength of its counterevidence. ESTHER BOISSIN, *Cornell University*, THOMAS H. COSTELLO, *Carnegie Mellon University*, DAVID G. RAND, *Cornell University*, GORDON PENNYCOOK, *Cornell University* — Many epistemically suspect beliefs persist despite contradicting expert consensus. Brief dialogues with large language models (LLMs) reduce confidence in such beliefs, but the mechanism remains unclear: does AI (artificial intelligence)-mediated debunking work because the LLM is broadly persuasive (e.g., through AI trust), or because it engages the belief's evidential structure? We propose that AI debunking is effective primarily because the AI provides strong evidence-based counterarguments. Across studies (N = 2,872), participants described a belief that others, including experts, dispute, then discussed it with an AI arguing against it. Each belief was classified along a five-point evidential gradient—from non-falsifiable to strongly contradicted—using LLM annotations. Belief reduction followed this gradient: largest where counterevidence was strongest, attenuated for non-falsifiable and supported beliefs. Domain differences (e.g., conspiratorial, paranormal, religious) were fully explained by composition along the gradient. These results support an epistemic account: change is constrained by the belief's relationship to evidence.

6:00-7:30 PM (V-053)

The Dignity of Labor: Realigning the Social and Economic Value of Work. JESUS DE LUNA, *Harvard University* — People's support for economic policy may depend on how they cognitively represent aid recipients and the basis for assistance. Across four studies, including three online experiments (N = 1,821) and one nationally representative study using the NORC AmeriSpeak panel (N = 1,073), we tested whether framing financial assistance around socially valuable labor changes policy judgments. Participants evaluated a predistribution policy providing direct cash transfers to workers in occupations described as contributing to the common good, compared with a means-tested policy. Across studies, participants generally supported the common-good policy more than the need-based policy, with especially pronounced effects among conservatives in the online studies and independents in the nationally representative sample. Participants also judged the common-good policy as more affirming of recipients' dignity. Mediation analyses indicated that dignity affirmation partly explained increased support, suggesting that policy attitudes are shaped by cognitive inferences about dignity and social value.

6:00-7:30 PM (V-054)

Duration Estimate Disruption with Minimal Working Memory Load. ADAM HUTCHESON, *Georgia Gwinnett College* — Subjective time can be manipulated due to its reliance on sensation, perception, attention, and memory. Our brain uses a combination of neural oscillations and feedback from the environment to maintain and retroactively estimate durations of time. This study used the dual-task paradigm to test the lower limits of subjective time estimate disruption. Under the attentional-gate model, it was predicted that significant disruption of working memory would lead to underestimates of time relative to objective durations. Participants listened to short (1-60 sec) tones over a computer speaker and then were asked to estimate the length of the tones. One trial block included no secondary task. Others required participants to either perform simple arithmetic or read words. The results showed that only arithmetic disrupted time estimates, with the assumption that reading short words occurs with little use of working memory.

6:00-7:30 PM (V-055)

Repeated Exposure to Information Increases Perceptions of Its Consensus Among Both Ingroup and Outgroup Members. MADELINE JALBERT, *University of Washington*, RAUNAK PILLAI, *New York University* — The mere repetition of information increases perceptions that others believe or know it — an illusory consensus effect. In two experiments (Ns = 300, 360), we investigated whether this effect extends to perceptions of consensus among outgroup (vs. ingroup) members. In each experiment, Democrat and Republican participants made consensus judgments for new items and repeated items they had viewed earlier in the experiment. In Experiment 1, these items were true and false trivia claims, and participants judged how many political ingroup and outgroup members would believe those claims. In Experiment 2, these items were real news headlines from ingroup sources, and participants judged how many political ingroup and outgroup members were familiar with those news stories. In each experiment, repetition increased perceptions of consensus. Critically, this illusory consensus effect held for both ingroup and outgroup targets. Exposure to information makes one more likely to think others know or have heard about it, even when it is unlikely they have.

6:00-7:30 PM (V-056)

Natural Talent or Hard Work? A Self-Other Asymmetry in Skill Attribution and Communication. JULIA (YOU JIN) JEONG, *Arkansas State University*, RIMA TOURE-TILLERY, *Northwestern University* — Four preregistered experiments and archival data document a self-other mismatch in skill communication and its consequences: communicators prefer to highlight innate ability as the source of their own skill, whereas audiences prefer to hear that skill reflects effort—driven by asymmetric perceived credibility of skill attributions. In Study 1 (N=296; word-game skill), participants attributed their own skill more to innate ability than another's ($p=.04$), preferred to communicate innate ability more ($p=.01$), and perceived credibility mediated communication preferences ($\beta=.24$, 95% CI [.01,.47]). Study 2 (N=204; job seekers vs. hiring managers) replicated the attribution asymmetry ($p=.02$), with credibility again mediating preferences ($\beta=.38$). Study 3 (N=198) showed the mismatch reduced product evaluations (mediated by communication preference). Study 4 (N=199) confirmed audiences chose effort-communicating options over ability-communicating ones (67% vs. 33%, $p<.001$). Fortune 500 archival data corroborated the pattern: innate ability-oriented communications predicted lower consumer trust ($\beta=-.27$, $p=.02$). These findings reveal a fundamental miscalibration in self-other attribution with downstream consequences for judgment and choice.

6:00-7:30 PM (V-057)

Linguistic Priors Shape the Representation of Numbers. TOMASO VECCHI, *University of Pavia*, SILVIA ANGELA MANSI, *University of Pavia*, VALENTINA BIANCO, *University of Pavia*, PAOLA PREVITALI, *University of Pavia*, LAURA CIACCIO, *University of Pavia*, LUISA GIRELLI, *University of Milano Bicocca*, MARCO MARELLI, *University of Milano Bicocca*, LUCA RINALDI, *University of Pavia* — The nature of numerical representations, whether abstract and notation-independent, still sparks a fervent debate in the numerical cognition field. Recent behavioral evidence using distributional semantics have challenged the abstract coding view, showing that linguistic experience accounts for notation- dependent distance effects. This study examines whether linguistic priors also account for neurophysiological responses, using EEG in healthy adults. EEG data from 64 channels were recorded while participants completed three tasks: (1) passive viewing of single digits, (2) sequential number comparison, and (3) simultaneous number comparison. Representational Similarity Analysis (RSA) was used to determine whether neural patterns align with predictions from distributional semantic models. Preliminary analyses replicate the behavioral pattern observed in previous studies, with linguistic priors predicting performance better than real numerical distance. Importantly, EEG patterns also align better with the linguistic distribution of numbers. Behavioral results confirm that. These findings challenge the amodal representation of numbers, calling in turn for more comprehensive accounts integrating the role of experiential priors.

6:00-7:30 PM (V-058)

Task-Invariant P300 Responses in Athletes During Mathematical Tasks. CHIA-CHI HSU, *National Tsing Hua University*, HUNG-YI YU, *National Tsing Hua University*, HUI-YU HSU, *National Tsing Hua University*, TSU-JEN DING, *National Tsing Hua University*, CHEN-YU YAO, *National Tsing Hua University*, ZAI-FU YAO, *College of Education, National Tsing Hua University* — Although athletic training has been associated with enhanced performance in several cognitive domains, it remains unclear whether these benefits extend to abstract, non-sport cognition in ways consistent with the neural efficiency hypothesis. We tested this hypothesis by comparing behavioral performance and event-related potentials (ERPs) in athletes (n = 19) and non-athletes (n = 18) during multiplication and function tasks. After controlling for baseline mathematical ability (SAT-M), behavioral performance was similar across groups. In contrast, athletes generally exhibited larger P300 amplitudes than non-athletes, and group differences in P300 amplitudes largely remained after controlling separately for SAT-M and processing efficiency (IES). Furthermore, non-athletes showed task-dependent modulation of P300 amplitudes, whereas athletes exhibited less task-dependent responses. These findings suggest a dissociation between behavioral performance and neural responses during symbolic processing and indicate that neural efficiency may operate differently in abstract cognitive domains.

6:00-7:30 PM (V-059)

One Metric to Rule them All? Nonsymbolic Ratio Estimation across Different Sensory Modalities. XIANG CHENG, *University of Wisconsin - Madison*, EDWARD HUBBARD, *University of Wisconsin - Madison*, PERCIVAL MATTHEWS, *University of Wisconsin - Madison* — Although prior research demonstrated that people can estimate nonsymbolic visual ratios magnitudes accurately, little is known about temporal ratios. This study addresses this gap, investigating whether ratio estimation patterns are similar across sensory modalities. Undergraduate students (n = 101) gave numerical estimates for 19 target nonsymbolic ratios (ranging from 0.05 to 1 in 0.05 increments). Ratios were presented in one of the three formats: temporal durations, line lengths, or circle areas. Each individual's responses were fitted for linear, logarithmic, power, and cyclical models. For visual formats, (lines and circles), responses were mostly accurate, with linear slopes of approximately 1 and intercepts near 0. Some participants showed cyclical biases, anchoring at halves or quarters. However, temporal ratio responses showed systematic underestimation and followed linear or logarithmic models with shallower slopes. These

findings highlight differences in how people process visual and temporal ratios, reflecting format effects and potential higher working memory demands in temporal processing. Future studies could explore potential sources of differences such as working memory, temporal bias, and prior music training.

6:00-7:30 PM (V-060)

ChatGPT Uses Visual Heuristics to Discriminate Number. ZAYAAN KHAN, *University of California, Los Angeles*, ARNAV RANADE, *University of California, Los Angeles*, CYRUS KIRKMAN, *University of California, Los Angeles*, AARON P. BLAISDELL, *University of California, Los Angeles* — Modern vision–language models (VLMs) are capable of emergent mathematical reasoning, yet cannot consistently count elements within an image. Their brittle "number sense" relies on visual covariates, such as density and surface area. Which numerical strategies do VLMs use, and why do certain stimuli cause systematic failures? We adapted empirical paradigms from animal psychology to study numerosity in VLMs. Stimuli containing 1–111 elements were engineered to remove five known covariates of number. Each was then systematically reintroduced across five distinct control conditions to isolate effects of covariates. We tasked the VLM ChatGPT-4.1 with counting the number of elements in 17,982 unique stimuli. Results demonstrated an exponential decay in accuracy with numeric increase, along with condition-specific differences in accuracy, bias, and response entropy. Visual covariates proved a double-edged sword: sometimes reducing global bias but collapsing response resolution in edge cases. These covariate attractor dynamics seem to function similarly to the psychological phenomenon of "heuristics." Our experiment establishes a cross-species framework for evaluating number representation in AI with implications for cognitive alignment.

6:00-7:30 PM (V-061)

Do we Allocate Attention to Expert or AI Sources of Information? A Comparison of Eye-Tracking Data and Self-Report. SOPHIE BOILARD, *Agnes Scott College*, BONNIE PERDUE, *Agnes Scott College* — Increasingly, online searches yield both traditional sources of information as well as AI-generated summaries. The extent to which processing is focused on one or the other is not well understood. Using a within-subjects experimental design, participants viewed simulated search engine results pages. Each page presented a question (either fact- or opinion-based) alongside both an AI-generated response and an expert-authored response, with source order systematically varied to control for position effects. Eye-tracking was used to capture patterns of visual attention. Following the eye-tracking task, participants completed a self-report survey assessing AI usage and information-seeking behaviors, allowing for comparison between their actual performance and self-report. Overall we found that participants attended to the expert source of information more than the AI summaries, but this varied slightly based on question type. We also found that participants estimates of the percentage of time viewing AI summaries was strongly correlated with their actual allocation. This work offers insight into how AI is shaping the way individuals navigate, prioritize, and process information in real time.

6:00-7:30 PM (V-062)

Understanding Why Clinicians Avoid Structured Data Entry: A Mixed-Methods Study of Attitudes, Social Norms, and Lived Experience. SHAUN BOUSTANI, *University College London*, ANDREW WILSON, *University College London Hospital Trust*, CHASE STARAS, *University College London*, ANN GRIFFIN, *University College London*, ANTONIA RICH, *University College London* — Electronic health records (EHRs) offer significant cognitive, clinical and operational benefits, yet structured data entry remains systematically underused. This mixed-methods study examined the psychological predictors and lived experience of structured data entry among non-consultant grade doctors at a large

NHS Trust (N = 83 survey; N = 6 IPA interviews). A Theory of Planned Behaviour survey found that attitudes and subjective norms, but not perceived behavioural control, significantly predicted intention to use structured features (R^2 = .56). System usability scores fell below established benchmarks. Interpretative Phenomenological Analysis identified four themes; structured documentation as cognitive relief; documentation as fragile collective infrastructure; clinicians expected but not enabled to use the system well; and systemic friction when clinical reasoning resists structured formats. Findings highlight the role of normative and attitudinal factors over control beliefs, and suggest that effective intervention requires team-level normative change alongside targeted training and interface redesign.

6:00-7:30 PM (V-063)

A large-scale assessment of multisensory imagery phenomenology. JOHN HOLLANDER, *Arkansas State University*, STEPHANIE HUETTE, *University of Memphis* — Mental imagery may involve dissociable representational and manipulatory systems. We assessed imagery across 7 sensory modalities using the Psi-Q and auditory imagery using the Auditory Imagery Scale (total N = 572). Psi-Q modalities intercorrelated robustly (r = .49–.71), supporting a general vividness factor, with sound–visual strongest (r = .71). However, Psi-Q sound imagery showed only moderate correlation with Auditory Imagery transformation (r = .46), suggesting different aspects of auditory representation. Auditory subscales correlated highly (r = .82). Visual imagery correlated with auditory vividness (r = .34), suggesting shared substrate. Psi-Q distributions displayed left skew and positive kurtosis, clustering participants at high vividness; Auditory Imagery showed more normal distributions. Cluster analysis identifies individuals with dissociable imagery profiles (e.g., high visual but low auditory imagery) revealing whether participants segment into distinct patterns of imagery abilities. Results suggest imagery involves both domain-general vividness and modality-specific capabilities, with implications for computational models of sensory representation.

6:00-7:30 PM (V-064)

The Mediating Role of Cognitive Flexibility in Handedness Associations with Authoritarian Beliefs. MARCUS L. LEPPANEN, *University of Mary Washington*, JANMEET GUJRAL, *University of Mary Washington*, RAE MEARS, *University of Mary Washington*, MIRIAM LISS, *University of Mary Washington* — This project investigated how individual differences in behavior and cognition are associated with authoritarian beliefs. Consistent hand use preference, a variable related to the lateralization of cognitive processing has been linked to increased authoritarian beliefs. Research suggests that primarily left-lateralized, rigid cognitive processing strategies like need for cognitive closure may mediate the relationship between consistent handedness and authoritarian beliefs. Building on this work, we explored the role of cognitive rigidity in a fully online sample by measuring the mediating effects of both "hot" (affective; intolerance of uncertainty) and "cool" (reasoning; actively-open minded thinking) forms of mental flexibility as potential mediators of the relationship between handedness consistency and Right-Wing Authoritarianism (RWA), including mindfulness as a moderator. We did not replicate prior findings of a direct relationship between handedness and RWA. Actively-open minded thinking negatively predicted RWA while the relationship between intolerance of uncertainty and RWA was significantly moderated by mindfulness. This project is of significance considering the prevalence of political polarization across the globe.

6:00-7:30 PM (V-065)

Time after time, the Best-Worst Scaling method is more reliable than ranking. GARSTON LIANG, *University of Technology Sydney*, MACKENZIE GLOVER, *University of Newcastle*, GUY E. HAWKINS, *University of Newcastle* — Two popular methods of preference elicitation are rankings and Best-Worst Scaling (BWS). Rankings, while simple and widely adopted, can be burdensome with larger item sets and fail to capture indifference between options that are neither loved nor hated. Best-Worst Scaling is a survey method that sidesteps the set size

problem by capitalising on people's natural capacity to identify preferences at the extremes. Across three experiments, our primary finding is that elicited preferences for ranking and BWS methods align, and that BWS methods provide additional resolution to resolve the indifference between middling options where rankings can struggle as well as the relative importance of each option. Moreover, we show that BWS methods exhibit greater test-retest reliability compared to rankings, even over time frames as short as minutes. Taken together, our results privilege BWS as a reliable and readily accessible alternative to ranking methods for preference elicitation.

6:00-7:30 PM (V-066)

Automatic Activation of Color Representations by Numbers in Non-Synesthetes: Behavioral and Electrophysiological Approaches. AYAKO H. SANEYOSHI, *Teikyo University*, KOSUKE ITOH, *Niigata University*, YUYA FUSHIMI, *Niigata University*, KAZUHIKO YOKOSAWA, *Japan International University* — Grapheme-color synesthetes perceive specific colors when viewing letters or numbers, but recent findings show non-synesthetes also form stable number-color associations. Whether this involves the same automatic mechanisms as synesthesia remains debated. This study investigated the automaticity of number-color associations in non-synesthetes using a time separated Stroop-like task and event-related potentials (ERPs). Thirteen participants completed color-grapheme association and separated Stroop tasks under congruent/incongruent and color-prime/character-prime conditions. Behavioral results revealed a significant interaction between task and congruency; reaction times were significantly longer for incongruent trials in both the Stroop character-prime and color-grapheme number-prime conditions. Conversely, ERP data showed a trend toward N450 enhancement in the incongruent Stroop character-prime condition, but no significant congruency-related interactions were found. These behavioral findings suggest that numbers can automatically evoke corresponding color representations in non-synesthetes, though the underlying ERP patterns did not mirror the traditional Stroop effect.

6:00-7:30 PM (V-067)

Team Flow is associated with alternation of inter-brain synchronization and desynchronization in a cooperative music rhythm game. SHUICHI HIGAKI, *Yamaha Motor Co., Ltd.*, KATELYN HALY, *California Institute of Technology*, MAXWELL J. MONTEMAYOR, *California Institute of Technology*, AMIR VALA TAVAKOLI, *California Institute of Technology*, DAW-AN WU, *California Institute of Technology*, SHINSUKE SHIMOJO, *California Institute of Technology*, TAKASHI SUEGAMI, *Yamaha Motor Co., Ltd.* — Team Flow is shared experience of Flow State (deep immersion and concentration) in optimized team dynamics. A prior hyperscanning study showed increased inter-brain synchronization during Team Flow (Shehata et al., 2021), while another study predicted desynchronization with interdependent social interaction (Froese et al., 2024). One possible explanation is metastability of inter-brain connectivity characterized by dynamic alternation between synchronized and desynchronized states. To test this, EEG hyperscanning and subjective Team Flow ratings were obtained for 8 pairs during a cooperative rhythm game (e-plegona, Higaki et al., 2025), designed to induce Team Flow through interdependent interaction. Metastability was indexed as the standard deviation of the spectral radius (ρ_std) of inter-brain dynamic functional connectivity matrices (dFC). Linear mixed-effect modeling revealed that within-participant variation in ρ_std was positively associated with subjective Team Flow ratings only in the delta frequency band ($p < .05$), whereas between-participant effects were not significant. These results suggest Team Flow may be characterized by dynamically fluctuating inter-brain desynchronization as well as synchronization.

6:00-7:30 PM (V-068)

Preventing Recurring Tip-of-the-Tongue States: The Role of Continued Retrieval Effort over Time. JOSE M. FRANCISCO-ANDRES, *Colorado State University*, ANNE M. CLEARY, *Colorado State University* — The tip-of-the-tongue (TOT) state—feeling on the verge of accessing an as yet

unretrieved word—is a common experience that increases with age. TOT states tend to recur when unresolved, but self-resolution reduces their recurrence. Although showing someone the target word does not reduce later TOT recurrence for it, self-resolution from orthographic cues does. In real life, a person cannot always easily obtain a cue to help them resolve a TOT state. Recently, Xi, Gardner and Burke (2026) found that continued retrieval attempts increase TOT resolution likelihood. One factor that may be at work here is changing context over time; context changes disrupt idea fixation and aid access to problem solutions (e.g., Smith & Beda, 2020). The present study examined whether changing context promotes self-resolution and reduces TOT recurrence in older and younger adults. Participants had three opportunities to resolve TOTs across three phases while background scenes either changed or were reinstated. Changing scene contexts did not increase the likelihood of self-resolution; however, self-resolution likelihood increased across the three phases, suggesting that continued effort over time mattered more than changing context per se.

6:00-7:30 PM (V-069)

Greater Daily Variability in Cognition and Mood Predicts Lower Mean Cognitive Function in Young Adults. MELANIE BUTT, *University of British Columbia*, TODD HANDY, *University of British Columbia* — In older adults, greater day-to-day variability in cognitive function has been associated with higher rates of cognitive decline, suggesting that cognitive variability is not simply measurement noise, but can vitally inform on cognitive status in older adults. But what about these dynamics in younger adults? To address this question, we used experience sampling to assess subjective cognition and mood three times a day for 14 days in a sample of 215 young, healthy adults. After controlling for four baseline measures of cognition (metacognition, executive function, propensity for cognitive and memory failures) and four baseline measures of mood (depression, state and trait anxiety, loneliness), we found that not only did subjective cognition show significant day-to-day variability, but greater cognitive variability predicted lower mean cognitive function across the two-week period. While daily cognitive variability was also significantly correlated with daily negative and positive mood, some individuals were more resilient to these daily mood impacts on cognition than others. Taken together, our findings suggest that daily variability in cognition and mood may be important predictors of cognitive wellness in young adults.

6:00-7:30 PM (V-070)

Predictive Processing Across the Autism Spectrum: A Time-Dependent Transition from Reduced Prior Reliance to Enhanced Discrimination in Volatile Contexts. ZITA NAGY, *ELTE Eötvös Loránd University*, FLORA HANN, *Eötvös Loránd University; HUN-REN Research Centre for Natural Sciences*, ORSOLYA PESTHY, *Institute of Cognitive Neuroscience and Psychology; HUN-REN Research Centre for Natural Sciences,* CINTIA ANNA NAGY, *ELTE Eötvös Loránd University*, DEZSO NEMETH, *INSERM; Gran Canaria Cognitive Research Center* — Adaptive behavior in a constantly changing world depends on continuously updating predictive models by flexibly weighting prior experience and sensory information. Although predictive processing is thought to differ across the autism spectrum, the nature of these differences remains debated. We examined how autistic traits relate to predictive processing in a changing environment. Participants (N = 132) completed an oculomotor Alternating Serial Reaction Time task in which anticipatory saccades indexed implicit predictions. Two sessions with semi-altered regularities enabled assessment of adaptation following changes in predictive structure. Autistic traits were measured dimensionally. Higher autistic traits were associated with reduced reliance on prior knowledge immediately after sequence change, but stronger differentiation between currently relevant and outdated regularities over time. In contrast, lower autistic traits were associated with weaker suppression of outdated associations. These findings suggest that autistic traits are associated with a temporally dynamic pattern of predictive updating, characterized by early down-weighting of prior learning and later enhanced discrimination of contextually relevant information.

6:00-7:30 PM (V-071)

Visual Scanning Strategies in a Face Matching Task. NOUR QUTEIBI, *California State University, Bakersfield*, MUKESH B. MAKWANA, *Brown University*, MARUTI MISHRA, *California State University, Bakersfield* — Where do observers look when matching face identities? To uncover the visual strategies that support identification, we pair a standard face matching task with eye-tracking, which offers direct, moment-to-moment measure of face processing by capturing how observers' sample, attend to, and integrate facial information. Thirty-five observers participated in an in-lab experiment to sort faces from most to least similar (foil faces), by matching with a target face. Both upright and inverted faces were included. Observers showed better performance for upright faces compared to inverted faces in the sorting task, a classic finding. Eye movement metrices such as fixation durations, dwell time and number of fixations revealed that observers focused on the top-part of the face-image, irrespective of the orientation, and spent more time on the eye region compared to other regions on the face. Given that this was a matching task, observers demonstrated higher eye movement metrices for the target face, compared to each foil face. We are currently analyzing the results for scan paths and transition matrices, which are more indicative of perceptual mechanisms of matching.

6:00-7:30 PM (V-072)

Is Swearing Associated with Psychological and Behavioral Outcomes? NICHOLAS B. WASHMUTH, *University of Alabama in Huntsville*, LIBBI GEOGHAGAN, *University of Alabama in Huntsville*, JODI PRICE, *University of Alabama in Huntsville* — Swearing has been linked to greater self-confidence and lower anxiety. Since language helps shape thoughts, perceptions, and social experiences, swearing may be related to broader health-related outcomes. Using a cross-sectional, retrospective design, this study surveyed 416 participants to examine how swearing habits relate to sexual functioning, resilience, self-esteem, and authenticity. Daily swearing frequency significantly predicted both male ($B = 2.55$, $SE = .52$, $p < .001$) and female participants' ($B = 2.44$, $SE = .46$, $p < .001$) sexual functioning, but did not significantly predict resilience, self-esteem, or authenticity (ps > .05). Swearing's association with sexual functioning may be explained through disinhibition or risky behavior frameworks. Exploratory moderation analyses found openness to experience ($B = .13$, $SE = .06$, $p = .05$), reasons for swearing ($B = .50$, $SE = .19$, $p = .01$), and extraversion ($B = .18$, $SE = .09$, $p = .04$) moderated associations with authenticity. Reasons for swearing also moderated associations with male sexual health ($B = -1.85$, $SE = .73$, $p = .01$) and self-esteem ($B = .92$, $SE = .35$, $p = .01$). These findings suggest that swearing may be relevant to a variety of health-related domains.

6:00-7:30 PM (V-073)

How do parents allocate attention between their child and referents after labeling? FATEME MOHSENI, *University of Texas at Austin*, CHEN YU, *University of Texas at Austin*, ZENZI GRIFFIN, *University of Texas at Austin* — Joint attention helps young children map words onto objects (Baldwin, 2013), but little is known about what happens after parents label an object. Prior research showed that speakers gaze longer at objects before naming them when retrieving the name is more difficult (Griffin, 2001; Meyer et al., 1998). Using head-mounted eye tracking during parent–child toy play, we examined parental gaze to objects and the child's face. We found that when the object names were more difficult to plan and recognize, parents looked longer at referents after naming, helping the child register which referent was labeled. Parents were also more likely to attend to their child's face when the labels were more difficult to recognize, suggesting they monitored the child's comprehension. These novel results indicate that not only parents' gaze is available after labeling, but also the amount of it is sensitive to the properties of the labels they produce.

6:00-7:30 PM (V-074)

AI Use in a Science Communication Writing Task Decreases Performance and Self-Confidence. MAN CING, *Centenary College of Louisiana*, JESSICA E. D. ALEXANDER, *Centenary College of Louisiana* — A rapidly growing body of literature has documented the effects of the use of artificial intelligence (AI), especially large language models (LLMs) in cognitive tasks. In the present study, participants completed a science communication writing task where they rewrote technical abstracts for a 10-year old audience. They each completed one version of the task independently and one version with AI assistance. Participants were given the choice of requesting minimal, moderate, or full AI help with the task, but they received the same AI text regardless of their choice. Participants submitted text that was closer to the target of a 5th grade reading level (as measured by Flesch-Kincaid Reading Level and Flesch Reading Ease) and rated their response as higher quality when they worked independently than when they were given AI assistance. Participants that completed the AI task first reported decreased effort and self-confidence when working independently than those who completed the Independent task first. AI use negatively impacted student effort, self-confidence, and performance. Participants' ratings of their work indicated they were aware of the negative effects.

6:00-7:30 PM (V-075)

Phonotactic Constraint Learning in Children with and without Developmental Dyslexia. JILL A. WARKER, *University of Scranton*, PETER RICHTSMEIER, *Oklahoma State University* — Developmental dyslexia has been associated with both impaired and intact statistical learning (Schmalz et al., 2017; Singh & Conway, 2021). One measure of implicit statistical learning in language production uses speech errors to assess learning of phonotactic-like constraints (e.g., /f/ is always an onset). After reciting sequences containing the constraint (e.g., hes feng mek gen), participants' speech errors follow the constraint. When an /f/ slips, it slips more often to another onset position (Dell et al., 2000). We investigated whether children with dyslexia could implicitly learn such constraints over two testing sessions. Children with lower reading abilities made more speech errors overall than those with higher reading abilities. The speech errors of children with and without dyslexia followed the constraint embedded in the sequences. This evidence of learning emerged in the first testing session. These results suggest that children with dyslexia learned the constraint as strongly and as quickly as typically developing children.

6:00-7:30 PM (V-076)

Priming Effects on Syntactic Alignment in Human-AI Written Communication. ALEJANDRA M. HILBERT, *Oregon State University*, CHRISTOPHER A. SANCHEZ, *Oregon State University* — Generative AI tools, like ChatGPT, are increasingly used to help people write, learn information, and make decisions in everyday contexts. Yet, the cognitive consequences of interacting with AI-generated language remain poorly understood. This study investigated whether the perceived source of a text influences syntactic alignment and whether perceived credibility affects the degree of linguistic mirroring. A total of 191 undergraduate participants completed writing tasks before and after exposure to a prime. Three conditions read a passage attributed to an academic expert, a Reddit user, or ChatGPT. A fourth spatial control condition completed a spatial task in place of the prime. Exposure to a prime text influenced participants' later writing, but primarily through lexical overlap rather than syntactic alignment. Participants absorbed the linguistic patterns of the prime regardless of source identity. Perceived source credibility did not predict the degree of structural mirroring. These results raise important questions about the mechanisms by which AI-generated language shapes human writing and the potential for linguistic homogenization at scale.

6:00-7:30 PM (V-077)

Effect of Motor Sequence on Written Word Production of a Novel Script: Mediated by Visual Attention and Moderated by Native Script. XIANGLIN ZHANG, *University of Maryland, College Park*, MIN WANG, *University of Maryland, College Park* — Handwriting aids learning visual forms better than typing. Visual analysis hypothesis attributes this to the temporal unfolding of strokes, promoting detailed visual analysis. Yet it remains unclear whether observing unfolding motor sequences affects visual processing, and whether this varies by native script. This eye-tracking study compared the effect of dynamic (unfolding motor sequence) vs. static (whole form) presentation in a delayed-copy task with novel Hangul characters, in native readers of non-linear (Chinese, n = 47, Mage = 24.38) and linear scripts (e.g., Spanish, n = 51, Mage = 22.31). Handwriting outcomes (accuracy, response time [RT], writing time [WT]) and eye movements during viewing (fixation count [FC] and total duration [FD]) were analyzed. Preliminary results (half the sample) showed dynamic condition reduced FC (both groups) but increased FD (both groups, stronger in Chinese). Results further showed that dynamic condition indirectly lengthened WT via increased FD (both groups) and reduced FC (linear group). Findings support the visual analysis hypothesis: observing unfolding motor sequences reshapes visual attention to unfamiliar characters, moderated by native script. Analysis will be completed in July 2026.

6:00-7:30 PM (V-078)

Effects of Perceptual Priming on Letter Detection. VIVIAN I. SCHNEIDER, *University of Colorado Boulder*, JAMES A. KOLE, *University of Northern Colorado*, ALICE F. HEALY, *University of Colorado Boulder* — The missing letter effect (MLE) is the higher rate of letter detection errors on frequent function words like the. The unitization account attributes MLE to configural or whole-word perceptual processing of familiar words, whereas other accounts emphasize syntactic/semantic processes. We tested whether perceptual processing influences MLE by priming global versus local processing using Navon compound letters (large letters composed of small letters). In Experiment 1, after priming (global or local), subjects completed a letter detection task (circling h) while reading a prose passage. Subjects were next primed with the alternate processing type, then completed the letter detection task on a second passage. MLE was observed; critically, global priming produced a larger MLE than did local priming, but mainly on the second passage. In Experiment 2, a non-compound letter control prime was added. Again, priming was most evident on the second passage. Unexpectedly, MLE was largest for the control prime, next largest for global priming, and smallest for local priming. These findings suggest that perceptual processes involving unitization contribute to MLE and are discussed in terms of switching/contrast effects across priming conditions.

6:00-7:30 PM (V-079)

The Probabilistic Experience-Based Lexical-Sublexical Model of Reading and Spelling. ROBERT W. WILEY, *University of North Carolina at Greensboro*, SHYAWN MANSHOORY, *University of North Carolina at Greensboro* — Novel word responses are often treated as rule-governed, but human responses to unfamiliar strings are variable, multimodal, and systematically shaped by lexical knowledge. Here, we introduce PEBLS, the Probabilistic Experience-Based Lexical-Sublexical model, a generative model in which readers and spellers sample pronunciations or spellings from probability distributions shaped by lexical statistics. PEBLS derives spelling–sound consistency measures from the English Sublexical Toolkit (Wiley et al., 2024), integrates evidence across different grain sizes such as onsets and rhymes, and weights that evidence by similarity to lexical neighbors. Rather than predicting only a single modal response, PEBLS simulates population-level response distributions. The model reproduces key distributional properties of human pseudoword data, including modal-response rates, secondary alternatives, and item-level differences in response variability. These results reveals that variability in novel word reading and spelling is not noise, but reflects probabilistic inference over the statistical structure of the lexicon.

6:00-7:30 PM (V-080)

Dissociable Effects of Partial Sleep Deprivation on Conventional and Novel Metaphor Production. ADI LIFSHITZ BEN BASAT, *Ariel University*, LEAH FOSTICK, *Ariel University*, NIRA MASHAL, *Bar-Ilan University* — Partial sleep deprivation (SD) impairs cognitive control, but its effects on creative semantic processing remain unclear. This study examined whether partial SD differentially affects conventional and novel metaphor generation. Twenty-five healthy young adults completed two sessions following either regular sleep or partial SD. Participants performed a metaphor generation task together with measures of cognitive flexibility and executive functioning. Partial SD selectively increased the production of conventional metaphors, whereas novel metaphor generation remained relatively preserved. Participants also showed slower reaction times on incongruent Stroop trials following SD, indicating reduced cognitive control. The findings suggest that partial SD biases semantic generation toward more automatic associative processes while reducing top-down control mechanisms. Conventional metaphor generation may rely more heavily on Default Mode Network (DMN)-related associative retrieval, whereas novel metaphor generation depends more on frontoparietal control network engagement. These findings suggest that sleep deprivation selectively alters higher-order language production.

6:00-7:30 PM (V-081)

Observing Meaning Activation and Selection in Puns: A Cross-modal Lexical Decision Paradigm. ALISSA DESMOND, *University of Arkansas*, WILLIAM H. LEVINE, *University of Arkansas* — While previous research has explored the process of meaning activation in ambiguous words when only one meaning is contextually appropriate, the literature has largely neglected sentences in which multiple meanings are contextually appropriate. Puns are one example of ambiguous words used this way. The time course of how meaning is activated and selected in puns is being examined using a cross-modal lexical decision paradigm to observe the activation levels of two meanings of an ambiguous word in a pun that biases both meanings.

6:00-7:30 PM (V-082)

Effects of age, background noise, and lexical characteristics on the speed of spoken word recognition. GRIFFIN DUGAN, *Washington University in St. Louis*, RYAN M. O'LEARY, *Northeastern University*, DREW MCLAUGHLIN, *Villanova University*, CHAD S. ROGERS, *Union College*, KRISTIN J. VAN ENGEN, *Washington University in St. Louis*, MITCHELL S. SOMMERS, *Washington University in St. Louis*, JONATHAN E. PEELLE, *Northeastern University* — The comprehension of speech is often rapid, automatic, and seemingly effortless. However, less-than-ideal listening conditions can slow this process. This study investigated effects of age, background noise, and linguistic characteristics on the activation of words during spoken word recognition. Participants (91 young adults and 147 older adults) listened to words in the clear or in a low level of noise. The target words were selected to be either high or low in terms of word frequency and neighborhood density. In each trial, participants were shown four phonologically unrelated pictures and were prompted to click on the picture that corresponded to the target word. Gaze movements were tracked to determine differences in the speed of lexical activation. Results demonstrate that older age and increased background noise delay word recognition. Higher frequency words were recognized more quickly. Likewise, higher density words, in the absence of any phonological competitors, were recognized earlier. Ongoing analyses will address whether this is a true density effect or whether it may be driven by a confound with word frequency. Results were interpreted as reflecting a delay in word recognition due to challenging conditions.

6:00-7:30 PM (V-083)

When Capitalizing Letter Differences Does Not Improve Word Recognition. JOLIE O'DELL, *Oregon State University*, CALEB KIRKLAND, *Oregon State University*, MEI-CHING LIEN, *Oregon State University* — The Tall Man lettering effect suggests

that capitalizing the differing letters in similar-looking words (e.g., hydrOXYzine vs. hydrALAZINE) helps people distinguish between them. This claim is somewhat counterintuitive, as research on word recognition typically shows that mixing uppercase and lowercase letters within a word impairs readability, a phenomenon known as the case-mixing effect. However, most prior studies rely on lexical decision tasks, which may not reflect how words are compared in real-world contexts. To address this limitation, we used a word-matching task in which participants determined whether pairs of words were the same or different. Word pairs were presented in all lowercase, mixed case, or differing case types. Results showed that capitalizing letter differences did not improve accuracy or response time. These findings suggest that Tall Man lettering may offer limited benefits in practical settings despite its theoretical appeal.

6:00-7:30 PM (V-084)

Transcranial Direct Current Stimulation Improves Lexical Acquisition. MICHAEL A. ESKENAZI, *Stetson University*, SARAH L. GARCIA, *Stetson University*, LEONARDO GIORGIONI, *Stetson University*, JULIA RAMOS DE CAMARGO, *Stetson University*, GIOVANNA AGUILAR, *Stetson University* — Developing strong lexical representations of words, including their spelling, pronunciation, and meaning, is an essential component of skilled reading. Much is known about factors that can strengthen these representations, but little research has explored non-linguistic methods of strengthening lexical representations such as transcranial direct current stimulation (tDCS). tDCS is a technique in which a weak electrical stimulation is applied through electrodes on the scalp to increase cortical excitability (Fertonani & Miniussi, 2017). In this study, we randomly assigned participants to receive sham or anodal stimulation to the left medial temporal gyrus while they read novel words (e.g., flurst, blaff) in informative or uninformative contexts while their eye movements were monitored. Participants were tested on their orthographic and semantic acquisition after the reading task. Mixed effects analyses indicated that orthographic acquisition did not vary by context type or tDCS condition. However, participants' semantic acquisition increased in informative conditions, and the increase was significantly greater when receiving anodal tDCS compared to sham tDCS. Thus, tDCS enhances semantic representations during lexical acquisition.

6:00-7:30 PM (V-085)

An EEG/Eye Tracking Co-Registration Study of Sign Language Sentence Comprehension: Evidence for Parafoveal Processing of Signs. CAITLIN PEARSON, *San Diego State University*, KATHERINE J. MIDGLEY, *San Diego State University*, PHILLIP J. HOLCOMB, *San Diego State University*, KAREN EMMOREY, *San Diego State University*, EMILY M. AKERS, *San Diego State University* — We used EEG/eye tracking co-registration to investigate how deaf signers comprehend American Sign Language (ASL) sentences. In auditory and written sentence processing, more context leads to a reduced N400, but it is unknown how context impacts neural response to signed sentences, and whether this differs based on how signers direct their attention via eye gaze. This study is the first to use EEG/eye tracking co-registration methods to assess foveal and parafoveal processing of ASL. Deaf signers watched 95 grammatical ASL sentences, and EEG was time-locked to sign onsets within the sentence (sign onset was generally defined as when the sign's handshape was evident). Replicating spoken language research, we found a reduced N400 to final signs compared to earlier signs. Eye tracking data revealed that deaf signers focus their gaze on the signer's face for the duration of sentence processing resulting in few non-foveal fixations. Our results indicate that deaf signers utilize their parafoveal and peripheral vision to process sign language, and that neural processing demands are reduced as sentences unfold.

6:00-7:30 PM (V-086)

Behavioral, Neural, and Metacognitive Measures of Children's Word Learning. JACQUELINE ZHANG, *San Diego State University; University of California, San Diego*, ALYSON ABEL, *San Diego State University* — Children's word learning is

traditionally assessed by whether a correct response is provided, which only captures learning outcomes, but misses both the learning process and learners' metacognitive evaluations of their knowledge. A more complete account of children's word learning can be achieved by studying online processing and evaluations of learning in tandem with learning success. We examined behavioral accuracy, neural processing, and confidence judgments during cross-situational word learning. Twenty-five children (8;0-13;11) listened to three sentences that ended in the same nonsense word with a single consistent meaning. After each sentence triplet, they guessed the meaning of the word and rated their response confidence (low, medium, high). The N400 component was calculated by time-locking EEG recordings to the sentence-final nonsense word. Initial results suggest that accuracy increased with confidence, indicating some ability to evaluate emerging knowledge. However, N400 amplitudes did not differ as a function of behavioral performance. These findings highlight the need to integrate behavioral, neural, and metacognitive measures to understand how new knowledge becomes usable.

6:00-7:30 PM (V-087)

Enhanced Memory for Highly Intelligible Degraded Speech. KATARINA JOVANOVIC, *Huron University College at Western University*, STEPHEN C. VAN HEDGER, *Huron University College at Western University* — Rabbitt (1966) found that presenting speech in noise impairs later recognition memory for that speech. These findings helped motivate the effortfulness hypothesis, which proposes that when speech perception requires extra cognitive effort, fewer resources are available for encoding, leading to poorer memory. We aimed to conceptually replicated this work while manipulating stimulus context and noise level in a pre-registered study. Using a 2 (stimulus type: words, sentences) × 3 (noise level: clear, +7 dB, +1 dB) within-participant design, we found: (1) a main effect of noise level, with better recognition memory for speech presented in noise; (2) a main effect of stimulus type, with better memory for sentences than words; and (3) an interaction between noise level and stimulus type, with the largest memory advantage for sentences in the most challenging condition (+1 dB). Thus, we failed to replicate Rabbitt's (1966) findings, possibly due to more ecologically valid design choices. Our results challenge the view that noise is inherently detrimental to memory and instead suggest that its effects depend on the contextual richness of speech and the level of background noise.

6:00-7:30 PM (V-088)

Subcortical and cortical encoding predict individual differences in VOT and f0 cue weighting. ALAN C. YU, *University of California, Berkeley*, TZU-YUNG TUNG, *University of California, Berkeley* — Listeners differ systematically in how they weight acoustic cues during speech perception, yet the sources of this variability remain unclear. We investigated whether individual differences in cue weighting for stop voicing—specifically, reliance on voice onset time (VOT) versus fundamental frequency (f0)—relate to differences in early auditory encoding, as indexed by the frequency-following response (FFR). Thirty-two native English speakers completed two tasks using a dear/tear continuum. In a Visual Analog Scaling task, participants rated stimuli varying in 5 VOT × 5 f0 steps, assessing individual VOT/f0 reliance. In a passive listening task, EEG was recorded to a reduced set (5 VOT × 2 f0 steps), with f0 values corresponding to the endpoints of the full continuum. Using representational similarity analysis, we found that listeners who rely more on VOT (and less on f0) showed stronger correspondence between FFR patterns and their perceptual space, and between subcortical (FFR) and cortical (N1) representations. These findings suggest that individual differences in cue weighting may be rooted, in part, in early sensory processing.

6:00-7:30 PM (V-089)

The Role of Talker Identity in Perceptions of Listening Effort. MARTA ORTEGA LLEBARIA, *University of Pittsburgh*, MELISSA MARKS, *University of Pittsburgh at Greensburgh*, SCOTT H. FRAUNDORF, *University of Pittsburgh* — Minoritized language varieties are often evaluated

less favorably in social judgments, such as those of solidary or competence. Why? One possibility is conscious bias, but it has also been suggested (e.g., Rovetti, Sumantry, & Russo, 2023) this partially reflects the greater perceptual challenge engendered by unfamiliar varieties. We examined perceptions of listening effort using a laboratory task in which participants listened to a spoken sentence in noise, transcribed it, and rated the listening effort required. We manipulated whether each of 60 sentences was spoken by a speaker of (a) standard American English, (b) Spanish-accented English, or (c) Chinese-accented English (all female). At both an urban university campus with greater racial and linguistic diversity (N = 122) and a regional university campus with less diversity (N = 53), participants were less accurate at transcribing the non-native varieties than the majority variety. Critically, even when conditioning on transcription, non-native varieties were rated as requiring more listening effort than the majority variety. These results indicate that that perceptions of listening effort are socially modulated and not reducible to intelligibility alone.

6:00-7:30 PM (V-090)

Modeling Cohort and Rhyme Competition in the Visual World Paradigm. ATHARVA VIKAS JADHAV, *University at Buffalo, State University of New York*, ANDRÉS BUXÓ-LUGO, *University at Buffalo, State University of New York*, FRED MAILHOT, *Dialpad, Inc.*, CASSANDRA L. JACOBS, *University at Buffalo, State University of New York* — Spoken word recognition is sensitive to the phonological structure of available meanings. Cohort competitors to a particular target word (e.g., cat), which overlap word-initially (e.g., cap) tend to be attended to as possible referents early, while rhymes, which overlap word-finally (e.g., hat), are entertained late (Allopenna et al., 1999). Recently, Ryskin (2026, Human Sentence Processing) showed that a deep speech encoder combined with Bayesian updating based on cosine similarity accounted for looking behavior in the visual world paradigm. This model made few assumptions about words' phonological structure and relied solely on the audio signal. By applying dynamic time warping (DTW) to deep speech representations, we extend this updating procedure to a more granular level while solving the problem of time-varying speech signals. We derive probabilistic estimates of listener expectations as the speech signal unfolds in real time. We simulate looking behavior both for clearly enunciated English speech and real-world noisy tokens and reproduce both cohort and rhyme eye movement patterns from prior work. Aligning speech tokens using DTW opens up the possibility of studying competition among tokens at a granular level.

6:00-7:30 PM (V-091)

Temporal Limits on Top-Down Guidance in Phonetic Recalibration. SIYU LIN, *Emory University*, LYNNE NYGAARD, *Emory University*, KATE P. REVILL, *Emory University*, JOSEPH C. TOSCANO, *Villanova University*, SPENCER CAPLAN, *City University of New York, Graduate Center* — Listeners can use high-level knowledge to recalibrate their perception of atypical pronunciations, but it remains unclear how long detailed acoustic-phonetic information is retained and when a top-down learning signal needs to occur to guide category assignment. We examined this question by attempting to replicate Caplan, Hafri, and Trueswell's (2021) finding, suggesting that low-level information is not maintained. In two experiments, we tested whether phonetic recalibration depends on the temporal alignment between atypical pronunciations and a top-down disambiguating signal. During exposure, disambiguating text appeared either 2000 ms before or after spoken words containing atypical pronunciations. At test, listeners performed a phoneme categorization task to assess learning. The results showed no evidence of perceptual learning of phonetic categories in either condition. Follow-up experiments with additional exposure will be reported. These findings suggest that perceptual learning may be more fragile than previously recognized such that visually presented text may not always be sufficient to disambiguate pronunciation variants.

6:00-7:30 PM (V-092)

Talker Ethnicity Affects Listeners' Perception of Non-Native Accented Speech. ULISES QUINTERO, *San Jose State University*, CECILIA NGUYEN, *California State University, Fullerton*, CHRISTINA TZENG, *San Jose State University* — The current work examined the extent to which perceived talker ethnicity affects listeners' comprehension and accentedness ratings of non-native accented speech. Native English-speaking listeners (n = 141) heard Spanish-accented English sentences paired with a photograph of a Caucasian or Hispanic female talker, or a silhouette control image. Preliminary results suggest that listeners' prior exposure to Spanish-accented English moderated the effect of talker ethnicity. While listeners who were exposed weekly to Spanish-accented speech showed similar performance in transcription accuracy across conditions, listeners without exposure to Spanish-accented speech showed lowest transcription accuracy in the Caucasian condition and highest in the silhouette condition. Accentedness ratings followed a different pattern with listeners with exposure to Spanish-accented speech rating the talker as more non-native accented in the Hispanic condition than those without exposure. Taken together, these findings suggest that comprehension and accentedness may rely on distinct mechanisms that are differentially affected by perceived talker identity.

6:00-7:30 PM (V-093)

Spoken word recognition in human listeners and transformer models. AMY KENNEDY, *Villanova University*, DREW MCLAUGHLIN, *Villanova University*, JOSEPH C. TOSCANO, *Villanova University* — Spoken word recognition requires listeners to process information across acoustic, phonological, and lexical levels. Classic models, such as TRACE, can simulate effects at these different levels but often use simplified architectures and abstract inputs, limiting acoustic detail and model scalability. In contrast, automatic speech recognition (ASR) models use real speech inputs and can scale up. However, it is unclear whether the model's internal representations resemble those of human listeners. The current study bridges classic cognitive models and ASR systems by simulating speech sound categorization with the Whisper ASR model. The model was presented with minimal pairs varying along voice onset time (VOT) continua. Outputs were analyzed to identify phonological category boundaries, and encoder activations were examined to assess internal representations. Results reveal a category boundary similar to human listeners and encoder activations that reflect continuous VOT variation, as well as higher-level linguistic information within the same layer. These results demonstrate that the model, like human listeners, is sensitive to fine-grained cues and integrates them with higher-level information during speech processing.

6:00-7:30 PM (V-094)

On the Processing Locus of Speech Perception Consistency. BRIAN W. L. WONG, *Basque Center on Cognition, Brain and Language*, ARTHUR SAMUEL, *Stony Brook University; Basque Center on Cognition, Brain and Language*, EFTHYMIA C. KAPNOULA, *Basque Center on Cognition, Brain and Language* — Recent studies suggest that speech perception consistency confers advantages for downstream speech processing and reading ability, but its underlying sources remain unclear. Using EEG, we tested whether consistency reflects early auditory encoding. Forty-three Spanish listeners completed a visual analogue scale task measuring speech perception consistency along a /ba/–/pa/ voice onset time continuum. This was followed by a passive-listening EEG task in which listeners heard repeated speech sounds from the same continuum while watching a silent movie. Neural consistency was quantified as the stability of trial-level N1 amplitude across repetitions. Both behavioral and neural consistency measures were reliable, but their relationship was weak. Behaviorally, listeners were less consistent for acoustically ambiguous sounds near the category boundary than for unambiguous sounds, and less consistent for non-prototypical than for prototypical /p/ tokens. However, these effects were not observed in N1 consistency. These findings suggest that speech percep-

tion consistency does not primarily arise from early auditory encoding, but instead reflects later processing stages, such as cue-to-category mapping.

6:00-7:30 PM (V-095)

The dangers of high-similarity innocent-suspect bias. REBECCA YING, *Kennesaw State University*, ANDREW M. SMITH, *Iowa State University* — Mistaken eyewitness identification is the leading cause of wrongful conviction. Many of these errors were the result of biased lineup procedures where an innocent suspect stood out as a more plausible choice than the known-innocent fillers. Nearly 50 years of research demonstrate that biased lineups increase the risk of innocent-suspect identification. Most of this research has focused on low-similarity filler bias where the innocent-suspect fits a generic description of the culprit, but the lineup fillers do not. But that is not the only way to bias a lineup. Individuals often become suspects because they resemble a probe image of the culprit (e.g., a CCTV image). High-similarity innocent-suspect bias occurs when a suspect is selected based on similarity to a probe image, but fillers are selected based only on match to a generic description. Whereas the absolute model predicts that high-similarity innocent-suspect bias poses greater risk to innocent suspects, the relative model predicts that both forms of lineup bias are equally risky. The results of two experiments were consistent with the absolute-judgment model: high-similarity innocent-suspect bias posed greater risk to innocent suspects than did low-similarity filler bias.

6:00-7:30 PM (V-096)

Seeing Red? A Red Clothing Cue at Encoding and the Two-face Disadvantage in Eyewitness Identification. ALYSSA R. ALLEN, *Tarleton State University*, ALYSSA R. JONES, *Tarleton State University* — Eyewitness identification research typically uses single-face encoding paradigms, although crimes often involve multiple actors and salient nonfacial cues. In a preregistered experiment, Prolific participants (N = 181) completed 20 identification trials. On each trial, they encoded one or two unfamiliar faces, with a bright red clothing cue present or absent, and later made a decision from a six-person simultaneous lineup. In two-face/red-present trials, the red shirt appeared on either the target or the other encoded face. ROC and signal-detection analyses replicated the two-face disadvantage: discriminability was higher after one-face than two-face encoding. In contrast, the red cue did not reliably improve discriminability, and target-red versus other-face-red assignment did not affect performance. Although a Red Cue × Number of Faces interaction emerged for target-present correct-identification rates, the simple effects were marginal and were not supported by the primary discriminability analyses. High-confidence IDs remained highly accurate. Overall, encoding multiple faces impaired eyewitness discriminability, whereas a red clothing cue did not improve face identification or strengthen memory for the cue-bearing face.

6:00-7:30 PM (V-097)

Take Your Time: Speed-Accuracy Instructions Moderate the Response Time-Accuracy Relationship for Eyewitnesses. ZANE T. BRAND, *East Texas A&M University*, CURT CARLSON, *East Texas A&M University* — The present work seeks to improve the response time (RT)-accuracy (RTA) relationship for eyewitnesses using speed-accuracy instructions. The geometry of sequential sampling models predict that RT distributions become more skewed and RTs become slower, especially for low memory strength items, as response caution (the decision threshold) increases. Greater RT range and separation between high and low memory strength decisions may improve the RTA relationship. In our experiment, one group was instructed to respond quickly, another to take their time, and a control group received normal lineup instructions. Preliminary logistic regression of chooser responses from 103 participants yielded a significant interaction such that the fast group had a stronger RTA relationship compared to the control group. The slow group had a marginally steeper slope compared to control. The finding that the fast group had the steepest RTA slope was unexpected. Given the high accuracy of participants in this experiment, we plan to launch another experiment during the Fall semester exam-

ining whether memory strength also moderates this relationship.

6:00-7:30 PM (V-098)

"They Caught the Guy": How pre-admonition suggestion influences lineup decision-making under real-world conditions. UMA MEHTA, *California State University, Los Angeles*, JESSICA ESTRADA, *California State University, Los Angeles*, GIANNA VIGNALE, *California State University, Los Angeles*, MADISON JUAREZ, *California State University, Los Angeles*, BRIANA NODINE, *California State University, Los Angeles*, MITCHELL EISEN, *California State University, Los Angeles* — This experiment employed the field-simulation paradigm to examine how pre-admonition suggestion influenced witness decision-making when viewing photographic lineups administered under real-world conditions. Participants (N = 224) witnessed a staged theft, reported the crime to police, and after a 30-minute delay met a uniformed officer to make an identification from a 6-pack photo array administered in a squad-car. Participants were randomly assigned to either hear that the police had caught the guy or not. Culprit-presence was also manipulated. Witness decision-making was recorded in the police squad-car via dashcam. As expected, witnesses in the suggestion condition spent significantly longer studying the pictures. Also, an interaction between accuracy and pre-admonition suggestion emerged showing that the extended response-time in the pre-admonition suggestion condition was driven by inaccurate witnesses. These results suggest that reflector-variables observed in field-experiments like response-time may be affected by communications with witnesses that are not evident in recordings or police records.

6:00-7:30 PM (V-099)

Can AI generalize across memory conditions? Predicting eyewitness reliability under varying retention intervals. MICHELLE GRAHAM, *University of Virginia*, CHAD DODSON, *University of Virginia* — Eyewitness identification accuracy declines with increasing retention intervals between witnessing an event and making an identification. Although confidence remains an important predictor of accuracy, it is unclear whether AI models trained on eyewitness confidence can generalize across differing retention intervals. The present study examines whether classifiers trained on short delay conditions can accurately predict identification accuracy made after a longer delay. Participants completed lineup identification tasks following either a 5 minute or 1 week delay. Predictive models will use confidence, verbal justifications and decision time to predict correct vs incorrect chooser identifications. We evaluate model performance by comparing within-delay generalization (e.g., train short, test short) with cross-delay generalization (e.g., train short, test long). Performance is measured using discrimination and calibration metrics, including area under the curve and expected calibration error. We predict poorer cross-delay than within-delay generalization, suggesting that retention interval alters the relationship between confidence and identification accuracy.

6:00-7:30 PM (V-100)

Misunderstanding eyewitness verbal confidence contributes to misclassifications of lineup identification accuracy. LAUREN KELSO, *University of Virginia*, CHAD S. DODSON, *University of Virginia* — After making a lineup decision, best-practice recommendations call for police officers to document the witness's level of confidence in their decision. Witnesses often express confidence verbally rather than numerically, requiring officers to infer the intended meaning of potentially ambiguous statements. We tested a translation-based account: errors in translating a witness's verbal confidence statement into its intended numeric meaning contributes to errors in classifying a witness's identification as correct or incorrect. Participants (n = 301) viewed two lineup identifications, each accompanied by the witness's verbal expression of confidence. Participants translated each expression into its intended numeric meaning and then decided whether the witness had made a correct or an incorrect identification. Translation error was calculated as the absolute difference between the participant's numeric translation and the witness's intended numeric confidence. Lower

translation error (i.e., more accurate translations) was associated with higher classification accuracy. Misunderstanding verbal confidence may be one mechanism contributing to errors in evaluating eyewitness identifications.

6:00-7:30 PM (V-101)

Altered Appearance, Altered Accuracy: Eyewitness Accuracy After A Post-Event Distinctive Feature. BAYLEE MURRAY, *East Texas A&M University*, CURT CARLSON, *East Texas A&M University*, MARIA CARLSON, *East Texas A&M University*, CHARLES GOODSELL, *Canisius University* — Previous research has investigated the effects of a facial injury on eyewitness identification accuracy (Colloff et al., 2016; Jones et al., 2020); however, none has considered the injury occurring after the witnessed event. We examined the effects of a black eye not present at encoding. For Experiment 1, we used fair lineups with all faces presented with a black eye, and biased lineups with only the target presented with a black eye. We also manipulated appearance change instructions (ACI); some participants were warned about the black eye before viewing the lineup. The black eye significantly harmed discriminability across all conditions, with no differences among them. Participants who saw a biased lineup and received ACI were more liberal in choosing and yielded the worst confidence-accuracy relationship. In Experiment 2, we introduced a two-day delay between encoding and lineup selection. Preliminary analyses revealed similar trends to Experiment 1, with an increased effect of ACI showing more liberal choosing and false alarms regardless of lineup fairness. Congruent with Experiment 1, lineup fairness is not influencing overall discriminability.

6:00-7:30 PM (V-102)

Confidence and Accuracy Relationship in Mugbook Identifications. SHINING TU, *University of California, San Diego*, JOHN T. WIXTED, *University of California, San Diego* — Research in eyewitness identification has established that high-confidence identifications made under pristine lineup conditions are highly diagnostic of accuracy. Recent evidence suggests that this confidence–accuracy relationship may generalize beyond simultaneous lineups to showups and sequential lineups. Whether the same relationship holds for mugbook identifications remains unclear, despite the common use of mugbooks in police investigations to identify potential suspects. This study examines the confidence–accuracy relationship in mugbook identifications using a mock-crime paradigm. Participants view a 20-second crime video, complete a 5-minute retention interval, and then review a description-matched mugbook that is either target-present or target-absent. Participants report confidence following either an identification or a mugbook rejection. The central question is whether, and by how much, a low prior probability of guilt should be updated in light of a mugbook identification made with a particular level of confidence.

6:00-7:30 PM (V-103)

How Criminal History Can Bias Face-Matching Decisions When Examining Suspect Photos Generated by Facial Recognition Systems. GIANNA C. VIGNALE, *California State University, Los Angeles*, MADISON JUAREZ, *California State University, Los Angeles*, BRIANA NODINE, *California State University, Los Angeles*, MITCHELL L. EISEN, *California State University, Los Angeles* — When a crime is captured on CCTV facial-recognition systems are often used to find similar suspects that match the video. Investigators then examine these suspect photos together with information associated with the individuals, including rap-sheets. This study investigated how viewing a suspect's criminal history can influence matching-decisions. In three experiments, participants were instructed to act as police investigators for a crime captured on CCTV and to examine six-faces generated by facial-recognition technology to judge which suspect, if any, was the culprit. In each experiment the most biased rap-sheet (Robbery/Carjacking) was randomly rotated across photos. In Experiment-1, as expected, the photo associated with the robbery/carjacking was selected most often. In Experiments 2-3 culprit-pres-

ence and biased rap-sheet presence were manipulated and the half the photos had no criminal history. Presence of the biased rap-sheet increased the likelihood of a photo matched with criminal history being chosen in culprit/absent but not culprit/present conditions.

6:00-7:30 PM (V-104)

The continued influence of health-related misinformation on reasoning. GEOFFREY MCKINLEY, *Minnesota State University, Mankato*, HALEY KLINGENBERG, *Minnesota State University, Mankato* — During the COVID-19 pandemic, misinformation posed a serious threat to public health, contributing to vaccine hesitancy and uncertainty about mask-wearing. Such misinformation has the potential to influence beliefs, but also subsequent reasoning. The continued influence effect shows that misinformation can affect subsequent reasoning, even when the misinformation is no longer endorsed (Johnson & Seifert, 1994; Wilkes & Leatherbarrow, 1988). This effect is particularly relevant in public health contexts, where scientific findings are often provisional and subject to revision. The purpose of the current study is to examine the efficacy of different methods of correcting misinformation. Participants read false causal claims (e.g., a study found that X causes Y) followed by simple (e.g., a follow-up study found that X does not cause Y) or elaborative (e.g., a follow-up study found that Z causes X and Y) corrective information, and then answered comprehension questions. The mental models account asserts that a simple correction creates a gap in understanding that must be resolved, and predicts that an elaborative correction will be more effective in addressing this gap. We discuss our findings with respect to the mental models account.

6:00-7:30 PM (V-105)

Negative Emotion and Memory Distortion: Examining Relational and Contextual Memory Using the DRM Paradigm. EMILY SMITH, *James Madison University*, KETHERA A. FOGLER MOORE, *James Madison University* — Past research has shown conflicting effects of emotion on memory, with some research showing enhanced memory for negatively valanced information, and others deficits The current study will examine the effect of negatively valenced words on source memory, while testing two theories regarding the effect of emotion on memory: enhanced memory for item specific details, versus enhanced memory for hippocampal-dependent relational information (Chiu, Dolcos, Gonsalves, & Cohen, 2013). This is a unique modification of the Deese-Roediger-Mcdermott (DRM; Deese, 1959; Roediger & McDermott, 1995) paradigm that allows for conflicting theories of the effect of emotion on source memory (item specific versus relational information) to be tested. If emotion strengthens details, there should be higher recall rates of correct font color; if emotion increases associative memory, there should be an increased number of false memories for critical lures (related but unpresented words) from the negative word list versus the neutral list.

6:00-7:30 PM (V-106)

Repeated Exposure to a Media Figure and Susceptibility to Post-Event Misinformation. KEN CARTER, *Utah Valley University*, SARAH DAYLEY, *Utah Valley University*, ACACIA OVERONO, *Utah Valley University* — The extent to which memory is altered after post-event misinformation may be influenced by multiple cognitive and social factors. To extend this work, we conducted an online experiment over three days to examine how repeated exposure to a social media influencer affected susceptibility to the misinformation effect. Undergraduate student participants were divided into two groups: Repeated exposure and control. For the first two days, the repeated exposure group watched eight videos of a fabricated influencer while the control group watched unrelated videos. On the third day, both groups viewed a mock-crime video, completed a brief distractor, and then watched a misleading recounting of the event from the fabricated influencer. Afterward, all participants completed a cued recall test about the crime they witnessed and along with measures of parasocial relationship strength with the fabricated influencer. Initial results show higher recollection of misinformation in the repeated exposure

group compared to the control group. These findings suggest repeated exposure to a source may play a role in susceptibility to misinformation.

6:00-7:30 PM (V-107)

The Effects of Misleading Post-Event Information on Memory: A Multinomial Processing Tree Model Approach. MACKENZIE RIGGENBACH, *Ball State University*, SCOTT GRONLUND, *University of Oklahoma* — Studies have shown that misleading post-event information can alter memory. Three hypotheses (no-conflict, coexistence, destructive updating) have been proposed and mathematically formalized to provide a comprehensive understanding of predictions about false memory formation (Wagenaar & Boer, 1987). We utilized multinomial processing tree (MPT) models to test these hypotheses and implemented the Loftus (1978) misinformation paradigm to apply MPTs to the data. We found support for the no-conflict and coexistence models, and partial support for the destructive updating model (Experiments 1 (N = 474) and 2 (N = 471)). When only the top-performing participants were examined, we found evidence for the coexistence model. In Experiment 2, we also assessed the extent to which participants were aware of misleading information. When examining the parameter estimates for the best-fitting values, we see higher values for p and c for the top performers compared to all other participant comparisons, providing evidence that the top-performing participants are not only better at identifying the correct image in Phase 3 and correctly answering the source question in Phase 4, but that the coexistence model best captures this participant ability.

6:00-7:30 PM (V-109)

Effect of Offloading and Re-Studying Partial Lists on False Memory. HALEY MCCOY, *Colorado State University*, MATTHEW G. RHODES, *Colorado State University* — Learners engage in cognitive offloading when they save to-be-remembered information via an accessible medium. Prior research suggests that, when participants do not have access to offloaded items, recall of studied items decreases and false memories for related lures increases (Lu et al., 2020). We explored how saving only half of each list's words may impact recall and recognition. Participants studied six DRM lists of ten words that were related to a non-presented lure. Some participants could save words following the presentation of each word whereas others could not. After every list, participants freely recalled the words without access the offloaded list. Results showed no difference in correct recall or false recall between the offloading and no-offloading condition. We additionally investigated how recognition scores may be impacted with continuous access to the offloaded list. Participants in the offloading condition demonstrated better discriminability than those in the no-offloading condition. Future work seeks to investigate how one chance to re-study words before a final test may impact false recognition differently than constant access during test.

6:00-7:30 PM (V-110)

Exploring the Effects of Question in the Forced Confabulation Paradigm. BRENDEN TROIDEN, *Illinois State University*, DAWN M. MCBRIDE, *Illinois State University* — This study examined whether utilizing short answer questions versus multiple choice questions in the forced confabulation paradigm led to differences in false memory endorsement. We hypothesized that generating responses in a short answer test would involve more retrieval effort than the recognition choice test, leading to a stronger forced confabulation effect. Both short answer questions (having to retrieve information through using a specific prompt or hint), and multiple- choice questions (having to identify previously learned information from options given) were completed either with or without forced endorsement/generation of erroneous content from a video previously viewed. A final memory test showed a forced confabulation effect for both question types but no significant interaction between the two factors. Thus, we found no evidence that retrieval effort influences the forced confabulation effect.

6:00-7:30 PM (V-111)

The impact of AI generated photos and social media on the illusory truth effect. LILANA VARELA, *University of Wisconsin - Platteville*, BLAIR BRAUN, *University of Wisconsin - Platteville*, GIANNA CISNEROS, *University of Wisconsin - Platteville*, GIANNA AVILA, *University of Wisconsin - Platteville*, QUIN CHROBAK, *University of Wisconsin - Oshkosh* — People are exposed to a vast amount of information each day, the question is, how do we know what is true? Previous research has demonstrated that repeated exposure to information – regardless of the veracity – increases belief, a finding known as the illusory truth effect (see Brashier & Marsh, 2020). In addition, research has also shown that including pictures with headlines increases the perceived accuracy of both true and false headlines (Smelter & Calvillo, 2020). The goal of the current study is to investigate the role of AI generated images on the illusory truth effect. Specifically, we are interested in whether AI generated images presented on social media increase the perceived truthiness of both true and false trivia statements. Overall, our results document that AI generated images do not increase illusory truth. Implications for social media consumption and misinformation will be discussed.

6:00-7:30 PM (V-112)

Why Vulnerable Individuals Falsely Confess: Developmental Disability, Youth, and Interrogative Factors. RACHEL JORDAN RAMAGLIA, *Georgia State University*, HEATHER M. KLEIDER-OFFUTT, *Georgia State University* — False confessions represent a failure of our legal system and interrogative processes in a way that has disproportionate impact on vulnerable suspects. Using data from the National Registry of Exonerations (N=3751), an archival regression analysis investigated false confession risk among those with an identified mental disability. Findings indicated that those with any mental disability had 22.3x higher odds than those without a known mental disability, but a multivariate model revealed that cognitive and developmental disabilities are uniquely predictive of false confessions in comparison to other categories of mental disorders (OR=2.64). Additionally, age increase seems to operate as a protective factor, where minors are at an acute risk with (OR=45.4) and without a known mental disability (OR=4.2). The risk of false confession for minors and cognitively impaired adults is similar, suggesting that deficits in critical thinking and reasoning is a factor. Cognitive factors that increase susceptibility to interrogation-based distress are investigated.

6:00-7:30 PM (V-113)

Visual Attention and Memory in a Misinformation Task. EMMA TRAUTFETTER, *Mississippi State University*, JONATHON WHITLOCK, *Mississippi State University* — Post-event misleading information can produce overlapping representations, evidenced in eye movements. We examined the relationship between visual attention and memory in a misinformation paradigm. Following a study block involving object-scene pairs, misleading questions were asked about half of the object-scene pairs. Testing involved identifying the object originally studied with the test background scene and rating confidence in that selection. Novel objects were selected in error more often when they were subject to misleading post-event questions. Eye movements indicated that this was potentially due to overlapping representations due to incorporating misleading information into object-scene representations. First looks were more likely to go to the associate than the misleading novel object when the misleading object was absent but were equally divided between the two when it was present. Greater transitions between the associate and misleading object, as well as on low-confidence trials, is consistent with deliberation between scene-associated representations.

6:00-7:30 PM (V-114)

Effects of number of similar items and similarity type on phonological DRM false memory are moderated by test schedule. CIARAN C. WILLIAMS, *Trinity University*, MINYU CHANG, *Trinity University*, CHARLES BRAINERD, *Cornell University*, VALERIE F. REYNA, *Cornell University* — The current study examined the effects of type

of similarity and number of similar items on phonological DRM false memory. Participants studied lists that contained words sharing either the first two phonemes (head lists; e.g., batch, bath), last two phonemes (rime lists; e.g., knack, hack), or both (mixed lists; e.g., batch, hack) with an unpresented critical distractor (e.g., back). Each list contained two, four, six, or eight phonologically similar words. When recognition was tested after multiple head, rime, or mixed lists were studied (Experiment 1), rime lists elicited the highest levels of false memory. Also, increasing the number of phonologically similar words did not continuously increase false recognition, unlike in the semantic DRM illusion. However, when recognition was tested after each list (Experiment 2), the three list types produced comparable levels of false memory, and increasing the number of similar words continuously increased false memory. These findings have important implications for influential accounts of false memory, such as fuzzy-trace theory and global matching theory.

6:00-7:30 PM (V-115)

Learning the Shape of Numerical Probability Distributions: Effects of Distribution Type and Test Format. JOHN CLAPPER, *California State University, San Bernardino*, NATALIA GARCIA, *California State University, San Bernardino*, MARISSA SANCHEZ, *California State University, San Bernardino*, OM DAVE, *California State University, San Bernardino*, VISHWA BHATT, *California State University, San Bernardino*, ALESSIA IBRAHIM, *California State University, San Bernardino*, ARTOM VOLODII, *California State University, San Bernardino* — Much of human knowledge consists of knowledge about the distribution of properties within categories, yet relatively little is known about people's ability to learn the detailed shape of these distributions. In Experiment 1, participants studied exemplars sampled from normal, uniform, or bimodal distributions defined over values from 1–10 and then completed graph selection, exemplar generation, and frequency rating tests. Participants successfully learned all distribution types. Test sensitivity varied by distribution type: graph selection was the most accurate measure for normal and bimodal distributions but the least accurate for uniform distributions. Experiment 2 compared graph selection, exemplar generation, and a distribution-builder task for the bimodal distribution only. Performance again depended on test format: more constrained tasks (graph selection, distribution builder) showed greater accuracy than the less structured exemplar generation task. These findings demonstrate robust learning of numerical distribution shape and highlight the importance of assessment method in revealing distributional knowledge.

6:00-7:30 PM (V-116)

Classroom Learning and ADHD Assessment Through VR. DANTE DEL ROSARIO, *California State University, Northridge*, TYLER PARKER, *California State University, Northridge*, ERNIE PAYNTER, JR., *California State University, Northridge*, KIAN MONAJEMI, *California State University, Northridge*, STEFANIE A. DREW, *California State University, Northridge* — Around 6% of college students are impacted by Attention Deficit-Hyperactivity disorder (ADHD), a disability which severely interferes with learning. Yet, the most common ways to receive a diagnosis rely on self-report data and sterile testing environments which are not ecologically valid reflections of one's cognitive abilities. Previous literature suggests a link between ADHD, learning/cognition, and eye behavior as a biomarker. Thus, this study aims to investigate if we can utilize oculomotor behavior, through eye tracking, as an objective way to assess ADHD and learning. Participants for this study were asked to complete a pre-test as a base-line knowledge check, then entered an immersive 360° view virtual reality (VR) environment where they watched a pre-recorded lecture. Participants then completed the post-test followed by a series of surveys. Through a linear regression analysis our hypothesis, that eye behavior can predict ADHD symptoms, was supported. The results imply that there is an objective way to measure ADHD symptoms without relying on self-report data. Furthermore, a paired samples t-test demonstrated that learning did take place, suggesting immersive VR environments are a viable supplement for teaching.

6:00-7:30 PM (V-117)

Does Instructor Drawing Support Efficient Processing in Video-Based STEM Learning? LOGAN FIORELLA, *University of Georgia*, ANDREA WIKLE, *University of Georgia*, GRACE JIANG, *University of Georgia*, MADELINE WICKER, *University of Georgia*, DEBORAH BARANY, *University of Georgia* — How instructors present diagrams may shape how learners process video lessons. In the present study, undergraduates (N = 135) learned about the human circulatory system from a 10-minute video that showed either dynamic hand-drawn diagrams (n = 64) or the same diagrams presented statically (n = 71), with identical narration. After the lesson, participants rated their learning experience and completed comprehension and drawing tests. Controlling for prior knowledge, diagram format did not affect comprehension or drawing performance. However, learners who saw the instructor draw rated the diagrams as more helpful, were more likely to prefer similar videos in the future, and perceived the pacing as more appropriate, with trends toward lower effort, easier attention, and greater enjoyment. These findings suggest that instructor drawing can reduce extraneous processing and improve the subjective learning experience even when it does not improve immediate learning outcomes. Ongoing analyses of eye tracking and tablet-recorded drawing kinematics will test whether instructor drawing supports more efficient visual attention and diagram construction.

6:00-7:30 PM (V-118)

A small-scale study of a knowledge repair intervention in undergraduate courses. KENNETH J. KURTZ, *State University of New York at Binghamton*, JACK TU, *State University of New York at Binghamton* — A Socially-Integrated Knowledge Repair Intervention (SIKRI) was implemented to improve student learning in college courses that rely on multiple-choice (MC) testing. The traditional format of large lectures, textbook reading, and MC testing is widely recognized as suboptimal for learning, yet it prevails due to practicality. SIKRI aims to work within-the-system to address student knowledge gaps revealed from exams – the technique consists of 1) writing original, high-quality MC questions and explanations on the topics of missed exam questions to earn partial credit and to prepare for a cumulative final; 2) supplementing with a peer-based process of collaborative feedback and revision. A small sample across two psychology courses completed a SIKRI session after one midterm and an independent study control (provided their missed exam questions) after another midterm. SIKRI led to significantly higher accuracy on non-graded-quizzes, suggesting an effective form of knowledge repair to enhance student learning in an MC setting.

6:00-7:30 PM (V-119)

Expectations About Note Availability Influences the Interleaving Effect. JERI L. LITTLE, *California State University, East Bay*, JEN BALCH, *California State University, East Bay*, LENA BRAME, *California State University, East Bay*, VICENTE MARTINEZ JIMENEZ, *California State University, East Bay*, EMERALD LEYVAS, *California State University, East Bay*, JULIAN RESULTAN, *California State University, East Bay*, HONAI SHAGHASI, *California State University, East Bay*, EMELY VALLEJO, *California State University, East Bay* — Interleaving (i.e., studying items from different categories in sequence) is often better for learning than is blocking (i.e., studying items from the same category in sequence). However, recent research suggests that the interleaving benefit can be eliminated when participants take notes that are later removed. In two studies, we examined whether expectations about note availability influence this effect. Participants studied paintings, with half of the paintings blocked by artist and half interleaved with those of other artists. Two groups of participants took notes, and one group did not. Half of the note-takers were informed that their notes would be removed, and the other half were not. Before taking a transfer test assessing their ability to correctly categorize new paintings, all note-taking groups had their notes removed. We found an interleaving effect in the no-notes condition and in the notes-informed condition, but not in the notes-uninformed conditions. These findings suggest

that expectations about future access to externalized information influence cognitive offloading and subsequent category learning.

6:00-7:30 PM (V-120)

The Costs & Benefits of Self-Explanation: A Situated Expectancy-Value Approach. SCOTT R. HINZE, *Middle Georgia State University*, KATHRYN S. MCCARTHY, *Georgia State University* — Self-explanation improves learning from text, but students rarely use it in practice. To understand why, we examined how students perceive self-explanation as a comprehension strategy. We used active controls (rereading and think-aloud) to disentangle the effects of time-on-task and effort related to active processing versus generative/explanatory processing. In two studies, undergraduates read science texts and were instructed to self-explain, think-aloud, or reread. After reading, they completed metacognitive judgments (e.g., effort, JoLs, perceived value) and a comprehension test. Self-explanation produced higher comprehension scores than think-aloud or rereading. Self-explainers spent more time-on-task, but this did not account for the effect. Self-report data revealed that self-explanation was effortful, but perceived cost and value differed by strategy: rereading was rated as favorably as self-explanation despite lower comprehension, while think-aloud, which required effort without comprehension gains, received the lowest ratings. Results will be discussed in the context of situated expectancy-value theory.

6:00-7:30 PM (V-121)

The Pretesting Effect: Does Prior Knowledge Matter? STEPHANY REA, *University of Texas at Austin*, VERONICA X. YAN, *University of Texas at Austin*, PATRICIA CHEN, *University of Texas at Austin*, FARIA SANA, *Athabasca University* — Learning science has identified pretesting as a powerful strategy for enhancing subsequent learning. Research has highlighted attention as a key mechanism underlying its effectiveness. Another proposed mechanism is semantic activation: learners activate prior knowledge while answering prequestions. However, evidence for this process remains limited. The present experiment investigated whether prior knowledge enhances the effectiveness of pretesting. Participants were randomly assigned to one of three conditions: control, prequestion-only, or prior knowledge plus prequestions. Participants in the prior knowledge condition first learned information about a fictional planet that provided a framework for understanding a subsequent passage about a fictional animal. Results on a final multiple choice test showed effects of both attention and semantic activation. These findings suggest that pretesting benefits works via at least two mechanisms, and larger effects depend on the availability of relevant prior knowledge that supports semantic activation during learning.

6:00-7:30 PM (V-122)

Perception Predicts Performance: Instructor Evaluations and Student Learning. PATTI SIMONE, *Santa Clara University*, LISA WHITFIELD, *Santa Clara University*, CAELEN EVANS, *Santa Clara University*, RISHI GORANTLA, *Santa Clara University*, KATE SUTHERLAND, *Santa Clara University* — Instructor characteristics (age and gender) can influence students' evaluations of the instructor and teaching quality, especially in math and sciences, but the few studies that looked at learning gains found no impact. This study examined whether lecturer age and gender affect perception of instructor and student performance on a math task. Participants viewed a ~5 minute microlecture video delivered by one of four lecturers varying in gender (female, male) and age (young, old) conveyed through manipulated voice (male and female, 0.75x speed) and corresponding images. Participants were primed with the same negative "Rate My Professor" page to standardize student expectations across the four conditions. Performance evaluated using a pre-post 15-question multiple-choice quiz found that participants reporting low perception of the instructor did not perform as well as participants who had a higher perception of the instructor, regardless of their age or gender. Although lecturer age and gender did not directly affect math performance, students who perceived instructors more positively learned more effectively, suggesting that subjective perceptions may play an important role in academic success.

6:00-7:30 PM (V-123)

Belief Change and Comprehension Following Balanced Evidence Reading. MICHAEL WOLFE, *Grand Valley State University*, REBECCA DEWEY, *Grand Valley State University*, TODD WILLIAMS, *Grand Valley State University* — In many studies, participants with polarized beliefs read evidence on both "sides" of a contentious topic to assess the effects of belief consistency with text content on outcomes (comprehension, reasoning, essay writing). We test the validity of a typically untested assumption, which is that beliefs do not change after reading balanced evidence. In two experiments, participants with polarized beliefs read pro and con texts about one of three socioscientific topics (gun control, social media, gender-affirming care). Participants completed a comprehension test after each text and reported beliefs at the end. Comprehension was unrelated to belief consistency with the text position. Importantly, significant belief change towards more moderate beliefs occurred for each topic, irrespective of participants' initial beliefs. These results challenge the widely used method of participants reading conflicting evidence and characterizing performance as belief consistent or inconsistent.

6:00-7:30 PM (V-124)

Do Learning Objectives Influence Student Performance & Perceptions for Teacher-Led Instruction? MICHAEL CORAYER, *University of Texas at Austin*, AIDAN COURNOYER, *University of Texas at Austin*, VERONICA X. YAN, *University of Texas at Austin* — Providing Learning Objectives (LOs) before a lesson is a recommended practice in many teacher training programs. While LOs are often recommended, the evidence base for this practice is limited and support comes from implementation at the course level or from independent reading passages rather than individual teacher-presented lessons. In this experiment, the effect of LOs was assessed in undergraduates (N=326) exposed to a video lesson on Gestalt principles of perception. Participants received either lesson-level LOs, an outline of key terms, or no information prior to the lesson. After the video lesson students completed 30 multiple-choice questions, including factual and application questions, as well as metacognitive Likert-scale measures assessing perceived effort, difficulty, interest, utility-value, and self-efficacy. No significant differences between conditions were found for any measures, suggesting that presentation of LOs or key terms prior to video-based instruction may not be an effective strategy for improving student performance.

6:00-7:30 PM (V-125)

The Time-Saving Advantage of Offloading in Logical Problem Solving. GILLIAN GOLD, *Carnegie Mellon University*, PAULO F. CARVALHO, *Carnegie Mellon University* — The use of external tools to reduce mental effort, or cognitive offloading, is often thought to hinder learning. However, offloading may have certain advantages, such as improving efficiency by saving time. In an initial study with college students, we examined the benefits of offloading during logical problem solving. Participants learned five novel symbols that corresponded to different algebraic rules and were randomly assigned to complete all practice problems independently or offload two symbols to an AI tutor. At posttest, there were no significant differences between conditions on performance, interest, or confidence. However, participants in the offloading condition spent significantly less time during instruction, and 31.25% chose to answer at least one of the previously offloaded problems when given the option. These findings highlight the potential of offloading as an adaptive strategy for managing time and cognitive effort to speed learning.

6:00-7:30 PM (V-126)

Generating Mnemonics and Personalizing AI-Generated Mnemonics Enhance L2 Vocabulary Learning. RASHIDA KHUDIYEVA, *National University of Singapore*, PRATHIBAA RAMESH, *National University of Singapore*, STEVEN C. PAN, *National University of Singapore* — Abstract Mnemonics — memory aids linking unfamiliar words to familiar concepts — can support second-language (L2) vocabulary learning, but it remains unclear whether their benefits arise from receiving a useful

association or actively constructing retrieval cues oneself. Across four experiments, undergraduate participants with no prior knowledge of Korean or Spanish learned vocabulary under different learning conditions. Experiments 1a–1b compared self-generated and AI-generated mnemonics with an etymology control condition, whereas Experiments 2a–2b compared self-generated, AI-generated, human-generated, and learner-modified AI-generated mnemonics. Self-generated mnemonics produced the most reliable recall benefits, whereas AI-generated and human-generated mnemonics failed to fully reproduce those benefits. Learner modification of AI-generated mnemonics improved recall and approached self-generated performance, suggesting that AI support is most effective when it scaffolds rather than replaces learner construction. Overall, the present findings demonstrate that mnemonic benefits depend less on the availability of mnemonic support than on learners' active construction of personally meaningful retrieval cues.

6:00-7:30 PM (V-127)

The Impact of Valence, Arousal, Imageability, and Perceived Importance on Recalling Informative and Uninformative Sentences. MABEL S.F. KOUK, *Singapore Institute of Technology*, ROSMAWATI ROSMAWATI, *Singapore Institute of Technology*, BHING LEET KC TAN, *Singapore Institute of Technology*, PETER KC TAY, *Singapore Institute of Technology* — This study examined whether emotional and semantic sentence properties influence memory for informative and uninformative sentences, and whether rating these properties affects subsequent recall. Forty-nine allied health students and professionals rated sentences for valence, arousal, imageability, or importance before completing a free-recall task. Recall was scored as 0 (incorrect), 0.5 (partially correct), or 1.0 (verbatim). At the participant level, recall performance differed significantly across conditions, with lower overall recall in the importance-rating condition than in valence, arousal, and imageability. By sentence type, informative recall did not differ, whereas uninformative recall was significantly lower in the importance condition compared with valence. At the stimuli level, 59 of 70 sentences were recalled (27 informative, 32 uninformative). Informative and uninformative sentences did not differ in valence, arousal, imageability, or importance ratings. These findings suggest that sentence memorability may be better explained by structural and propositional organization, as proposed by the Connectivity Hypothesis, rather than by emotional, imagistic, or perceived importance properties.

6:00-7:30 PM (V-128)

Memory Under Scrutiny: Assessing Others Memories to Learn from Them. ZOHAR RAZ GROMAN, *Ben-Gurion University of the Negev*, TALYA SADEH, *Ben-Gurion University of the Negev* — Humans have a highly adaptive ability to learn from others' memories, but given memory's fallibility, assessing its reliability is crucial. This study examines how humans and machine learners evaluate others' memories and learn from them, focusing on the recollective mechanisms underlying such evaluations. Specifically, we investigate how recollection manifests both in the language-based justifications produced by witnesses and in the human-based cues expressed through evaluators' subjective ratings of confidence, specificity, and vividness. A surprise cued-recall test after one-week measures how evaluators recall these justifications, providing insights into how people learn from others' memories. We hypothesize that justifications accompanying veridical memories and containing rich recollective content will be more accurately recalled after a week. Preliminary findings validate the study design and provide initial support for our hypotheses. This study provides a comprehensive examination of episodic memory communication and the role of recollection in this process, laying the groundwork for a deeper understanding of how memory credibility is assessed and how episodic memories are transmitted in social contexts.

6:00-7:30 PM (V-129)

Searching for Tomorrow: Encoding Context Differentially Impacts Long-Term Memory for Object-Features. KATHERINE ARCHER, *Rutgers University - Newark*, KIMELE PERSAUD, *Rutgers University - Newark* — Previous research has found that searching for objects in scenes leads to better object memory than simply memorizing objects. Yet, it remains unclear how variations in search tasks shape which object-features are prioritized in memory and how well they are retained over time. In the current study, participants were presented with objects in scenes and performed one of three encoding tasks (standard memorization, visual search only, search + decision). Object-state and location memory was assessed after a short and long delay. Preliminary results (N=25) revealed that object-state recognition and location recall was highest in the search + decision task after both short and long delays. While search in general enhanced memory for object-location recall, the search-only task did not enhance memory over memorization after a long delay. Together these preliminary results suggest that the nature of the encoding task plays a critical role in which object features are prioritized and maintained in memory long-term.

6:00-7:30 PM (V-130)

Replicating Bartlett: Re-Examining Memory Distortion Across Repeated Reproduction Using Human and Computational Approaches. JASON BAO, *Claremont McKenna College*, SHARDA UMANATH, *Claremont McKenna College* — Despite its centrality to memory research, Bartlett's (1932) study on the repeated reproduction of memory has seldom been directly replicated. We conducted the first direct replication of Bartlett's study in 25 years using the same stimuli but stronger controls. All participants first read the "The War of the Ghosts" story twice before being randomly assigned to a strict, lenient, or control recall condition. Participants then recalled the story after 15 min, 1, 2, 3, and 4 weeks, or just once after 4 weeks (control). Each participant's recall was split into propositions and scored against the stimulus story's propositions, which were coded as accurate or distorted. Results largely replicated previous findings. Accurate propositions decreased, and distorted propositions increased, from 15 min to 1 week, with no differences between the strict and lenient conditions. However, over subsequent weeks, the rates of accurate and distorted propositions remained relatively constant. This suggests that while reproducing a memory does cause distortion, repeatedly reproducing the same memory does not necessarily lead to more distortion. Computational approaches such as semantic similarity will also be tested against these human-based results.

6:00-7:30 PM (V-131)

The Influence of Subjective Perception of Repetition and Spacing in Free Recall. NATHAN BURNS, *Syracuse University*, LYNN J. LOHNAS, *Syracuse University* — It is well-established memory improves with repetition, and in free recall that repeated items benefit from increased spacing between their presentations (Madigan, 1969). However, the classic free recall paradigm defines spacing based on experiment manipulation; that is, analyses that examine recall by lag assume that the participant encodes perfectly an item's associated number of presentations and the lag(s) between them. Yet, evidence from continuous recognition suggests this assumption does not always hold, as probability of correct recognition of a repeated item decreases with lag (Hintzman, 1976; Hockley, 1982). Characterizing repetitions from the participant's perspective may therefore better capture free recall performance. Thus, by using a continuous recognition paradigm followed by free recall, we examine how recognition outcomes relate to subsequent recall, including recall conditional on successful recognition. These findings, providing a perspective from subjective continuous recognition, have implications for research on the repetition and spacing effects.

6:00-7:30 PM (V-132)

A computational model of how external cues facilitate memory of events. CHARLOTTE A. CORNELL, *Rutgers University*, QIONG ZHANG, *Rutgers University* — Everyday memory experiences often involve continuous interactions with environmental cues. Yet our current understanding of human memory is predominantly based on controlled laboratory experiments where participants engage in memory tasks in isolation. In this work, we build a computational model to understand how external cues help people continue their recall, taking into account the way people search their memories within and across events. Our model simulations demonstrate that beneficial cues target events with the most remaining information, as cues tap into previously unexplored memory spaces. Furthermore, information at event boundaries serves as superior cues, aligning with prior empirical and computational work suggesting that boundaries act as entry points into past experiences. We test our model predictions over two recall experiments, ranging from simplified word lists to more naturalistic continuous narratives.

6:00-7:30 PM (V-133)

Short-Delay Emotional Enhancement of Memory in Senegal. MARIE C. DIAGNE, *Boston College*, ELIZABETH A. KENSINGER, *Boston College*, ISABELLE L. MOORE, *Boston College* — Emotional Enhancement of Memory (EEM) refers to improved memory for emotional relative to neutral information. While the short-delay EEM and the negativity memory bias in younger adults are well established in Western cultures, it remains unclear whether these effects generalize beyond Western populations. This study examined short-delay EEM in Senegalese young adults (N = 89; ages 18-35). Using a fully online paradigm, participants encoded and later recalled and recognized positive, negative and neutral French headlines. The free recall analyses showed an EEM with a main effect of valence and a clear positivity bias. Corrected recognition showed an overall EEM, with no valence bias. However, the EEM effect was driven by higher false alarm rates for neutral items, rather than differences in hit rates. These findings suggest that emotional memory effects revealed in Western cultures may not generalize to all cultural contexts and may and their underlying mechanisms may vary across cultural contexts and depend on how memory is tested.

6:00-7:30 PM (V-134)

The Attentional Demands of Memory Retrieval. MATTHEW DOUGHERTY, *University of Toronto*, KATHERINE DUNCAN, *University of Toronto* — While long-standing theories of memory retrieval propose attention as a critical determinant of retrieval success (Tulving, 1983), empirical manipulations that divide attention during retrieval have shown weak effects (Craik et al., 1996). These manipulations, however, may not sufficiently impact the effortful and sustained attentional engagement that is theorized to contribute to retrieval success. Therefore, here we utilize previously established analytical methods of measuring ongoing attention fluctuations during sustained task performance, rather than manipulating attention, to explore the relationship between attention and retrieval success. Following previous research, we used a three-trial moving mean of preceding response time as an index of sustained attention, where slower preceding trial response times are indicative of effortful engagement and high sustained attention, and faster response times are indicative of unfocused habituated responses. Our data (n=72) demonstrate that sustained attention is significantly predictive of ongoing retrieval success ($p < 0.001$), lending support to the idea that attention plays a significant role in memory retrieval.

6:00-7:30 PM (V-135)

Unconscious Plagiarism and Artificial Intelligence. JADE DURKEE, *University of Massachusetts Lowell*, MEGAN H. PAPESH, *University of Massachusetts Lowell* — Cryptomnesia, or unconscious plagiarism, is a source memory error where individuals believe they created a new idea that was encountered previously. Although prior research suggests people are more likely to unconsciously plagiarize from non-human sources (e.g., computers), research exploring whether collaborative learn-

ing with artificial agents produces similar source memory differentiation errors is sparse. The present study aimed to fill this gap, expanding cryptomnesia research in the age of AI and furthering our understanding of how AI impacts cognitive processes related to source monitoring and memory. We examined how AI as a memory source influenced rates of unconscious plagiarism in a puzzle-solving paradigm with Boggle puzzles. Participants were randomly assigned to solve puzzles with a human or AI partner. Once assigned, participants completed a series of Boggle puzzles with their assigned partner. Each puzzle had three stages: generating solutions, recalling solutions, and finding new solutions. We measured how often participants recalled a partner's solution as their own or repeated their partner's solutions, believing them to be "new." Results will be discussed in terms of both theoretical and applied consequences.

6:00-7:30 PM (V-136)

Story Processing Promotes Facilitation on a Collaborative Memory Task. ZOE H. FISCHER, *University of Mississippi*, MATTHEW REYSEN, *University of Mississippi* — Collaborative inhibition is the phenomenon in which groups recall less information than an equal number of participants working alone (nominal groups). Reysen et al. (2018) demonstrated that processing words based on their survival value eliminated collaborative inhibition. The present study examined how story processing, an encoding strategy that involves integrating information into a story, impacts collaborative memory. Participants studied unrelated common nouns in one of three encoding conditions: story, survival, or pleasantness processing. During recall, participants worked either individually or collaboratively to remember the words, with a partner who completed the same encoding condition. Results showed collaborative facilitation in the story condition, meaning participants remembered more words when recalling collaboratively, equal performance in the survival condition, meaning nominal and collaborative groups recalled a similar number of words, and collaborative inhibition in the pleasantness condition. These findings demonstrate differences between story and survival processing in collaborative memory and further our understanding of the mechanisms underlying collaborative inhibition.

6:00-7:30 PM (V-137)

Examining Cognitive Effort and Pupil Size Fluctuations in a Memory Offloading Paradigm. TANNER M. GRUBBS, *Mississippi State University*, JULIA S. SOARES, *New Mexico State University*, JONATHON WHITLOCK, *Mississippi State University* — Memory for externally saved information (e.g., items written in a list) is often worse than memory for unsaved information, reflecting cognitive offloading. According to the study effort hypothesis, people invest less effort in encoding information when they expect to access it later from an external source rather than rely on memory (Kelly & Risko, 2019, 2022). Because pupil size indexes cognitive effort (Van der Wel & Van Steenbergen, 2018), we predicted smaller pupil sizes when participants expected external access and therefore reduced encoding effort. Across two experiments, external store expectancy impaired memory. In Experiment 2 which used eye tracking with pupillometry, store expectancy elicited smaller pupil sizes, suggesting distinct cognitive and physiological processes depending on whether participants relied on external storage or engaged in effortful encoding. These findings support the study effort hypothesis and indicate that intentions to encode information produce larger pupil sizes than forgoing encoding.

6:00-7:30 PM (V-138)

The Effects of Traumatic Brain Injury on Adaptive Memory in the Survival Processing Paradigm. BAILEY C. HALL, *University at Albany, State University of New York*, JEANETTE ALTARRIBA, *University at Albany, State University of New York* — Concussions are a common form of traumatic brain injury (TBI) caused by external biomechanical forces impacting the head or neck, and they can negatively affect college students academically (Ledwidge et al., 2022). This study expanded on the survival processing paradigm introduced by Nairne et al. (2007) by examining whether a history of TBI

affects recall performance within this paradigm. The current study also explored whether modern undergraduate stressors, such as financial and health-related concerns, within a survival scenario could enhance memory, as in Nairne et al.'s original work. Participants were randomly assigned to read one of the three scenarios mentioned above, rated 32 words for their relevance, completed a filler digit task, and then performed a surprise recall task for the rated words. The OSU TBI Interview assessed participants' TBI status. Results indicated that the survival advantage remained present among those with a history of TBI, and overall, that a history of TBI did not significantly affect recall performance. Future research will examine other aspects of brain injuries, such as age at injury and injury severity to determine their effects on adaptive memory.

6:00-7:30 PM (V-139)

Self-Initiated Memory Retrieval Strategy Use During Recall of Paired Words. ASHLEY S. HARKINS, *Saint Louis University*, BRENDA A. KIRCHHOFF, *Saint Louis University* — Prior research has demonstrated that young adults frequently use self-initiated strategies to encode information and that their use plays a significant role in episodic memory performance. However, the types and frequencies of self-initiated memory retrieval strategies that young adults use to recall paired words have not been systematically explored. In this study, 123 young adults intentionally encoded unrelated word pairs, completed a paired word recall test, and provided retrospective frequency rating scale encoding and retrieval strategy self-reports. Participants reported using several types of memory retrieval strategies. All participants reported using at least one systematic memory retrieval strategy and 98% of participants reported using at least one semantic memory retrieval strategy. Rote repetition, concept imagery, and semantic-based relational strategies were the most commonly reported memory retrieval strategies and were used to try to recall the highest proportions of paired words. Individual participants reported using an average of 5.35 memory retrieval strategies.

6:00-7:30 PM (V-140)

Using a dot-after procedure reveals spatialization in children's serial order working memory. SAMANTHA ROCIO HURTADO WOENCKHAUS, *Université Côte d'Azur, CNRS*, MORGANE FTAÏTA, *Université Côte d'Azur; CNRS*, MIRIAM DEBRAISE, *Independent Researcher*, ALESSANDRO GUIDA, *Université Rennes 2*, FABIEN MATHY, *Université Côte d'Azur* — The Spatial Positional Association of Response Codes (SPoARC) effect reflects the spatial organization of serial order information in working memory from left to right. The phenomenon has previously been investigated in adults using spatial cueing procedures to capture interactions between spatial attention and serial order retrieval. We adapted this approach to investigate spatialization in children's working memory. Unlike the dot-before procedure, in which the cue precedes retrieval of serial order information, the dot-after procedure orients attention after retrieval, potentially reducing interference from internal attentional processes. This adaptation proved effective in our pretest with adults. Fifty ten-year-old children memorized fruit sequences and completed a go/no-go task in which a probe or lure item was followed by a left or right dot cue. When the probe belonged to the memorized sequence, participants were instructed to press the corresponding response key to indicate the left or right cue location. Clear evidence of spatialization was observed in children, suggesting that the dot-after procedure provides a robust approach for investigating the SPoARC during development.

6:00-7:30 PM (V-141)

Does encoding for storage lead to stronger memory traces than processing? LENA KOLODZIENSKI, *University of Fribourg*, PIERRE BARROUILLET, *University of Geneva*, VALERIE CAMOS, *University of Fribourg* — This study investigated whether encoding information (words) for storage produces stronger memory traces than semantic processing with no mnemonic purpose (categorization). Across three online experiments, 300 participants completed one of four conditions combining a type of cognitive processing (mnemonic encoding vs.

semantic processing) for either immediate or delayed memory testing following a distraction task. The experiments varied both the type of memory assessment (recognition vs. free recall) and list length (8 vs. 16 words). Bayesian analyses revealed a robust processing advantage for recognition performance, whereas encoding for storage enhanced free recall performance. Test timing did not significantly influence these outcomes. These findings suggest that recognition and free recall rely on partially distinct memory mechanisms, with recognition depending more on long-term memory traces than free recall.

6:00-7:30 PM (V-142)

Stimulus Positioning and Masking Effects on Working Memory Creation. DILLON A. QUIÑONES, *University of South Dakota*, MARIA CAMILLA P. ESTELLE, *Montclair State University*, ALLISON N. MARINO, *Montclair State University*, JOSHUA SANDRY, *Montclair State University*, TIMOTHY J. RICKER, *University of South Dakota* — Recent findings in working memory (WM) support two mutually exclusive forms of WM creation. The first, an Encoding Resource (ER), is a proposed limited resource used to encode information into WM. It depletes with every item encoded but gradually replenishes over time. The second, Short-Term Consolidation (STC), is a proposed ballistic, attentional blink process whereby consolidation of an item must complete before further attention-based processing begins. This may cause any trailing item or task to be missed or delayed. The key evidence differentiating these models is whether additional time between list items has a global or local effect. The ER approach predicts additional time will benefit memory for all items following the delay. The STC approach predicts only the item immediately following the delay will benefit. Having replicated two key experiments supporting the ER model with global effects (Mizrak & Oberauer, 2021, E2b) and the STC model with local effects (Ricker & Hardman, 2017, E4), we now test experimental factors contributing to which effect is observed. Results and implications for theory are discussed for three such experiments examining variable- versus fixed-stimuli positioning and the addition of masking.

6:00-7:30 PM (V-143)

EEG Load Decoding Reveals Chunking of Idioms in Verbal Working Memory. WOOHYEUK CHANG, *University of Chicago*, SUMMER XIA, *University of Chicago*, MING XIANG, *University of Chicago*, EDWARD AWH, *University of Chicago*, LIV WU, *University of Chicago* — Working memory (WM) capacity is item-based: storage limits are better predicted by the number of individuated "chunks" than by total information. This challenges WM quantification during language processing, where the number of items engaged in WM is difficult to determine. We address this using an EEG-based decoding approach that provides an item-based index of WM storage across diverse materials, including colors, motion, auditory stimuli, and familiar words. In the present work, we extended this approach to a more naturalistic language context by measuring whether familiar verbal constructions (idioms) reduced WM load compared to random word sequences. Participants performed free recall on phrases varying in expression type (idiom vs. random word strings) and set size (2 vs. 4 words). Classifiers trained on random-word trials successfully decoded set size, establishing a baseline for verbal WM load. Within approximately 600 ms after stimulus onset, WM load for 4-word idioms was reduced compared to that for 4 random words, providing clear evidence of chunking during idiom processing. Multivariate analysis of EEG activity thus offers a promising approach for quantifying WM during the processing of complex verbal expressions.

6:00-7:30 PM (V-144)

The relation between processing speed and working memory capacity: No difference across varying procedural working memory demands. ISABEL COURAGE, *University of Zurich*, GIDON T. FRISCHKORN, *University of Zurich* — The binding hypothesis explains observed correlations between processing speed (PS) and working memory capacity (WMC) by shared WM demands. Yet, past studies showed mixed results in favor of this hypothesis. We extended this work by examining whether correlations between individuals' PS and

WMC increase with higher procedural WM demands on reconfiguration and protection against proactive interference in PS tasks applying drift diffusion models. We compared correlations when high procedural WM demands are afforded as stimulus-response (S-R) mappings change throughout PS tasks relative to PS tasks with consistent single sets of mappings. Results show similar correlations between PS and WMC when higher procedural WM demands are implemented questioning whether the binding hypothesis can explain the PS-WMC relation. Note, performance in PS tasks with changing and consistent mappings was highly correlated indicating that factors or processes unaffected by S-R consistencies drive the PS-WMC relation. Future studies should examine whether cue-stimulus intervals, set sizes, or methods to test the binding hypothesis could have mitigated procedural WM demands in PS tasks accounting for the lack of correlational differences.

6:00-7:30 PM (V-145)

Examining the Signal-Detection Account of Visual Working Memory. YIOU HE, *Syracuse University*, DAVID KELLEN, *Syracuse University*, HENRIK SINGMANN, *University College London* — ROC analysis has long been used to adjudicate between signal detection theory (SDT) and discrete-slots accounts of visual working memory (VWM). However, its standard application rests on parametric and selective-influence assumptions that are rarely subjected to direct test. In this work, we take a different approach by first testing VWM judgments against random-scale constraints jointly implied by SDT and discrete-slots accounts. In a series of experiments, multiple-alternative forced-choice judgments of item memory satisfied these constraints, allowing ROC reconstruction without confidence ratings or response-bias manipulations. The reconstructed old-new ROCs were curved and asymmetric, violating the linear prediction of discrete-slots models and the symmetry prediction of the equal-variance SDT model. A complementary forced-choice experiment corroborated this asymmetry. Extending the analysis to item-location bindings in change detection, we again observed ROCs incompatible with discrete-slots predictions. Together, these results support the general latent-variable architecture of SDT in VWM while undermining the core commitments of discrete-slots theories.

6:00-7:30 PM (V-146)

Output Modality as a Driver of Verbal Working Memory Dynamics. DALIA KERIMICI, *University of Fribourg*, MAXIMILIEN LABARONNE, *Université de Rouen*, VALERIE CAMOS, *Universite De Fribourg* — In the Maxispan procedure (Barrouillet et al., 2021), participants rehearse the first letters of a simple span task while the remaining letters are memorized under articulatory suppression. Thus, these two subsets of items are maintained through different systems, the articulatory loop and the attentional system respectively. Until now, this procedure used oral recall test, in which the rehearsed items can be directly produced. Our aim was to explore the impact of a manual recall test, given its increasing use both in online testing and in lab. Following the Time-Based Resource Sharing (TBRS) model, when recalling items by typing them on a keyboard, or by writing them by hand, the rehearsed letters should be transferred from the articulatory loop into the attentional system to be transformed into the right code of production. As the attentional system is capacity limited, this should lead to the displacement of the previously maintained items, leading to a deleterious effect on their recall. As predicted, the manual recall in 3 experiments was poorer than the oral recall due to the transfer to another code. This findings highlight that the choice of recall test has a decisive impact on memory performance.

6:00-7:30 PM (V-147)

Working Memory and Durable Learning: Interference or Support? POURIA RAHGOSHA, *Mississippi State University*, JARROD MOSS, *Mississippi State University* — The role of working memory (WM) in durable learning remains debated. A reinforcement learning (RL) account proposes that WM interferes with long-term learning by reducing reward prediction error signals, whereas skill acquisition account suggests that WM supports learning through interactions with long-term memory. We

tested these competing explanations in two experiments. In Study 1, participants learned stimulus-response associations under low (3-item) and high (6-item) set sizes and completed a delayed test with either blocked or randomized item presentation. In Study 2, the temporal dynamics of learning were manipulated by varying the interstimulus interval (0.25 ms vs. 1s) to examine whether additional time influences performance. Across studies, learning performance was consistently better under lower WM demands and with a longer interstimulus interval. Critically, delayed memory performance was enhanced when test conditions reinstated the learning context and when longer interstimulus intervals were provided during learning. Together, these findings are more consistent with accounts emphasizing interactions between WM and episodic memory than with the view that WM impairs durable learning by interfering with RL processes.

6:00-7:30 PM (V-148)

When are Reward-Based Cues Most Effective in Prioritizing Working Memories? SRIYA RAVULA, *University of South Dakota*, JOSHUA SANDRY, *Montclair State University*, TIMOTHY J. RICKER, *University of South Dakota* — When items vary in their value during working memory tasks, individuals strategically allocate limited resources to high-value items at the expense of low-value ones. This implies a flexible and limited capacity working memory. We compared pre-cues and retro-cues to examine whether prioritization effects emerge during encoding or maintenance. We also contrasted exogenous versus endogenous cues to assess whether reward information from an external source incurs a cost relative to reward information embedded within the stimuli. Reaction time effects were similar across all three cue conditions. Accuracy effects were observed in the pre-cue and retro-cue conditions but were less conclusive in the endogenous condition. These results suggest reward-based prioritization effects are driven by maintenance phase changes, though the specific underlying mechanisms remain unclear.

6:00-7:30 PM (V-149)

Out of Sight but Not Out of Mind: Retrieval of deprioritized information in working memory. EMMA RHODES, *Colorado State University*, VANESSA LOAIZA, *Colorado State University* — Recent research using a retro-cue paradigm suggests that retrieving deprioritized information back into working memory (WM) may improve subsequent long-term memory (LTM) relative to information that never left the focus of attention in WM. This paradigm has provided a more direct approach to investigating the long-term consequences of covert retrieving information displaced from the central component of WM, the evidence for which has been mixed. The present registered report (currently at stage 1 and invited for resubmission) examines whether this LTM advantage depends on the semantic meaningfulness of the memoranda. Across two experiments, we adapt a retro-cue paradigm to compare meaningful and non-meaningful stimuli in both visual (Experiment 1) and verbal (Experiment 2) domains. By manipulating semantic characteristics, we test whether enhanced LTM reflects retrieval from outside WM, which should rely on long-term semantic representations, or differences in prioritization states within WM itself. Findings will clarify the role of covert retrieval in WM and broader inconsistencies in the WM and LTM literature.

6:00-7:30 PM (V-150)

Information Integration in Working Memory. FUYING ZHU, *Zhejiang University*, ZAIFENG GAO, *Zhejiang University*, JINGLAN WU, *Zhejiang University*, TENGFEI WANG, *Zhejiang University*, YUZHENG HU, *Zhejiang University*, HUI ZHOU, *Zhejiang University*, MOWEI SHEN, *Zhejiang University*, QIHANG ZHOU, *Zhejiang University* — Understanding how the cognitive system integrates discrete sensory inputs into coherent representations is a central question in psychology, and working memory (WM) plays a key role in this process. Yet while most WM research has focused on storage and executive control, the mechanisms underlying integration remain largely unexplored. Here, using

confirmatory factor analysis, cognitive load manipulations, and resting-state and task-based functional magnetic resonance imaging, we demonstrate that integration constitutes an independent component within WM, termed the integration buffer. Behaviorally, it was dissociable from established WM components and unaffected by cognitive loads targeting them, supporting its independence. At the neural level, functional connectivity–based prediction, brain network analysis, and task activation consistently demonstrated that the integration buffer possesses distinct neural correlates, emerging from cooperative interactions between the frontoparietal network and the default mode network, with both engaged during active integration. Together, these findings establish the integration buffer as a distinct component of working memory, advancing our understanding of its neuropsychological mechanisms.

6:00-7:30 PM (V-151)

Adverse Childhood Experiences and Self-Esteem. SHERFRAN LOUHIS, *St. John's University*, DANA CHESNEY, *St. John's University* — Previous research has indicated that experiencing traumatic or stressful events in childhood can yield negative mental health outcomes. One theory suggests that Adverse Childhood Experiences (ACEs) may disrupt caregiver bonding, leading to insecure attachment patterns that, in turn, result in negative self-judgments and self-perceptions. It is possible that these negative self-judgments may persist into adulthood. To investigate this connection, we surveyed undergraduate students and collected self-report data on ACEs and self-esteem. Consistent with our hypothesis, we found that participants who reported more ACEs, as measured by the Childhood Trauma Questionnaire–Short Form (CTQ-SF), had significantly lower self-esteem, as measured by the Rosenberg Self-Esteem Scale (RSE). This suggests that negative self-judgments resulting from adverse childhood events can persist even in adults experiencing real-world evidence of their success, such as being accepted into and attending college. This highlights the importance of providing mental health supports for university students. We note, however, that this study was limited by a small and somewhat homogeneous participant pool. Future research is necessary to confirm our findings.

6:00-7:30 PM (V-152)

Aha! Ratings as Metacognitive Judgments. JENNIFER WILEY, *University of Illinois Chicago*, TAYLOR S. MILLER, *University of Illinois Chicago* — There has been an increase in studies using Aha! ratings to explore insight in creative problem solving. Aha! moments are often assumed to serve as a marker for insight -- meaning that solutions are achieved via restructuring. However, similar to metacognitive paradigms that collect FOKs, JOLs, and JOUs to track monitoring of memory, learning, and comprehension processes, Aha! ratings may be better considered as "Judgments of Aha!" or JOAs derived from an inferential process based on a variety of cues. Only some of these may directly reflect underlying problem-solving processes. Using a set of spatial object-move puzzles, this study explored JOAs, and how they may vary (or fail to vary) with initial fixation, correct solution, and individual differences in growth mindset. Instead of JOAs being highest for solutions where an initial representation needed to be revised, they were highest for solutions where solvers made a correct first move. This suggests that Aha! experiences may be more closely tied to achieving correct solutions than to restructuring processes. Individuals with a stronger growth mindset were more likely to associate these initially correct solutions with Aha! experiences.

6:00-7:30 PM (V-153)

Metacognitive Illusions and Memory for Self-Generated Perceptual Cues: The Font-Size Effect in Handwriting. EMMA KANDEL, *University of California, Los Angeles*, ALAN D. CASTEL, *University of California, Los Angeles*, MATTHEW G. RHODES, *Colorado State University* — Memory and metacognition are not always aligned. This is evident in the font size effect, where larger words elicit higher judgments of learning (JOLs) without corresponding improvements in recall, demonstrating that learners often rely on salient but misleading cues when assessing their learning. However, prior

research has largely focused on passive exposure to perceptual cues, leaving open the question of whether this illusion persists when learners generate the cues themselves. The present study examined whether self-produced font size cues continue to bias metacognitive judgments by having participants write the words (in large or small letters) on flashcards. Font size did not affect recall but significantly increased JOLs. Thus, metacognitive illusions persist even when cues are self-generated, highlighting a disconnect between perceived and actual learning that has important implications for how learners monitor and regulate their study strategies. Ongoing studies further examine fluency and beliefs in this paradigm.

6:00-7:30 PM (V-154)

Pseudo-Analogies Increase JOUs for Geoscience Concepts by Shifting Cue-Basis. THOMAS D. GRIFFIN, *University of Illinois Chicago*, JENNIFER WILEY, *University of Illinois Chicago*, LENA HILDENBRAND, *University of Illinois Chicago*, ALLISON J. JAEGER, *Mississippi State University* — Recent research shows that analogies used in science instruction inflate judgments of understanding, even when they do not benefit actual understanding. However, these analogies were still designed by content experts based upon the logical relevance of the familiar everyday source objects to the target science concepts. The current study tests whether this intended logical relevance is even necessary, or whether the mere familiarity of the source objects inflates judgments. Pseudo-analogies were created by taking real analogies found in Geoscience textbooks, then randomly reassigning the analogy source objects to different Geoscience concepts within a different sub-topic. Students read 38 brief descriptions of Geoscience concepts with or without the pseudo-analogies, then rated "How well do you understand the Geoscience concept?" Judgments were significantly higher in pseudo-analogy condition. Additional analyses showed that pseudo-analogies lead students to shift from topic relevant cues (geoscience interest and experiences) to prior familiarity with the source objects themselves.

6:00-7:30 PM (V-155)

Scalp Electrophysiological Correlates of Scene Recognition and Déjà vu. KATHERINE L. MCNEELY-WHITE, *University of California, Davis*, RAUL CASTILLO ASTORGA, *University of California, Davis*, CATHERINE LIÉGEOIS-CHAUVEL, *INSERM*, JOSEPH NEISSER, *Grinnell College*, DANIEL DRANE, *Emory University*, ANNE M. CLEARY, *Colorado State University*, NIGEL PEDERSEN, *University of California, Davis* — Déjà vu is the odd sensation of finding something strangely familiar yet simultaneously novel. Survey research suggests that scenes are its most common elicitor. In laboratory-based investigations, participants report déjà vu more often among novel scenes that share a spatial layout with an unrecalled study scene than among novel scenes with new layouts. As such, déjà vu may involve scene layout familiarity-detection when recollection fails. The neural correlates of such processes are underdetermined, though. In the present study, participants studied scene images then received a test containing a mixture of completely novel scenes, novel scenes with familiarized spatial layouts, and actually studied scenes while Event-Related Potentials (ERPs) were measured. To understand how déjà vu might differ from other scene recognition processes, we examined ERP correlates of old-similar-new scene discrimination, successful cued scene recall (from spatial layout cues) vs. failure, scene layout familiarity-detection during scene recall failure, and subjective reports of déjà vu vs. non-déjà vu.

6:00-7:30 PM (V-156)

Font Size Effects on Judgments of Learning: A One-Way Street? LISA WHITFIELD, *Santa Clara University*, PATTI SIMONE, *Santa Clara University*, GIA PATEL, *Santa Clara University*, NATALIE CURIEL, *Santa Clara University*, DELANEY BILLINGS, *Santa Clara University* — When people see mixed lists of words that vary in font size, their judgments of learning (JOLs) about those words are inflated for larger fonts. This inflation does not occur when participants see those same large fonts in pure lists. Here, we examined large and small font words

in blocks with Block 1 consisting of pure lists of either 8-, 18-, or 48-point font words. Block 2 consisted of 18-pt font words only. If people are making judgments based on relative vs. absolute font sizes, we should see JOLs decline when going from 48 to 18 point blocks, but increase when moving from 8 to 18 point blocks. However, we found no significant differences among JOLs in the second block. We contrast this with a previous finding in our lab showing that a shift from 18 to 48 point fonts produced increases in JOLs across the transition.

6:00-7:30 PM (V-157)

Local and Global Metacognition of Misinformation Discernment. TANVI PALSAMUDRAM, *University of California, Davis*, BRIONY SWIRE-THOMPSON, *Northeastern University*, JOSEPH DEGUTIS, *Harvard Medical School*, JORGE MORALES, *Northeastern University* — Metacognition is the ability to evaluate one's own cognition and includes confidence in trial-by-trial decisions (local metacognition) and broader self-assessments of ability (global metacognition). To date, no study has examined the differences between local and global metacognition in the context of discerning true from false information. This study examined whether political affiliation and education relate to these distinct forms of metacognition. A representative US sample (N = 670) judged the veracity of political and health statements and made confidence ratings. Local metacognition was calculated with type 2 signal detection metrics, whereas global metacognition was the discrepancy score between self-reported and objective performance. Democrats had the best discernment, followed by Independents and Republicans. Independents had greater global bias, underestimating discernment ability more than Republicans. Education was associated with increased local metacognitive efficiency but greater global bias, with more educated participants underestimating their discernment ability. These findings suggest that demographics influence metacognition of misinformation, and that metacognition may not track objective ability.

6:00-7:30 PM (V-158)

The Impact of Acute Cold-Water Immersion on Memory Encoding and Metacognition. PATRICK ZACHER, *Naval Health Research Center*, REBECCA WELLER, *Naval Health Research Center*, REBECCA MCCLINTOCK, *Naval Health Research Center*, TONY DUONG, *Naval Health Research Center*, MIKE SARMIENTO, *Naval Health Research Center*, NICHOLAS STONE, *Naval Health Research Center*, DOUGLAS JONES, *Naval Health Research Center*, TIMOTHY DUNN, *Naval Health Research Center* — Cold-water immersion (CWI) impairs cognition, but the impact of acute CWI on memory encoding and metacognition remains unclear. Sixty-five military personnel completed a memory encoding task during a thermoneutral baseline and a 7-min CWI (9 °C). Participants attempted to encode kaleidoscope-type stimuli visually during either the cold shock response (CSR; 0-3 min) or post-CSR (4-7 min) phases. Recognition and metacognition were assessed at baseline and post-immersion. Heart rate was recorded throughout CWI. Compared with baseline ($p < .001$), CWI impaired encoding, with no difference between CSR and post-CSR phases ($p = .71$). CWI also impaired metacognition ($p = .04$): participants' confidence in their responses were lower even when correct. Physiologically, performing the cognitive task during the CSR significantly blunted the heart rate response ($p < .01$). Acute CWI disrupted memory encoding and metacognition. Miscalibrated confidence could delay life-saving actions during emergencies by causing individuals to second-guess correct judgments. Additionally, engaging in a task attenuated the CSR, suggesting a potential behavioral countermeasure to improve survival during CWI.

6:00-7:30 PM (V-159)

Remembering Not Remembering: When Rejections Become Recollections Across Words and Faces. EYLUL ARDIC, *Washington University in St. Louis*, IAN G. DOBBINS, *Washington University in St. Louis* — The Subjective Memorability (SM) heuristic enables individuals to confidently reject items as studied when they fail to elicit recollection

despite being highly personally distinctive. We tested the validity of explicit SM judgments by extending the Remember/Know procedure. For items initially judged as "new," participants further indicated whether they "Would Have Remembered" the item if studied (+WHR vs. -WHR). If valid, +WHR rejections should be more likely to elicit later remembering when re-tested. This was confirmed in two experiments using words (N=67) and faces (N=64). Item analysis further demonstrated that items that tend to elicit +WHR responses as lures, also tend to elicit Remember responses as targets, and mixed modeling further showed that this normative memorability property plus individual WHR ratings uniquely predicted final recognition and remembering at the trial level. These findings validate explicit subjective memorability judgments and demonstrate that both normative and personal/idiosyncratic memorability jointly predict final memory.

6:00-7:30 PM (V-160)

The Relationship Between Life Satisfaction and Religious/Spiritual Commitment. ELISSA CARCAMO, *St. John's University*, DANA CHESNEY, *St. John's University* — According to the PERMA model, well-being is enhanced by Positive emotions, Engagement, Relationships, Meaning, and Accomplishment. It follows that individuals who are more closely involved with religious/spiritual practices may experience greater life satisfaction: these practices often involve community engagement and social relationships and may explicitly claim the goal of bringing meaning to a practitioner's life. But would this relationship between religious/spiritual commitment and life satisfaction hold in settings - such as college - where community and meaning factors can be achieved through other vectors? We asked undergraduates at St. John's University to complete an anonymous online survey measuring life satisfaction and religious/spiritual commitment. Consistent with our hypothesis, we found that participants who reported a higher level of religious/spiritual commitment reported higher levels of life satisfaction. These findings support the idea that religion/spirituality may contribute to life satisfaction in settings where Positive emotions, Engagement, Relationships, Meaning, and Accomplishment are otherwise accessible.

6:00-7:30 PM (V-161)

Perceived Control Predicts Cognitive Confidence and Task Performance Under Cognitive Load and Evaluative Feedback. CHRISTOPHER DAVIS, *Cornell University* — People routinely evaluate their cognitive abilities after challenge or salient feedback, yet less is known about how individual differences shape both objective performance and acute changes in cognitive confidence. Across two preregistered experiments, we tested whether perceived control buffers declines in cognitive confidence under cognitive load, and relates to task performance. In Study 1, participants completed a cognitive task under experimentally manipulated load, with cognitive confidence assessed before and after the task. Higher perceived control predicted greater confidence overall and moderated confidence change. Under high load, individuals lower in perceived control showed steep declines in confidence compared to those higher in perceived control. This effect was partly explained by objective task performance. In Study 2, participants completed the same high-load task while receiving positive, negative, or no feedback. Feedback strongly shaped confidence as expected. Perceived control did not moderate feedback effects, though it predicted better performance under positive feedback. Overall, perceived control may support confidence and performance under load, but offers less protection under feedback.

6:00-7:30 PM (V-162)

Analogical forms of spatial relations are preferred early in language emergence: Evidence from Nicaraguan Sign Language and silent gesture. JENNIE PYERS, *Wellesley College*, KAURVAKI BAJPAI, *Wellesley College*, SABINE BERRY, *Wellesley College*, SUSAN GOLDIN-MEADOW, *University of Chicago*, DEDRE GENTNER, *Northwestern University*, ANN SENGHAS, *Barnard College* — Sign languages around the world exhibit strong crosslinguistic similarity in their descriptions of spatial relations. Instead of using lexical signs for spatial rela-

tions, signers overwhelmingly prefer to depict spatial relations iconically by placing a hand representing a figure in relation to another hand representing a ground. We investigate the emergence of analogical versus lexical-like forms of spatial language in 37 deaf signers of an emerging sign language in Nicaragua and 40 non-signers using silent gesture in an iterated learning paradigm. All Nicaraguan signers, regardless of cohort, overwhelmingly preferred analogical forms (M=78.37%, SD=54.45%; all ps>.05) over with lexical forms (M=21.63%, SD=45.55%). The same preference was observed among silent gesturers (M=55.65%, SD=52.92%), and this preference remained across all learning rounds (OR=0.93, p=.151), despite having spatial lexical forms in their spoken language. The iconic affordances of the manual modality enable a robust analogical depiction of space; the prevalence of this strategy over lexical forms likely stems from efficiency and informativeness.

6:00-7:30 PM (V-163)

Metacognitive Effects of Variations in Comparison-Based Learning of Statistical Concepts. HUNTER AVILLA, *University of California, Santa Cruz*, HANNAH HAUSMAN, *University of California, Santa Cruz* — Comparing examples can promote abstraction of underlying concepts. Guided by structure mapping theory and the process of analogical bootstrapping, we investigated which of 4 types of comparisons best supported category learning and metacognitive accuracy. With instruction on when to use each type of statistical test, participants studied 18 word problems in 6 blocks of 3 examples (1 t-test, ANOVA, and Chi-Squared) that had either the same surface story for the 3 examples in a block or different surface stories for each example in the block. The 3 examples were presented on the screen simultaneously or on sequential screens. Participants rated their understanding of each example, then provided a global judgement of learning for each item type before the test, which involved classifying novel examples of the statistical tests. Contrary to our hypothesis that simultaneous presentation of exemplars with the same surface story would promote structural alignment, we found little evidence of differences in transfer or metacognitive accuracy among the 4 conditions. However, analyses of errors on the transfer test revealed differences in how the conditions mentally represented the category structure of the 3 types of statistical tests.

6:00-7:30 PM (V-164)

Directed Forgetting of Meaningful and Meaningless Sounds: Does Meaning Matter? LORENA E. REID, *University of Wisconsin - Oshkosh*, JUSTYNA OLSZEWSKA, *University of Wisconsin - Oshkosh*, JAROSLAW ORZECHOWSKI, *SWPS University*, LORENA E. REID, *University of Wisconsin - Oshkosh* — The directed forgetting (DF) paradigm involves presenting stimuli with a cue that instructs participants to allocate memory resources towards Remember-cued items and away from Forget-cued items. Participants often exhibit higher accuracy for Remember-cued items on subsequent memory tests, demonstrating the DF effect. This phenomenon has been extensively examined using visual stimuli (e.g., written words, images), but little work has investigated auditory stimuli. The present study compares the DF effect for meaningful (easily identifiable) environmental sounds and meaningless sounds. Participants completed two test blocks (one meaningful, one meaningless) and were later asked to recognize all presented earlier stimuli. The results showed that recognition accuracy for R-cued items was higher for meaningful than for meaningless sounds, $t(68) = 6.75$, $p < .001$, $d = 0.81$, but no difference in recognition rates was observed between meaningful and meaningless sounds for F-cued items. Importantly, however, the DFE was evident for both types of sounds, suggesting that the mechanisms underlying directed forgetting may operate largely independently of stimulus meaningfulness.

6:00-7:30 PM (V-165)

Effects of Stimulus Intensity on Crossmodal Correspondences Between Taste and Shape. MICHIKO ASANO, *University of Tokyo*, HARUKA MATSUKUMA, *University of Tokyo* — This study investigated how stimulus intensity affects cross-modal correspondences between taste and shape. Previous studies have shown a robust tendency in the general population to associate sweetness with round shapes and sourness with spiky shapes. In each trial, participants tasted a sucrose or citric acid solution (weak, moderate, or strong concentration) alongside a visual shape (round or spiky) on a screen. Participants rated the intuitive match between the taste and shape on a 7-point scale, followed by questions regarding taste category (sweet/sour) and perceived intensity (1: tasteless to 7: very intense). The results revealed that higher taste intensity increased the subjective degree of congruency for matching pairs (i.e., sweet-round and sour-spiky), whereas intensity did not increase the degree of incongruency for mismatched pairs. These findings suggest a two-fold mechanism in taste-shape correspondences, where congruency is evaluated on both a categorical and a quantitative (i.e., intensity) basis.

6:00-7:30 PM (V-166)

Musical Experience is Associated with Effectiveness of Prosodic Production. TIM GEORGE, *University of Maryland*, REBECCA TEGIACCHI, *American University*, L. ROBERT SLEVC, *University of Maryland, College Park*, TIM GEORGE, *University of Maryland* — Musical experience predicts prosodic comprehension, with musicians demonstrating greater sensitivity to prosodic cues. Do musicians also produce better prosody? In this study, participants who varied in musical ability and experience completed several sentence production trials. They viewed one of two context sentences (John opened the door to a warm, sunny day vs. … to a cold, rainy day) before speaking target sentences ("wow what a beautiful day"). Independent raters later guessed which context the participants received, given the target recordings. More effective prosody should serve to help raters accurately disambiguate the intended meaning. Additionally, participants completed either a musical priming task or a control priming task prior to the sentence production task. Musical ability was associated with better accuracy of ratings, and this effect was enhanced with musical priming. These results suggest musical experience is not only associated with comprehension, but also production of prosodic elements in speech.

6:00-7:30 PM (V-167)

Language experience, auditory experience, executive function and working memory in deaf and hearing bilinguals. JENNA DISTEFANO, *University of California, Davis*, ANNA NOELLE BOYER, *University of California, Davis*, DEBORAH CATES, *Iowa School for the Deaf*, MATTHEW TRAXLER, *University of California, Davis*, DAVID CORINA, *University of California, Davis*, MATTHEW TRAXLER, *University of California, Davis* — Bilinguals may have an advantage in domains of executive functioning (EF), while deaf individuals have been reported to have poorer EFs (Kronenberger et al., 2020). We tested three different groups of bilinguals to assess how auditory and language experience relate to two relevant aspects of EF: working memory and cognitive control: One unimodal hearing group, Chinese-English bilinguals (CEBs), and two deaf bimodal bilingual groups with different of language exposure, deaf native signers (NS), and deaf non-native signers (NNS). All participants completed measures of WM (reading span and alpha span) and cognitive control (AX-CPT). CEBs performed better overall on tasks involving WM, and demonstrated better management of proactive and reactive control than both deaf groups on the AX-CPT test. However, both CEBs and deaf native signers exhibited better performance than deaf non-native signers during the AX-CPT trials that required proactive control. We also observed potential effects of timing in bimodal bilingual language acquisition amongst NNS. These findings have implications for how we understand the role of language modality and exposure, and as well as auditory experience, in bilinguals' WM and cognitive control.

AUTHOR INDEX

Abel, Alyson - V-086
Abraham, Ashley - I-091, II-090
Abraham, Rebecca - 18
Abrams, Lise - II-081, III-100, III-122
Achard, Johan A. - 114, III-046
Ackerman, Rakefet - 51
Ackley, Dustin S. - 199, I-161
Adam, Kirsten C.S. - 236
Addis, Donna Rose - 87, 191
Ager, Alicyn - 54
Aggarwal, Vaibhav - III-011
Agnoli, Sam - IV-059
Agrawal, Tanushree - III-056
Aguilar, Giovanna - V-084
Ahlfors, Seppo P- 283
Ahn, Dahwi - III-079
Ahn, Sunyoung - IV-026
Ahrens, Carina - 284
Akers, Emily M. - 127, V-085
Akhtar, Nameera - III-078
Aktunc, Emrah - 136
Alaman, Jonay Ramon - SYM-010
Al-Azary, Hamad - III-101
Albouy, Philippe - I-062
Alderson, Zoe - II-020
Aldrich, Zian W. - I-078
Alea, Nicole - II-123
Alexander, Jessica E. D. - V-074
Alexander, Kevin - II-159
Alkhalaiwi, Alaa - IV-048
Allen, Alyssa R. - V-096, IV-120
Allen, Katherine M. - II-034
Allen, Larissa - II-037
Allen, Laura - IV-091
Allen, Todd - III-109
Allmon, Karissa - 340
Almasi, Rebeka C. - 106
Almonte, Nana Santos - II-107
Almor, Amit - 204
Alngohuro, Bodj Oliver - I-041
Al-nouri, Yara - III-047
Alonso Carrillo, Mayte - IV-118
Alquist, Jessica - 36
Al-Saddik, Saraa - III-008
Altarriba, Jeanette - V-138, III-051, III-057
Altman-Coe, Lucy - II-099
Altmann, Erik M. - IV-162, III-018
Altschul, Kelsey - IV-001
Alyahya, Reem S. W. - 205
Amadieu, Franck - II-086
Amatuni, Andrei - III-114
Ambati, Venkata Naga Pradeep - III-006
Ambrosini, Ettore - 246
Amin, Moeness - IV-028
Amissah, Christopher M- IV-048
An, Seonu - II-035
Anagi, Christopher - III-007
Anaki, David - II-121
Anand, Pranav - I-135, III-091
Anderson, Brian A. - 39, 300, I-029
Anderson, Oliver - I-072
Anderson, R. Jerome - IV-048
Andrade, Katherine Diane - III-022
Andraos, Chris - IV-006, IV-028
Andrews, Eric S. - I-071
Andrews-Hanna, Jessica R. - 221, I-067, I-071, III-125
Andrieu, Elodie - II-086
Angell, Grace - III-079
Angleton, Sophia V. - IV-163
Anisha, Farhana - III-185
Antes, Nicole - 135
Antony, James W. - 82, III-132
Antoshak, Jaime - V-027, III-026
Anyadike, Ashley N. - 62
Appiah, Gilbert B. - IV-130
Arar, Tesnim - 76
Araujo-Menendez, Carlos EE - SYM-015
Archer, Katherine - 288, V-129
Ardic, Eylul - V-159
Ariel, Robert - IV-031
Arista, Ray - II-168
Arjune, Kimberly - III-103
Armstrong, Blair - 119
Arndt, Jason - III-108
Arreola, Eric - II-037
Arrizon, Valerie - III-006
Art, Jon - III-084
Asabere, Emmanuella - I-008
Asano, Michiko - V-165, IV-180

Aschenbrenner, Laughlin - III-133
Ascigil, Esra - 77
Ashcroft, Jeremiah J. - I-154
Asher, Michael W. – 163, 164, SYM-023
Ashmaig, Omer - III-114
Aslan, Hilal - 138, IV-172
Aslan, Zeynep - I-100
Asmar, Alyssa J. - 166
Assadipour, Zohara - III-079
Assink, Nils - 33
Asta, Joseph - IV-030
Astra, Shanti A. - IV-133
Atagi, Natsuki - V-026
Atamer, Atakan - III-068
Atamna, Byonne - I-110
Atchley, Paul - I-168, SYM-006
Atchley, Ruthann - SYM-006
Athilat, Varun - IV-091
Atit, Kinnari - I-085, II-057
Aud, Emily - I-065, I-104
Avila, Gianna - V-111
Avilla, Hunter - V-163
Avversari, Alessandra - 93
Awh, Edward - 1, V-143, II-117, III-184
Ayala, Nydia - II-148
Ayatollahi, Shabnam - 100
Aydin, Cagla - III-129
Aytatli, Ayşin - III-124
Ayton, Peter - V-034
Azarov, Daniil - 108, IV-134
Azer, Lilian - 218
Azimkulov, Semetei - I-067
Azuma, Tamiko - I-107
Azzarello, Caterina B. - IV-012

Bağlar, Burhan - V-046
Babineau, Addison - IV-123
Backer, Kristina C. - 61, V-023, V-025, IV-182
Badiger, Aishwarya - III-050
Bae, Gi-Yeul - II-021, II-111, II-116
Baess, Pamela - 100
Bahle, Brett - 241
Baia, Sophia R. - III-178
Bailey, Heather - V-045, II-036, IV-142
Bainbridge, Wilma A. - IV-149
Bajpai, Kaurvaki - V-162
Baker-Iyore, Rose P. - 63, 292, III-027
Bakkour, Akram - I-054
Balas, Benjamin - IV-112
Balch, Jen - V-119
Baldini, Jack M. - I-147
Balkanal, Sinem - IV-170
Ball, Hunter - 188, 192, II-043, III-139
Ballotti, Reynolds J. - I-060
Bangert, Ashley S. - V-044, V-047
Banks, Jonathan B. - I-015, IV-001
Bao, Jason - I-162, V-130, III-165
Bao, Yaqian Borogjoon - II-101
Barany, Deborah - V-117
Barber, Sarah J. - 248, II-136
Barcomb, Ellery - 176
Barideaux, Kenneth - II-084
Barker, Lydia - III-005
Barnas, Adam J. - I-076
Barnett, Mariel K. - III-048
Barnhart, Anthony S. - 275
Baross, Julia - I-045
Barragan-Diaz, Anahy - 58
Barrios, Shannon - 329
Barrouillet, Pierre - 114, V-141, III-046
Barthwal, Anushka - II-069
Bartolotti, James - V-045
Barzykowski, Krystian - SYM-021
Batchelder, Anna - III-027
Batten, Rylan - II-097
Bautista, Ana - IV-024
Bavelier, Daphné - III-069
Baykal, Evrim - 299
Bayoud, Asia - I-119
Beatty-Martínez, Anne L. - V-029, V-030
Beaty, Roger - IV-025
Beck, Diane M. - III-110
Beck, Venja - 242, I-105
Becker, Mark W. - III-001
Beech, Sam - I-081
Beeman, Mark - II-132
Beer, Jennifer - 232
Belin, Claire - I-065, I-104
Belknap, Jessica G. - IV-162
Bellana, Buddhika - 220, IV-033, III-137
Belletier, Clément - IV-010
Belleville, Sylvie - II-068
Benavides-Varela, Silvia - 246
Benesch, Danielle - V-021

Benini, Elena - 264
Benitez, Viridiana L. - 319
Benjamin, Aaron S. - II-070
Bennett, Daniel - III-049
Bennett, Ilana J. - 217, II-152
Bennett, Murray - 314, IV-157
Bennion, Kelly A. - 82
Benton, Aiden - IV-178
Beqiraj, Art - I-151
Bercovich, Eyal - 51
Bereza, Olivia - II-156, IV-006, IV-028
Bergen, Benjamin - 336
Bergstrom, Zara - 133
Berinsky, Adam J. - SYM-003
Berman, Garrett L. - IV-116
Bermeitinger, Christina - 100
Bernabéu Brotons, Elena - 12
Bernard, Jessica - 25
Bernstein, Douglas - 17
Berrios Voelker, Tanisha Y. - 307
Berry, Sabine - V-162
Berthod, Laurent - SYM-010
Besken, Miri - 151
Besner, Derek - 95
Besteman, Alex - III-122
Betts, Lucas - III-164
Beyeler, Michael - I-086
Beyer, Alisa - II-178
Bezdek, Matthew A. - 150
Bhaskara, Sophie - 81
Bhat, Manjiri - I-031
Bhatia, Sudeep - 249, I-061
Bhatt, Vishwa - V-006, V-011, V-115
Bhattacharyya, Pushpita - 291
Bhavsar, Ishya - I-167
Bhoot, Uma - III-011
Bialer, Daniel M. - 201, I-122, III-171
Bianco, Valentina - V-057
Bieleke, Maik - 38
Bilge, Reyyan - II-124
Billings, Delaney - V-156
Bishop-Chrzanowski, Brittney - IV-151
Biswas, Rajashree - I-016
Bittner, Dana-Lis - II-080
Biyik, Hasan Can - IV-056
Blaisdell, Aaron P. - 179, I-001, I-003, I-005, V-060
Blanchette, Isabelle - I-062
Blaylock, Reed - II-091
Blumenfeld, Henrike K. - III-026
Bobb, Susan C. - 63, III-027
Bockholt, H. Jeremy - II-032
Bodenheimer, Bobby - I-074, I-077
Boduroglu, Ayşecan – 229, 273, II-120, IV-050, IV-170, SYM-020
Boeltzig, Marius - SYM-021
Bogenschütz, Luisa - 100
Bohn-Gettler, Catherine - 253
Boicu, Bianca - I-020
Boilard, Sophie - V-061
Boily, Gabrielle - I-134
Boissin, Esther - V-052
Boland, Julie E. - 308, I-089
Bolger, Donald J. - 258, II-102, III-025
Bolkhovsky, Jeffrey B. - IV-162
Bollepally, Samhita - III-092
Bond, Alesha - I-043
Boogaart, Zachary - I-076
Boor, Elizabeth K. - II-046
Bornstein, Aaron M. - 271
Bortfeld, Heather - 61, V-023, IV-182
Botía, Inés - II-129
Botts, Addison - III-133
Boucher, Leanne - I-169
Boudewyn, Megan A. - 120, II-093, IV-096, III-107
Bouslog, Alexia - II-036
Boustani, Shaun - V-062
Bowdle, Brian F. - II-051
Bowen, Holly J. - 167, II-146
Bowers, Dawn - I-076
Bowers, Jeffrey S. - II-185
Bowers, Margaret - II-159
Bowman, Harrison A. - III-077
Boxtel, Jeroen Van - I-016
Boyer, Anna Noelle - V-166, III-093
Boytos, Abby - II-126
Bozosi, Sloan - I-013
Bozrzick, Tyler - IV-161
Bröder, Arndt - 165
Braasch, Jason - IV-091
Bradford, Elisabeth - 219
Bradlow, Ann R. - 279
Brady, Timothy - 3, 239
Brainerd, Charles - V-114
Braithwaite, David W. - II-071, III-072

Brame, Lena - V-119
Branch, Sophia - II-147
Brand, Zane T. - V-097
Branzi, Francesca M. - IV-024
Brashier, Nadia - 196, II-034, II-065, SYM-003
Braun, Blair - I-123, V-111
Braun, Halle C. - 69
Braver, Todd - V-003, V-007, V-010
Bray, Franklin A. - II-053
Breazeale, Madry - I-167
Breen, Mara - 126
Brehm, Laurel - 280, I-038
Breiss, Canaan - 280
Brennan, Evan M. - IV-158, III-015
Brennan, Susan - 306, 309
Brewer, Gene A. - 345, V-019, II-152, IV-018, III-070, III-136
Brezóczki, Bianka - II-130
Bridgland, Victoria - 335
Brinkman, Juliette - I-002, IV-169
Brockmole, James R. - II-009
Brodbeck, Christian - IV-098
Broers, Mirthe - 37
Broitman, Adam W. - 132, IV-137
Broniatowski, David - 276, I-072
Bronstein, Michael V. - IV-059
Brookfield, Jacob - 198
Brooks, Isabella - 337
Brooks, Michaela - 258, II-102, III-025
Broomell, Stephen - 266
Brosowsky, Nicholaus P. - V-002, IV-014
Brothers, Trevor - 32, 254
Brough, Rachel E. - 101
Brousse, Catherine M. - III-185
Brown, Blair - IV-059
Brown, James M. - I-028
Brown, Kevin - IV-098
Brown, Kyra - III-104
Brown, Marysia - I-022
Brown, Norman R. - 85
Brown, Savannah - III-094
Brown, Scott D. - 178, V-041, IV-157
Brown, Violet A. - IV-086
Brown-Schmidt, Sarah - II-060, IV-093, IV-147
Brucks, Morgan - V-045
Bruine de Bruin, Wandi - 277
Brundage, Kaylie - IV-114, IV-117
Bruns, Anna - III-056
Brunyé, Tad T. - III-087, IV-166
Bryant, Gracey - IV-085
Brysbaert, Marc - I-104
Buame, Gloria - IV-048
Bucci, Cassandra - III-027
Buchanan, Bradley E. - V-004, IV-017, IV-055
Buchanan, Erin Michelle - 121, 246
Buchhaupt, Cole - III-149
Buchli, Dorothy R. - II-158
Buck, Lauren - II-184
Budescu, David V. - 342
Bueno, Steve - II-054
Bugg, Julie M. - 302, I-015, III-011, III-141
Buggy, Ryan - II-103
Bulevich, John - 133
Bullock, Tom - I-086
Bunn, J Imani - I-155
Burgoyne, Alex P. - IV-016
Burgoyne, Alexander P. - 160, V-009, IV-111, III-048
Burns, Clara - 18
Burns, Makena - II-036
Burns, Nathan - V-131
Bushong, Wednesday - 294
Bustos Penaloza, Octavio - II-029
Butler, Andrew C. - 225, I-127, I-130
Butner, Emma - 145, III-174
Butt, Melanie - V-069
Buxó-Lugo, Andrés - 202, I-124, V-090
Buxbaum, Laurel J. - III-102
Buzard, Ashley - I-074

Cabañas, Cynthia - 253
Cablk, Megan - III-095
Cady, Megan - I-001
Caglar, Emine Seyma - 189
Caines, Nathan - II-093
Cakmak, Zeynep Derya - IV-170
Caldwell, Zoe - 145
Calhoun, Vince D. - IV-035
Call, Josep - II-075
Callahan-Flintoft, Chloe - 139
Callil Tomei, Helena - IV-110
Cam, Yonca - I-118
Camara, Andrew - III-049
Cameron, Leslie - 17
Camilliere, Sadie - IV-037, III-020

Camos, Valerie - 114, 260, V-141, V-146, III-046
Campbell, Emma B. - V-043
Campbell, Erin E. - 330
Campbell, Jessica - IV-029
Cancel, Skye - III-040
Canio, Justine - 177
Canning, Elizabeth A. - SYM-025
Cantu, Gabriella - IV-122
Cao, Meng - 164, 323
Caplan, Spencer - V-091
Caplin, Andrew - 156
Carbonell Colomer, Myriam - 12
Carcamo, Elissa - V-160
Cardoso, Agustín - II-188
Carlaw, Brooke N. - II-155
Carlisle, Nancy - 70
Carlson, Curt A. - V-097, V-101, IV-114, IV-117, IV-120, IV-122
Carlson, Maria - V-101, IV-114, IV-120
Carlyle, Cody - I-026
Carranza, Alejandro - IV-135
Carson, Rebecca - 42
Carter, Ken - V-106
Carvalho, Paulo F. - 163, 164, 323, III-032, V-125, SYM-V
Casaponsa, Aina - 93
Casasanto, Daniel - 94
Cash, Trent - 195, III-164
Caspani, Giorgia - V-019
Castañeda Olayo, Ricardo - 138, III-010
Castel, Alan D. - V-153, II-087, III-162
Castelhano, Monica S. - 97, II-026
Castillo Astorga, Raul - V-155
Castro, Nichol - I-090, I-099
Cate, Jackson - I-162
Cates, Deborah - V-166
Cavo-Ferrer, Isaniris - 337
Celaya, Xavier LT - V-019
Celik, Ceren - IV-170
Cervantes, Victor - II-177
Cesario, Joseph - V-036
Chai, Yuan - III-028
Chakraborty, Soumyajit - I-077
Chan, Ariel - 247
Chan, Jason C.K. - 7, IV-051, III-079
Chan, Michelle Hue-Nam - 90
Chandolia, Visheeta - I-040, IV-139
Chang, Bo-Yao - IV-184
Chang, Kai - III-050
Chang, Minyu - 201, V-114, III-171
Chang, Woohyeuk - 1, V-143
Chang, Yu-Wei - III-037
Chao, Hsuan-Fu - I-066, IV-039, IV-073, III-002
Charbonneau, Brooke - V-005, SYM-007
Chaterjie, Srimoyee - 91, III-021
Chavez, Cooper J. - 99
Chen, Amelia - II-050
Chen, Ashley - II-087
Chen, Hui - V-015
Chen, Huiqin - V-020
Chen, Jilan - I-118
Chen, Junyi - III-031
Chen, Jyun-Hong - IV-184
Chen, Kuan-Yu - IV-039
Chen, Kuo-Wei - II-111, II-116
Chen, Lin - 255, 256, 331, V-014, II-104
Chen, Meichai - II-177
Chen, Melissa - II-079, III-080
Chen, Mo - II-094
Chen, Patricia - V-121, III-071
Chen, Peiyao - V-035
Chen, Po-Yi - I-103
Chen, Yiyang - V-036
Chen, Zhiyi - 18
Cheng, Xiang - V-059
Cherry, Katie E. - IV-138
Chesney, Dana - V-151, V-160, II-061, IV-058
Chiang, Luke - 175
Chien, Brayden - 117
Chien, Jessie - II-031
Chiew, Kimberly S - 101, 166, 167, 299, II-045
Chinni, Anna L. - 69
Chin-Parker, Seth - I-044
Chiu, Tzu-Yao - 41, II-008
Cho, Yang Seok - II-021, IV-165, III-003
Choi, Ricky W.J. - I-048
Choi, Sieun - II-021
Choi, Woochui - III-045
Chow, Julie - IV-002, III-008
Chrastil, Elizabeth R. - I-075, I-173, I-174
Chrispeels, Nini - II-144
Christ, Christa - III-040
Christie, Stella - III-067
Christofalos, Andriana L. - II-072

Chrobak, Quin - I-123, V-111
Chung, Erica - II-028
Chung, Yong Hoon - 239
Chung-Fat-Yim, Ashley - I-036
Church, Jessica - 232
Churey, Katherine R. - I-120
Ciaccio, Laura - V-057
Ciborowski, Delaney - II-029
Cicero, Gia - II-110
Cimpian, Andrei - III-068
Cing, Man - V-074
Cisneros, Gianna - V-111
Clapper, John - V-011, V-115
Clark, Addie - 121
Clark, Alexandra - II-032, IV-029, IV-035, SYM–11
Clark, Chris - 133
Clark, Dailyn Q. - III-057
Clark, Rachel - 145
Clarke, Alasdair D. F. - I-031
Clarke, Kaleigh - III-160, III-163
Cleary, Anne M. - 197, V-068, V-155, II-155
Clement, Andrew - 140
Clement, Nadia - 284
Clements, Bethany - I-038
Clements, Grace - II-159
Cline, Sarah - II-146
Cloud, Jessica A. - II-028
Cloutier, Léanne - V-021
Clubb, Alexis R. - IV-013
Co, Kira - III-132
Coane, Jen - I-162, I-167
Coane, Jennifer H. - I-118, I-158, II-028, III-165
Çoban, Ruhan - 310, IV-056
Coderoni Rousso, Ottavia - III-165
Cohen, Aaron - 336
Cohen, Joshua S. - III-077
Cohen, Linsey - 45
Cohen-Hoffing, Russell - I-031
Cokely, Edward T. - II-064, IV-044, IV-047
Çolakoğlu, Mehmet - II-191
Colchete, Nicole - I-085
Colcombe, Stan - II-028
Cole, Kate - IV-068
Cole, Scott - SYM-021
Collins, Jasmine - 191
Collins, Natalia - I-072
Collins, Robert N. - 341
Collins, William Matthew - I-169
Collinsworth, Todd - I-159
Colombatto, Clara - 195
Colvett, Jackson S. - II-046
Conlon, Joseph - IV-060
Conn, Gabriel - II-022
Connery, Tadgh - IV-051
Conrady, Jonathan - IV-173
Conti, Julia J. - III-032
Contreras, Jessica - III-020
Contreras, June M. - IV-082
Conway, Christopher M. - IV-110
Conway, Sean - 266
Cook, Gabriel - II-139
Cook, Susan W. - 305
Cooley, Frances G. - 187, I-102, II-106
Cooper, Mason - IV-072
Copeland, Allyson - 257, 259
Copeland, David - II-125
Cora, Cagatay - 47
Corayer, Michael - V-124
Corea, Maria - I-156
Corina, David - V-166, III-093
Corlett, Philip - IV-059
Cornell, Charlotte A. - V-132
Corral, Daniel - III-033, III-035, III-036, III-037
Coslett, H Branch - III-102
Costa, Carolina - SYM-015
Costa, Lainey - II-140
Costabile, Kristi A. - II-126
Costello, Thomas - V-052, SYM-004
Cottrell, Garrison W. - 66
Coulson, Seana - IV-100
Courage, Isabel - V-144
Cournoyer, Aidan - V-124
Cousins, Aaron - 171
Couture, Charles - V-021
Couzin, Carlos A. - II-168
Coverdale, Michelle E. - I-147, I-157
Cowan, Nelson - 261, II-157, II-193
Cowan, Rhiannon - SYM-009
Cowell, Rosemary A. - II-169
Cox, Christopher R. - II-134
Cox, Gregory - 250, II-181, III-065
Cox, Samuel - III-150
Cox, Sasha - 147
Craft, Allison - 340

Crano, William - 231
Crawford, Isaiah - III-006
Creel, Sarah C. - 281, I-112
Creem-Regehr, Sarah H. - 145, I-074, I-081, III-174
Cremen, Eoin - II-040
Croizet, Pablo - IV-010
Cronin, Deborah - I-019
Cruz-Hernandez, Felipe A. - 324, II-057
Culpepper, Hallie - I-121
Cunningham, Emma G. - III-069
Cunningham, Sheila J. - I-035
Curiel, Natalie - V-156
Cyr, Andrée-Ann - 220, IV-033
Czerwinski, Erica - III-151
Czubiak, Deonte - II-187

Daggett, Eben - IV-118, III-084
Daluraya, Sophia Amani - III-131
Danino, Raz - 6, III-152
Dannhauer, Moritz - 63, III-027
Dariotis, Jacinda - III-058
Dasanayake, Vishmi - IV-060
Datta, Kalyani - IV-011
Dave, Om - V-011, V-115
Davey, Cullen - III-027
Davey, Sarah - 88
Davidenko, Nicolas - IV-179, III-061, III-078
Davies, Kimberley - I-026
Davis, Ansley - 243
Davis, Christopher - IV-161
Davis, Haley C. - IV-031
Davis, Sara - II-180
Davoudkhani, Mohsen - II-036
Dayley, Sarah - V-106
De Hevia, Maria Dolores - II-165
De la Noval, Amanda - IV-040
De Luna, Jesus - V-053
De Oliveira, Isabella - III-146
De Silva, Ninoo - II-142
Debraise, Miriam - V-140
DeCaro, Renee - IV-124
Decker, Jason - IV-105
Dedetas Satir, Hatice - III-064
DeFamio, Rebecca - III-166
DeGutis, Joseph - V-157
Del Rosario, Dante - V-116
Del Sordo, Giovanna C. - 116, IV-118, III-084
DeLawter, Alana - I-157
DelFavero, Maci - III-033
Delfin Garcia, Nailea A. - 62
Delgado, Cynthia Y. - IV-057
Delmas, Hugues - II-054
DeLuca, Vincent - 93, 184, I-037
Dematagoda, Shadini - 80
deMeurisse, Grace - I-092
Demko, Zenon A. - 49
Demneri, Erlisa - II-151
Denaro, Chandlyr M. - II-030, IV-030
Denby, Tommy - 282
Deng, Will - IV-154
Denis, Ashley - I-169
Denison, Stephanie - 173
Dennin, Emma - 115, IV-041
Desmond, Alissa - V-081
Detrich, Alex - 145
Develioglu, Eda Melin - III-129
Devine, Ian - IV-174
DeWald, Rachel E. - IV-061
Dewey, Rebecca - V-123
Dhaka, Suman - IV-005
Dhaliwal, Aman - V-037
Dhami, Mandeep K. - 152
Di, Yang - 202
Di Pietro, Irene - 246
Dia, Alexandra - 211
Diagne, Marie C. - V-133
Diamond, Joe - 275
Diana, Rachel A. - 158, II-147
Diaz, Dylan M. - V-006, III-006
Diaz, Kayla R. - V-038
Diaz, Michele T. - 186
Dibble, Lee - I-081
DiCarlo, Julie A. - 216
Dicker, Julie - 81
Didone, Vincent - III-105
Dihonov, Alexandra - II-139
Dillon, Robin - I-053
DiMarco, Donelle - III-149
DiMartino, Sydney - 215
Dimsdale-Zucker, Halle R. - II-152
Ding, Huiyu - 109, III-110, III-121, III-153
Ding, Tsu-Jen - V-058
Ding, Yining - 150, V-048
Dionne, Laurie - I-134

Dipper, Lucy - 205
DiStefano, Jenna - V-166
DiStefano, Paul V. - IV-025
Ditta, Annie S. - 324, I-138, II-057, IV-144
Diwadkar, Vaibhav - I-028
Do, Lan Anh - 20
Doan, Chloe B. - III-141
Dobbins, Ian G. - 110, V-159, IV-156, III-170
Dobolyi, David G. - III-155
Dodd, Michael D. - I-008
Dodd, Morgan - III-001
Dodson, Chad S. - V-099, V-100, III-155
Dollois, Michelle A. - 5
Donet, Jenna R. - 102
Donkin, Chris - 180, II-077
Doran, Ella - II-136
Dorval, Lily - II-173
Dotson, Vonetta M. - II-032, IV-029, IV-035
Dou, Wei - IV-178
Dougherty, Matthew - V-134
Dougherty, Michael R. - 15, III-134
Dovencioglu, Nahide Dicle - 107
Dowdell, Ethan - I-132
Dowson, Dai'Sha - 63
Drakopoulou, Georgia - IV-021
Drakoulaki, Katerina - 126
Drane, Daniel - V-155
Dreisbach, Gesine - III-004
Drew, Stefanie A. - V-116, II-168, IV-079
Drexler, Rian E. - 328
Drummey, Anna B. - 78, IV-006
Du, Rean - II-173
Duan, Annie - III-132
Duan, Sutong - III-096
Duarte, Audrey - II-032, IV-029, IV-035, IV-083, IV-148, SYM-III
Dubé, Chad - V-004, IV-017, IV-055
Dubbelde, Dick - III-013
Dube, Veerika - IV-045
Duda, Marlena - IV-035
Dudey, Thomas - V-007
Dueck, Emma E. - IV-014
Dugan, Griffin - V-082
Dujmic, Iva - IV-083, IV-148
Dulas, Michael R. - I-171
Duman, Cagla - III-123
Dunbar, Paul - III-115
Duncan, Katherine - V-134, III-127
Dunlap, Lucretia - I-101
Dunn, Timothy - 198, V-158
Duong, Tony - V-158
Dupre, Connor - 192, II-043, III-139
Duque, Stephanie - II-013
Duran, Mariah N. - II-168
Durante, Sofia - II-066
Durkee, Jade - V-135
Durkin, Kelley - 14
Dykstra, Tobin - IV-159
Eanes, Elisha - 63
Earle, Kiah - V-051
Earles, Julie L. - I-117
Ebner, Natalie C. - I-076
Eckel, Annabelle - 154
Edelson, Sarah M. - 317, I-072, IV-045
Edenhofer, Milan Elias - III-064
Edwards, Isabella M. - II-046
Egner, Tobias - 35, 301, V-013
Ehardt, Zakiya N. - II-085
Eich, Teal - 55, II-031, IV-062
Eidels, Ami - V-041, IV-157
Eisen, Mitchell L. - 157, V-098, V-103
Ekinci, Öykü - 85, 87
Ekstrom, Arne D. - III-135, III-181
El Mouslih, Chaimaa - 185
Eldreth, Dana - III-058
Elliott, Emily M. - I-145, IV-138
Elliott, Verity - 238
Ellis, Dylan - 192, II-043
Elmessiry, Malak - III-097
Elsden, Ariana - IV-031
Emmorey, Karen - 59, 127, V-085, II-091, II-106, II-108, IV-037, III-020
Endress, Ansgar - V-034
Engelmann, Jan M. - II-075
Engle, Randall W. - 103, V-012, IV-016, IV-068
Englert, Chris - 38
Enkavi, Zeynep - 117
Enomoto-McLain, Myka - IV-072
Epstein, Hannah - 176
Erev, Ido - 118
Erickson, Brian - III-102
Eshetu, Tsion A. - II-003, II-005
Eskenazi, Michael A. - I-108, V-084
Esparza, Lemira V. - IV-171

Espinoza, Ignacio - 328
Esselink, Madison - I-101
Estelle, Maria Camilla P. - V-142
Estepp, Justin - II-159
Ester, Edward - 144
Estrada, Daisy A. - II-127
Estrada, Jessica - V-098
Etzel, Joset A. - V-010
Evans, Annalise - II-123
Evans, Caelen - V-122
Evans, Karla K - 4, 171
Evans, Matthew G. - III-061
Evans, Nathan - 278
Evans, Taylor - IV-117
Evans, Teairra - V-038
Ewing, Collin N. - I-126

Fahmi, Adam - I-062
Fahoum, Joelle - I-087
Fakour Manavi, Farkhondeh - III-147
Falikman, Maria - 340
Falk, Emily - SYM-001
Falkowski, Caitlyn - III-165
Fang, Xiaoping - 256
Fansher, Madison - I-055
Farrell, Simon - II-131
Farzan, Farshid - 172
Faul, Leonard - IV-143
Faust, Mark - II-023
Fawcett, Jonathan - 133
Fazio, Lisa - II-060, II-069, 274, SYM-002
Fecko, Bryn - IV-143
Federmeier, Kara D. - IV-154
Fedor, Amber - 176
Fei, Jessica Sishi - 203
Feltz, Adam - II-064, IV-044, IV-047
Feng, Ninxuan - SYM-016
Fenn, Kimberly M. - V-009, IV-162, III-018
Fenske, Pia - 100
Ferguson, Lorena - IV-062
Ferguson, Louise - 340
Ferguson, Rory - 70
Fernandes, Kai - IV-124
Fernandes, Myra A. - 173, IV-036
Fernandez, Jade - IV-061
Fernandez-Duque, Matias - 295
Ferrand, Ludovic - IV-010
Ferreira, Victor S. - 28, I-097
Ferrier, Laurent P. - II-054
Festini, Sara B. - 168
Fiacconi, Chris M. - 5, I-120, I-143, III-149
Fiechter, Joshua L. - 21, II-180
Fiedler, Jennifer L. - III-116
Fific, Mario - II-051
Filister, Riley - II-180
Filiz, Gizem - 110
Finger, Ingrid - 90
Fink, Lauren - II-105
Fino, Peter C. - I-081
Fiorella, Logan - 170, I-132, V-117
Fischer, Rico - IV-005, IV-167
Fischer, Zoe H. - V-136
Fischer-Baum, Simon - I-094
Fisher, William - II-164
Fitamen, Christophe - 260
Fitzgerald, Laura P. - III-026
Fitzsimmons, Corinne - 18
Fleischer, Kira - 66
Fleishman, Arnold - 283
Flimm, Henrike - 180
Flores, Marco - IV-024
Fogler Moore, Kethera A. - I-151, V-105
Foister, Lily Grace - IV-126
Fokina, Iuliia - 286, I-140
Foley, Sarah - II-136
Foraker, Stephani - II-052
Ford, Ella - 176
Ford, Jaclyn H. - IV-143
Forde, Francis C. - 251
Forst, Sarah - 165
Foster, Arianna - III-133
Fostick, Leah - V-080
Foureaux-Lee, Veronica - I-127
Fournier, Lisa R. - II-037
Fox, Amy R. - I-079
Fox, Cory - 150
Fox Tree, Jean E. - IV-089, III-078
Fraire, Nahomi S. - 62
Fralick, Connie M. - II-082
France, Anthony - I-135, III-091
Franchak, John M. - II-055
Francis, Wendy S. - 62, I-039
Francisco-Andres, Jose M. - V-068
Franco, Michelle - 61

Franconeri, Steven - I-073
Frank, David J. - 160, IV-111, III-048
Franklyn, Natalya S. - IV-038
Franks, Bryan - 199, I-121, II-149
Fraundorf, Scott H. - 57, V-089
Freveletti, Delaney - I-071
Frey, Renato - 272
Frick, Ema - I-123
Frinsel, Felicity F. - III-029
Frischkorn, Gidon T. - 262, V-144
Frissen, Ilja - 96
Frisson, Steven - I-109
Ftaïta, Morgane - V-140, II-160
Fu, Mengzhu - I-008
Fujita, Tetsuya - III-167
Fukuda, Keisuke - 2, V-020
Fulton, Erika K. - 54
Furumoto, Kahana - IV-129
Fushimi, Yuya - V-066
Fyfe, Emily R. - II-076

Göksun, Tilbe - 60
Güler, Berna - V-046
Gülpınar, Şule - 149
Günseli, Eren - V-046
Gable, Shelly - III-075
Gabrielsen, Anders - 93, I-037
Gajdos, Thibault - 114
Gajdov, Gorazd - II-107
Gallo, David A. - 76, I-119
Gallo, Federico - 93
Galvez-McDonough, Andrea F. - III-022
Gambi, Chiara - III-096
Ganchan, Aidan - 340
Ganel, Tzvi - 67, II-172
Gao, Fei - 123, II-092
Gao, Lin - II-104
Gao, Mengcun - 267, III-114
Gao, Yang - III-067
Gao, Zaifeng - V-150
Garavito, David - IV-045
Garcia, Alexis N. - III-125
Garcia, Dalia L. - IV-020
Garcia, Natalia - V-011, V-115
Garcia, Sarah L. - V-084
Garcia-Sierra, Adrian - 88
Gardikiotis, Antonis - I-095
Garner, Kelly - IV-002, III-008
Garrett, Brandon - IV-119
Gaspelin, Nicholas - 40, II-001, II-002
Gaston, Phoebe - IV-098
Gatto, Olivia A. - 174, I-128
Gawel, Olivia - 124
Geffin, Ariana - III-141
Gehebe, Thorfun - II-112
Geipel, Janet - I-100
Geisler, Christina - I-081
Geller, Emma H. - I-133, I-139, IV-135
Geller, Jason - 327
Gennari, Silvia - 171
Gentner, Dedre - V-162
Geoghagan, Libbi - V-072
George, Ruby M. - III-027
George, Sydney - III-012
George, Tim - V-165, II-072
Gerard, Melisa - I-055
Gereau, Annabel - 228
Gerkens, David - II-056
Gerrig, Richard J. - II-127
Getz, Laura M. - 177, 322, IV-097
Getzendanner, Corinne - IV-031
Geyer, Thomas - 74
Gezae, Gidey - I-022
Ghasemi, Omid - 155
Ghauri, Yusuf - 190
Giannakopoulos, Konstadena - II-142
Gibson, Bradley S. - 10
Gibson, Brynlea - I-129
Gibson, Logan C. - III-018
Giesbrecht, Barry - I-086
Gil-Adi, Noam - 105
Gilbert, Sam - II-043
Gillen, Karis - II-051
Gillespie, Nathan - II-181
Gingell, Joseph - IV-162
Giorgioni, Leonardo - V-084
Giovanello, Kelly S. - III-116
Gipson, Zoe - II-050
Girelli, Luisa - V-057
Gjertsen, Anna - IV-071
Gkalitsiou, Zoi - IV-021
Glesne, Erik T. - 281
Glover, Crystal M. - SYM-013
Glover, Mackenzie - V-065

Gluck, Justin A. - III-163
Goecke, Benjamin - IV-025
Gokce, Ahu - II-186
Gokcen, Yasemin - III-098
Gold, Gillian - 163, V-125, SYM-022
Goldin-Meadow, Susan - V-162
Goldrick, Matt - 279, 282, IV-020, IV-023
Goldstone, Robert L. - 153, V-049, IV-134
Goldsworthy, Jake - II-131
Gollan, Tamar H. - 28, 30, IV-020, IV-023, IV-032, IV-037, III-020
Golob, Edward J. - 138, IV-171, IV-172
Golomb, Julie D. - 41
Gomes Tomaz, Angela - II-190
Gomez, Alissa - II-132
Gomez, Pablo - III-059
Gong, Yifei - III-023
Gong, Zixu - II-169
Goni, Joaquin - 344
González, Valeria - 179
González Pizzio, Adriana Patrizia - 12
González-Espinar, Javier - SYM-007
Gonzalez, Alexis S. - IV-032
Gonzalez, Brianna - 17
Gonzalez, Celene - II-115
Goodale, Melvyn A. - 67
Goodman, Fallon R. - 71
Goodman, Noah - IV-045
Goodsell, Charles A. - V-101, IV-117
Goodwin, Kerri A. - III-138, III-140
Gorantla, Rishi - V-122
Gordienko, Alex - III-114
Gordon, Leamarie - IV-124
Gordon, Peter C. - 286, I-140
Gorelik, Seth R. - 69
Goring, Sara A. - III-087
Goshen-Gottstein, Yonatan - 6, III-152
Gottlieb, Bailey - II-114
Gow, David W. - 283
Goyal, Ava - IV-006, IV-028
Grabman, Jesse - IV-118
Grady, Justin N. - II-170
Graetz, Dominik - II-004, IV-163
Graham, Derek - III-070
Graham, Michelle - V-099
Granholm, Max - 49
Grasso, Stephanie - SYM-014
Gratton, Caterina - 344
Graves, William W. - 258, II-102, III-025
Gravier, Michelle - IV-022
Green, C. Shawn - IV-133, III-030, III-069
Green, Jessica - IV-173
Green, Taryn - IV-164
Greene, Ciara M. - II-136
Greene, Frankie - 130
Greene, Harold - I-028
Greene, Nathaniel R. - I-148, II-012, II-156, III-119
Greenlee, Eric - III-180
Greenspan, Rachel L. - IV-119
Griffin, Ann - V-062
Griffin, Thomas D. - V-154
Griffin, Zenzi - I-087, V-073
Grigorev, Daniil - 53
Grilli, Matthew D. - 221, I-071, III-125
Grillo, Sarah M. - I-163
Grimes, Nicole R. - II-166
Grimmond, Jess - 178
Griska-MacPhee, Brianna R. - II-105
Groenier, Olivia - IV-161
Gronau, Quentin - 178
Gronlund, Scott - V-107
Groover, Myron - II-105
Gross, Abigail M. - 298
Gross, Jennifer - I-101
Gross, Madeleine - III-075
Groves, Shirleen M. - I-117
Grubbs, Tanner M. - V-137
Grundy, Febriana - 89
Grundy, John - 89
Gu, Jia - III-121, III-153
Gu, Yuzhe - I-111
Guang, Claire - I-100
Guha, Rajlakshmi - III-159
Guida, Alessandro - I-083, V-140, II-160, II-165
Guillory, Sylvia B. - IV-162
Gujral, Janmeet - V-064
Gul, Zeynep Eylul - IV-170
Guney, Sule - V-039
Guo, Sean - 285
Guo, Xiaomu - 315
Gupta, Rashmi - I-016, IV-009
Guss, Amara A. - 299
Gussow, Arella E. - I-093
Gutchess, Angela - 77, IV-083, IV-148

Guthrie, Alison - IV-087
Gutierrez, Roman M. - I-146
Gutierrez, Ronald A. - III-077
Gutierrez de Blume, Antonio - IV-091
Guzman, Jazzmyn - 275
Gyurkovics, Máté - III-011

Ha, Hyoji - 305
Ha, Sabrina Y. - I-141
Höhs, Johanna M. - II-137
Haaker, Jan - III-113
Hackenkamp, Sarah M. - II-183
Hackländer, Ryan P. M. - 100
Hadad, Bat-Sheva - V-033
Haefner, Jesse - 185
Hafermann, Jette - IV-031
Hahn, Sowon - II-035, III-088
Haigh, Sarah M. - 99
Haines, R. Trent - IV-048
Hairston, Lowell - III-005
Hall, Bailey C. - V-138
Hall, Charlotte - V-006
Hall, Constance - 222
Hall, Gabriel - IV-015
Hall, Lena - IV-042
Hallford, David - SYM-016
Halverson, Jack - IV-080
Haly, Katelyn - V-067
Hambric, Channing E. - 245, IV-064, III-104
Hambrick, David Z. - III-018, III-085
Hamdani, Melvin M. - II-060
Hamlin, Abbey - SYM-011
Hampton, Robert - I-004
Hamrick, Phillip - 122
Hamzeloo, Mohammad - 100
Han, Jaewon - IV-165
Han, Tianfang - I-009
Handy, Todd - V-069
Hann, Flora - V-070, III-117
Hanna, Mya - II-051
Hannon, Erin - IV-061, III-066
Hannula, Deborah E. - II-010, II-154
Hansen, Colby - I-081
Hansen, John - I-013
Hanson, Abby - I-123
Hao, Han - IV-160
Hao, Yuefan - 256
Harackiewicz, Judith M. - SYM-023
Harada, Etsuko T. - IV-125
Harel, Daphne - II-061
Harkins, Ashley S. - V-139
Harrington, Erin E. - 233
Harris, Alexandria - 337
Harris, Keighly - II-171
Harrison, Onyx - IV-079
Hart, Liam - III-126
Hart, Sieanna - 337
Hartley, Alan A. - II-030, IV-030
Hart-Pomerantz, Hannah - IV-166
Hartwig, Marissa - 15, III-134
Hasan, Eashan - 118, 156
Hassin, Ran R. - I-050
Hatamian, Nikki - I-075
Hatanaka, Mina - I-063
Hatcher, Carli J. - IV-121
Hauck, Christopher - II-007
Hauenstein, Clifford E. - 344, I-051
Hauser, Peter - IV-037, III-020
Hausman, Hannah - 325, I-135, V-163, II-042, III-091
Hawkins, Guy E. - 178, V-041, V-065
Hawsatitam, Tanadanai - IV-110
Hayati, Hourieh - I-142
Hayes, Brett K. - 270
Hayes, Ty - III-049
Hayes-Harb, Rachel - 329
Hazeltine, Eliot - IV-011, IV-159
Hazen, Giuseppina - V-028
He, Carol - I-075
He, Sihan - III-177
He, Yiou - V-145
Headapohl, Sarah P. - II-062
Healey, Karl - III-150
Healy, Alice F. - V-078
Heathcote, Andrew - 104, 316, II-182
Heaton, Rachel F. - 268
Hechtlinger, Shahar - 113
Hect, Cameron - SYM-025
Hedley, Laiton - IV-157
Heeger, Katelyn - II-099
Heekang, Lim - II-035
Hefkaluk, Natalia - 7
Hefner, Arwen - III-027
Hegarty, Mary - I-075, I-086

Hegeman, Phillip C. - 156
Heindorf, Gavin - V-004
Heiter, Rachel M. - IV-043
Helder, Anne - IV-094
Helm, Abigail - II-028
Helm, Jonathan - IV-037
Helmer, Jessica - 342, II-063
Helton, William - V-018
Hemmer, Pernille - III-175, III-179, III-182
Hemming, Wiebke B. - 193
Henderson, Sarah E. - II-032
Hendrix, Kellen - II-157
Heng, Anna HS - I-088
Henik, Avishai - 304, I-069
Hennessy, Sarah L. - 221
Henning, Nichole - IV-110
Henry, Joely - V-016
Henry, Madelyn - I-118
Heo, Yeongsun - III-003
Hernandez, Gabino - III-006
Hernandez, Raul - 296
Hernandez Santacruz, Jasmin - III-024
Herold, Debora - 17
Herrera, Esmeralda D. - IV-089
Herrmann, Esther - II-075
Hertel, Paula - 133
Hertwig, Ralph - 113
Hertz, Uri - V-033
Herzmann, Grit - 47
Heshmati, Hosain - IV-136
Heyman, Gail - SYM-026
Hickey, Maria M. - III-015, SYM-007
Hicks, Jason - II-149
Hicks, Luke - II-139
Hicks, Sydney - III-081
Higaki, Shuichi - V-067
Higby, Eve - IV-021, IV-022
Hilbert, Alejandra M. - V-076
Hildenbrand, Lena - V-154
Himmelstein, Mark - 342, II-063, II-067, IV-040
Hinze, Scott R. - V-120
Hirsch, Michelle E. - 220, IV-033
Hirshorn, Elizabeth - I-102
Hirst, William - SYM-018
Hishinuma, Sanako - III-173
Ho, Pin-Jui - II-041
Hoang, Angelina M. - III-141
Hoang, Gwen - II-064, IV-044, IV-047
Hodgins, Vegas - 185
Hoefeijzers, Serge - 286
Hoffman, Annie - 340
Hoffman, Madelyn J. - 8
Hoffman, Maeve L. - IV-059
Holcomb, Phillip J. - 127, V-085, II-108
Holczer, Adrienn - II-129
Holden, LaTasha R. - IV-015, III-090
Holgado, Darias - 38
Hollander, John - V-063, III-063
Hollingworth, Andrew - 241
Holm, Vincent - SYM-011
Holmes, Kevin J. - IV-092
Holt, Jenna - II-064, IV-044, IV-047
Holt, Lori L. - I-115, III-099
Homer, Bruce D. - IV-057
Hood, Audrey - III-015
Hopkins, Michael - SYM-006
Horn, Lexi F. - 298
Horne, Sarah N. - 197
Horton, William S. - III-095
Hotaling, Jared - 312
Hou, Yubo - SYM-016
Houck, Lindsay A. - III-019
Houser, Troy - III-039
Hout, Michael C. - 116, IV-118, III-084
Hoversten, Liv J. - 32
Howard, Ladykevviona - 138
Howard, Zachary L. - II-182
Hsieh, Shulan - III-130
Hsu, Chia-Chi - V-058, II-049
Hsu, Hsin-Jen - II-049
Hsu, Hui-Yu - V-058
Hu, Amber - I-064
Hu, Gengshi - II-117
Hu, Huiyi - 30
Hu, Jenna - 133
Hu, Mianzhi - 115, II-176, IV-041
Hu, Shanhua - V-008
Hu, Shu - IV-090
Hu, Xiaoqing - 285
Hu, Xucong - V-015
Hu, Yuzheng - V-150
Huang, Changrun - 301
Huang, Guozheng - III-067
Huang, Ming-Yang - II-041, II-044

Huang, Sheng-Hsu - II-041, II-044
Huang, Tianxin - V-015
Huang, Xin Ying (Erica) - IV-078
Huang, Yuhui - 23
Hubbard, Edward - V-059
Hubbard, Timothy L. - 209
Huber, David E. - 313, II-169, IV-003
Huebert, Andrew M. - 199, I-161
Huette, Stephanie - V-063, III-063
Huff, Mark J. - I-121, I-164, II-149
Huffaker, Kyle D. - III-099
Hughes, Anna - I-031
Hughes, Gethin - 50
Huh, Ariel - III-154
Hulbert, Justin - 133
Hummel, John E. - 268
Hummel, Kirsten M. - I-034
Humphrey, Haydn - I-065, I-104
Hunter, Colton - II-161
Hupbach, Almut - IV-140
Hurtado Woenckhaus, Samantha Rocio - V-140
Hutcheson, Adam - V-054
Hutchinson, Samantha - IV-143
Hutchison, Keith A. - 9, III-015, IV-158, V-005, SYM-007
Hutson, Emily A. - II-150
Hyman, Ira E. - 154

Ibarra, Alam - II-188
Ibarra, Hana M. - 49
Ibarra, Valerie M. - III-022
Ibrahim, Alessia - V-011, V-115
Ibrahimi, Mergime - 338, II-024
Idemaru, Kaori - 284
Ileri-Tayar, Merve - 302
Illingworth, David A. - V-040
Im, Hee Yeon - I-020
Inayat, Samsoon - I-002, IV-169
Incera, Sara - 122, I-065, I-104
Indrajaya, Alyssa - 175
Ingendahl, Franziska - 56
Ingvalson, Erin - III-007
Iniesta, Antonio - 185
Inoue, Haruna - III-167
Intraub, Helene - I-084
Ionin, Inna P. - I-070
Iqbal, Zunaira J. - V-025
Irons, Sarah - I-068, I-094
Isham, Eve A. - III-135, III-181
Ishida, Mako - IV-103
Isurin, Ludmila - 212
Itoh, Kosuke - V-066
Ivanova, Iva - 58, V-024
Ives, Emily - III-155
Izura, Cristina - II-020

Jaber, Hana - III-100
Jackson, Henry - III-074
Jacobs, Cassandra L. - 202, I-124, V-090
Jacobsen, Thomas - I-052, II-068
Jacobson, Travis - III-156
Jaeger, Allison J. - V-154, II-061, IV-113
Jaeger, Antonio - 227
Jaeggi, Susanne M. - III-083
Jaffe-Dax, Sagi - II-047
Jaggi, Olivia - SYM-016
Jaime Brunet, Milca - I-108
Jalbert, Madeline - V-055
James, A. Harrison - IV-086
James, Joanna M. - V-009
James, Kelsey K. - I-137
James, Lori E. - I-151, II-029
Jameson, Molly - IV-012
Janczyk, Markus - 193
Jang, Yoonhee - II-175, III-115
Janiszewski, Britney - I-123
Jant, Erin - 17
Jarosz, Andrew F. - II-073
Jenkins, Olivia K. - 71, III-086
Jennings, Eevin - 19, 326
Jeong, Julia (You Jin) - V-056
Jesse, Alexandra - I-114, I-116
Jezzini, Ahmad - 19, 326
Jiang, Grace - V-117
Jiang, Jiefeng - 305
Jiang, Shuangke - 13
Jiang, Yanni - 232
Jiang, Yiliang - SYM-026
jimenez, Modica - III-170
Jin, Jennifer - V-006
Jobson, Katie - II-022
Joe, Justin - IV-079
John, Majoubi R. - 92
John, Richard S. - I-053, V-039

Johnson, Jeffrey - I-146
Johnson, Montgomery - I-170
Johnson, Pierce - III-065
Johnson, Rebecca L. - II-099
Johnson, Samuel G. B. - 195
Johnson, Sara - III-058
Johnson, Sharde - SYM-008
Johnson, Victoria - II-058
Johnstone, Stephanie N. - III-071
Jones, Alyssa R. - V-096, IV-120
Jones, Cameron - 336
Jones, Douglas - 198, V-158
Jones, Henry M. - III-184
Jones, Kyler - III-034
Jones, Sarah N. - III-051
Jones, Todd C. - 251
Jonides, John - 79
Jose Ortells, Juan - SYM-007
Jouravlev, Olessia - III-186
Jovanovic, Katarina - V-087
Ju, Minji - III-072
Juaire, Oliver G. - 322
Juarez, Grace - I-036
Juarez, Madison - V-098, V-103
Juarez Ortega, Fernanda - I-039
Juhasz, Barbara - II-100
Jung, Amelie C. - IV-167
Jung, Shinyoung - 36
Jung, Yeojin - 284
Junker, Matthew - IV-003
Jussupow, Ekaterina - 56
Justus, Sidni A. - II-150

Kähler, Svantje - I-052
Küntay, Aylin - 60
Kaan, Edith - I-092
Kachappilly, Nikita J. - 66
Kadowaki, Rentaro - IV-180
Kahan, Todd A. - III-005
Kahana, Michael J. - 132, IV-137
Kaiser, Shelby M. - II-099
Kaku, Michelle - 175
Kalish, M. L. - III-036, III-037
Kalra, Priya B. - 269
Kalwani, Jai - 137
Kambara, Hitomi - I-103, IV-106
Kamp, Siri-Maria - IV-153
Kan, Irene P. - 78, IV-006, IV-028
Kandel, Emma - V-153
Kane, Amanda - III-060
Kane, Kelly A. - 327
Kane, Michael J. - III-150
Kang, Kristin - IV-012
Kapadia, Kevin - I-053, V-039
Kapatsinski, Vsevolod - 284
Kaplan, Raphael - 210
Kapnoula, Efthymia C. - 321, V-094, II-144, IV-108
Karagoz, Ata B. - I-054, III-009
Karakok, Gulden - IV-012
Karaman, Ferhat - IV-104
Kara-Yakoubian, Mane - III-041
Karger, Ezra - IV-040
Karimi, Hossein - 32, 244, 296, II-095
Karlin, Robin - IV-097
Karlinsky, April - 44, IV-004
Karnik, Minoti - III-170
Karpicke, Jeffrey D. - I-147, I-157, IV-141
Karst, Aaron - I-013
Kasanov, Dauren - II-162
Kaschak, Michael P. - I-042, III-185
Kates, Maya S. - III-059
Katharina Weinerth, Maike - IV-005
Kathman, Kate - III-035
Katz, Ben - I-010
Kausel, Edgar - II-063
Kawahara, Jun - I-011
Kawamoto, Alan - IV-109
Kawasaki, Yayoi - I-125
Kay, Cameron S. - 26
Kaya, Samet - II-138
Kayl, Andrea - IV-061
Kazanas, Stephanie A. - I-149, IV-085
Kazatchkova, Anna - I-143
Kealey, Emma - 130
Keating, Gregory D. - V-027, V-028
Keeler, Griffin - I-013
Kellen, David - V-145
Kelley, Ashlei M. - V-035
Kelly, Andrew - II-143
Kelly, Jonathan W. - III-081
Kelly, Kyla - 333
Kelly, Tatum - 337
Kelso, Lauren - V-100
Kennedy, Amy - V-093

Kennedy, Briana L. - II-131
Kensinger, Elizabeth A. - V-133, II-033, IV-143
Kerimici, Dalia - V-146
Kershner, Ariel M. - 241
Kersten, Alan W. - I-117
Keshet, Joseph - 279
Kessler, Yoav - 105, II-172
Ketcheson, Sam - III-137
Keysar, Boaz - I-100
Khader, Alaa - 232
Khan, Zayaan - V-060
Khanna, Maya M. - 17
Kherbawy, Nadeen - II-047
Khoukaz, Natalie - II-168
Khudiyeva, Rashida - V-126
Kidd, Matthew - IV-139, III-073
Kiessel, Tanner - I-101
Kilic, Asli - 107
Kim, Andrea - II-187
Kim, Contessa - IV-126
Kim, Eunbee - I-051
Kim, Hanna - 325
Kim, Hee So - I-022
Kim, In-Kyeong - I-126
Kim, Jamie - I-130
Kim, Jee-Seon - 325
Kim, Kyungmi - V-016
Kim, Mina E. - II-166
Kim, Min-Shik - II-019
Kim, Minwoo JB - IV-165, III-003
Kim, Seung-Eun - 279
Kim, Sunghyun - I-029
Kim, Yoolim - IV-105
Kimbrell, Cody - IV-077
Kimhy, David - IV-059
King, Emma - IV-060
Kingstone, Alan - 44, IV-004
Kinley, Isaac - 191
Kirchhoff, Brenda A. - V-139
Kirkland, Caleb - V-083
Kirkman, Cyrus - 179, V-060
Kirsh, David - I-079
Kirubakar, Nayna - III-186
Kis, Hunor - I-045
Kissel, Taylor-Nicole - I-028
Kiyonaga, Anastasia - II-166
Kleider-Offutt, Heather M. - V-112, IV-043, IV-046, IV-115
Klein, Raymond M. - 142
Kleine, Patrick - V-019
Kleinman, Daniel - 128
Kless, Xavier - 34
Klingenberg, Haley - V-104
Klochkova, Iana - III-074
Klopukh, Isabella - 15, III-134
Klosterman, Samantha - II-159
Knepple, Nona - IV-161
Knight, Sarah - 318
Knopps, Alexander G. - IV-112
Knowlton, Barbara J. - II-145, III-162
Knox, Lauren E. - III-078
Koch, Chris - III-016
Koch, Iring - 35
Koedinger, Ken R. - III-032
Koehl, Derek - 337
Koerfer, Krischan - IV-168
Koh, Livia - II-151
Kohler, Stefan - 48
Kolar, Magdalen - 275
Kole, James A. - V-078
Kolodzienski, Lena - V-141
Kolovos, Eleni - I-158
Kool, Wouter - II-039, III-009
Korenar, Michal - 186
Korotzer-Mariani, Ruby - II-099
Kosachenko, Alexandra - II-162
Koshino, Hideya - V-011, II-074, II-115
Kothari, Zoe B. - I-079
Kotter, MaeYa - III-122
Kotyusov, Alexander - II-162
Kouk, Mabel SF - V-127
Kowal, Wiktoria - IV-110
Kowalski, Patricia - 17
Kozlova, Olga - 236
Kpormegbey, Ayden - II-106
Kramer, Grant M. - 223
Kramer, Tessa - II-051
Krasich, Kristina - I-014
Krasovskaya, Sofia - IV-183
Kraus, Sheridan - II-088
Krause, Erika - III-042
Kravitz, Dwight J. - 98, I-032, II-170
Kreiner, David - II-178

Kreuz, Roger J. - 310, IV-056
Krichmar, Jeffrey - I-075
Krishnan, Aditya - II-138
Kristianto, Velika - 44
Kroll, Judith F. - 90, IV-027, III-024
Krsmanovic, Gala - 75
Kruczek, Oliwia - II-187
Kshirsagar, Anusha A. - III-017
Kubik, Veit - 325
Kuhlman, Sarah - III-006
Kuhlmann, Shelbi - 172
Kuhlmeier, Tobias - III-026
Kulbe, Lars - II-182
Kumar, Abhilasha A. - 245, IV-064, III-104
Kumar, Jyoti - III-159
Kumolalo, Ferdinand B. - IV-048
Kunath, Jeffrey - I-076, IV-034
Kuperman, Victor - 297, 331, II-101, II-105
Kurapov, Anton - SYM-021
Kurby, Christopher A. - V-044, V-047
Kurinec, Courtney A. - 111, IV-007
Kurtz, Kenneth J. - I-049, V-118
Kutlu, Ethan - 125
Kutzler, Connor - I-080
Kvam, Peter D. - 314
Kwon, Ashley - I-118

López Díez, Jaime - IV-090
López-Rojas, Cristina - I-036
Labaronne, Maximilien - 260, V-146
Lacanlale, Madison C. - V-023
Lachman, Margie - 77
Lacy, Krueger - IV-122
LaFollette, Kyle - 160, IV-111
Laha, Anushka - II-050
Lahrodi, Manya - II-056
Lai, Vicky Tzu-yin - 47
Lakshmanan, Usha - 146
Laleka, Maryam - I-002, IV-169
Lampinen, James Michael - I-122, III-144
Landi, Nicole - 128
Langa, Kellie - IV-126
Lange, Sandra - IV-167
Langsdorf, Leif Erik - 303
Langston, William - IV-077
Lanier, Lebron - II-187
Lapaz, Juno - I-107
Lappe, Markus - IV-168
LaSaga, Madison - 133
Lascar, Norah E. - III-141
Laursen, Skylar - III-164
Lavallée, Isabelle - I-134
Lavric, Aureliu - 91, III-021
Lavrova, Irina - II-133
Lawriw, Alexander N. - II-134
Lawson, Alyssa - 170
Lawyer, Laurel - III-093
Le, Taylor - I-173, I-174
Le, Trung - 312
Le Pelley, Mike - IV-002, III-008
Leber, Andrew B. - 41, II-008
Lebkuecher, Amy - III-102
Leboe-McGowan, Jason P. - IV-176
Lee, Chanju - I-144
Lee, Chia-Lin - III-102
Lee, Christine - I-131
Lee, Eungik - 156
Lee, Hongmi - IV-054, IV-066
Lee, Hsin-Yuan - 66
Lee, Hyejin J. - 344
Lee, Hyorim - III-088
Lee, Inju - III-088
Lee, Jaein - II-021
Lee, Joseph G. L. - III-027
Lee, Kyoungen - IV-029
Lee, Kyoungeun - II-032
Lee, Seowoo - III-088
Lee, Tae-Ho - I-010
Lee, Taraz - 79
Lee, Yoon - V-010
Lee, Yoon Kyung - II-035
Lee, Yoonsang - IV-016
Lee-Abbey, Alonzo - IV-076
Lega, Carlotta - III-055
Lehman, Melissa - 17
Lei, Andrew - II-095
Lei, Daisy - 291
Leiker, Ashlyn - II-036
Lemler, Morgan O. - 201, III-171
Lemm, Kristi - IV-131
Lentz, Jennifer J. - IV-174
Lenza, Brianna - IV-143
Leon, Alex - II-064, IV-044, IV-047
Leonard, Carly J. - I-023

Leong, Vincent - III-132
Leong, Wesley - I-041
Leow-Guerville, Renee - IV-175
Leppanen, Marcus L. - V-064
Leroux, Audrey - III-126
Lester, Zoë - III-011
Letrou, Ariadne - III-148
Leventon, Jacqueline S. - IV-155
Levi, Adva - III-152
Levi, Dennis M. - II-190
Levin, Shahked - 299
Levine, Bennett - I-155
Levine, Brian - IV-149
Levine, Daniel - V-037
Levine, William H. - V-081
Levy, Ben - 133
Levy, Charlotte - 318
Lewis, Joanna - IV-012
Lewis-Peacock, Jarrod - 232
Leyvas, Emerald - V-119
Li, Chenyu - 265, II-117
Li, Chuchu - 29, III-028
Li, Jiangtian - 119
Li, Jiaze - V-029, V-030
Li, Joyce - IV-137
Li, Kristen - III-102
Li, Weiling - 309
Li, Xingshan - II-101
Li, Ye - 319
Li, Yu - 261
Li, Yun-Ru - I-047
Li, Zeyu - I-153
Li, Zhenghui - I-089
Li, Zhuo - IV-148
Liégeois-Chauvel, Catherine - V-155
Liang, Garston - V-065
Liang, Wusheng - I-022
Liao, Hsiao-Wen - III-126
Liao, Qiuyan - SYM-001
Liao, Yongfu - III-036
Liao, Yu-Chi - III-130
Lien, Mei-Ching - V-083, II-007
Liew, Ryan - V-001, III-043
Lifshitz Ben Basat, Adi - V-080
Limeri, Lisa B. - 19, 326, SYM-025
Lin, Chaolan - III-082
Lin, Charles - 159
Lin, Chia-Ying - I-066, III-002
Lin, Hung-Chu - IV-106
Lin, Ke - IV-023
Lin, Siyu - V-091
Lin, Szu-Hung - III-130
Lin, Yu-Cheng - I-103, IV-106
Lindor, Amir - III-179
Lindquist, Kristen - IV-053
Lindsay, D. Stephen - II-137
Lindsey, Dakota - I-145
Ling, Joshua - 323
Linley, Stephanie - III-109
Lipourli, Eleni - I-095
Lipowski, Stacy - IV-126
Lipp, Annalisa - III-113
Liss, Miriam - V-064
Litovchenko, Alexander - II-023
Little, Daniel R. - V-041
Little, Haylee - 243
Little, Jeri L. - V-119
Liu, Alan - 317, IV-045
Liu, Anna Y. - IV-175
Liu, Fengyuan - 41
Liu, Jiaying - IV-078
Liu, Linzan - III-118
Liu, Lu - I-038
Liu, Philip R. - IV-066
Liu, Ruizhe - 208
Liu, Taosheng - V-036, III-012
Liu, Xiaonan L. - I-136, I-153
Liu, Xin-Pei - IV-073
Liu, Yangying - II-064, IV-044, IV-047
Liu, Yanjun - 270
Livnat, Ohad - I-050
Lizar, Geoffrey - IV-094
Lo, Abigail - III-032
Lo, Yi-Pei - III-110
Loaiza, Vanessa - V-149
Lob, Aaron - 272
Lockamyeir, Robert - IV-120
Loftus, Elizabeth F. - I-017, I-126
Logan, Gordon D. - 250
Lohani, Monika - I-074
Lohnas, Lynn J. - I-144, V-131
London, Justin - IV-105
Looney, Lisa - V-017
Lopez, Melissa M. - V-011

Lopez, Mia - 177
Lopez, Sophia - IV-022
Loprinzi, Paul D. - 252
Loritsch, Julie M. - III-111
Los, Sander A. - I-106
Losanes, Achilles - III-108
LoTemplio, Sara - SYM-008
Lougen, Daniel - I-006
Louhis, Sherfran - V-151
Loureiro-Rodríguez, Verónica - IV-026
Love, Jonathon - IV-157
Lowder, Matthew - I-098
Lowe, Angela Nelson - I-141
Lowe, Lauren - III-133
Lu, Annie S. - I-067
Luan, Lingfei - II-062, IV-090
Lucas, Heather D. - IV-145
Luck, Steven J. - II-002
Lucyshyn, Megan E. - 167
Ludka, Sienna - IV-079
Ludvig, Elliot A. - 315, III-049
Luebke, Kaelyn - III-017
Lui, Alex - IV-132
Lui, Taylor - II-190
Luke, Steven G. - 129
Lundin, Nancy - IV-064
Luo, Chuan - II-055
Lupker, Stephen J. - 206
Luque-Casado, Antonio - 38
Luria, Roy - IV-063, III-106
Lussier, Catherine M. - II-057
Luthra, Sahil - I-022, IV-107
Lytle, Naomi - IV-181
Lyu, Tianning - 340

Ma, Si - 169, III-161
Ma, Xiaojin - II-002
Münzer, Stefan - III-064
Maaz, Jacob - 211
Mac Neil, Mila - 87, III-127
Macabulos, Patricia Morada - II-015
MacDougall, Sarah - I-124
Macias, Gia M. - II-187
Macias Zuniga, Maria Jose - 128
MacKay-Brandt, Anna - II-028
Mackey-Underwood, Nevaeh - III-169
MacLeod, Colin M. - 95, 133, 134
Macnamara, Brooke N. - 160, IV-111, III-048
MacRae, Suesan - 48
Macuga, Kristen - I-080
Madan, Christopher R. - 315
Maflahi, Abduldayam - 340
Magliano, Joseph P. - 253, IV-090
Magnuson, James S. - IV-098
Mahableshwarkar, Prachi - 98
Mahagabin, Sanweda - III-014
Maher, Zachary - III-023
Mahesan, Devu - IV-005
Mahzouni, Ghazaleh - IV-179
Mailhot, Fred - V-090
Majima, Yoshimasa - II-059
Mak, Matthew - 332, III-096
Makani, Aalim - IV-069
Makovski, Tal - 143
Makwana, Mukesh B. - 73, I-170, V-071, IV-060
Malaie, Hoshmand - I-056
Malharin, Ihintza - IV-098
Malhotra, Gaurav - II-185
Mallah, Mays - III-011
Mallard, Mel - IV-102
Malmberg, Kenneth - IV-153
Malykke, Sarah B. - I-032
Mandal, Ananya - 74
Mandel, David R. - 152, 341
Mandujano, Evelyn - SYM-025
Mangold, William - 337
Manley, Ashley - III-083
Mann, Michael - SYM-001
Manna, Matthew - I-132
Manns, Joseph R. - I-155
Manshoory, Shyawn - V-079
Mansi, Silvia Angela - V-057
Manspeaker, Stella - IV-142
Marchena Giráldez, Carlos - 12
Marelli, Marco - V-057
Marian, Viorica - 295, I-036, III-097
Marino, Allison N. - V-142
Mariot, Pedro - 90
Marit, Metz - 104
Marko Lee, Marissa - III-087
Marks, Melissa - V-089
Marois, Alexandre - I-134, V-021, SYM-010
Marois, René - 23, II-017
Marome, Brecken T. - III-184

Marsh, Elizabeth J. - III-089, III-131
Marsh, Jessecae K. - 181
Marshall, Alyson - I-044
Marshall, Kelly - IV-095
Marshall, Max - 190
Marshall, Philip H. - 102
Martín Rodríguez, Lorena - II-096
Martarelli, Corinna - 38
Martella, Amedee - 170, I-132
Marti, Melvin - I-057
Martin, Clara D. - 30, IV-024, III-022
Martin, Laura - V-045
Martinez, Jonathan - V-006, III-006
Martinez, Melena - II-056
Martinez Jimenez, Vicente - V-119
Marton, Klara - V-031, II-112
Masci, Sophia - II-063
Mashal, Nira - V-080
Mason, Alice - 155
Mason, Claire - I-133
Mason, Lauren - I-172
Mason, Mercury - I-049
Masso, Anu - 338, II-024
Mather, Mara - IV-062
Mathiassen, Ida - 275
Mathis, Ashley P. - III-084
Mathy, Fabien - I-083, V-140, II-160
Matson, Lucy A. - 147
Matsukuma, Haruka - V-165
Matthews, Percival - V-059
Mattys, Sven - 318
Matzke, Dora - 104, 316, II-182
Maximous, Catherine - 90, V-029, V-030
Maxwell, Keegan - III-133
Maxwell, Nicholas P. - I-164, III-168
May, James C. - 309
Mayer, Richard E. - IV-057
Maynard, Hezron - I-169
Mayr, Ulrich - II-004, IV-163, III-044
Mayrand, Florence - 213
Mazhar, Nicole - I-169
Mazor, Matan - 180
Mazuz, Yarden - 67, II-172
McArdle, Emily - III-029
McAuley, J. Devin - III-062, III-183
McBeath, Michael K. - 319, II-189, III-178
McBride, Dawn M. - I-118, V-110, III-042
McCabe, Cory - 258, II-102, III-025
McCann, Robert S. - 95
McCarter, Anna - II-151
McCarthy, Kathryn S. - V-120
McCarthy, Sarah - II-053
McCauliffe, Jillian - III-173
McClintock, Rebecca - V-158
McClure, Katelyn L. - 122
McCollum, May W. - I-158, I-167, III-165
McCorkle, Kyli - I-123
McCormick, Colin - 142
McCoy, Haley - V-109
McCracken, Maggie K. - I-081
McCulloch, Kathleen C. - 209
McCune, Teagan - II-123
McDearmond, Alana - 234, II-088
McDevitt, Trinity - II-080
McDonald, John - 42
McDonald, Jordan M. - III-085
McDonnell, Amy - SYM-009
McEvoy, Kelly - III-013
McGatlin, Kristen - V-045, II-036
McGee, Jennifer - 17
McGillivray, Shannon - III-158
McGinley, Jared J. - I-070, II-013
McGowan, Alexandra - IV-178
McGrath, Dylan - II-051
McGuinness, Jacqueline - III-075
McGuire, Emma - I-068
McHale, Michael - II-016
McIntire, Lindsey K. - IV-166
McKay, Michelle - IV-028
McKee, Michael M. - IV-037, III-020
McKee, Paul C. - I-014
Mckinley, Geoffrey - V-104
McKinney, Molly R. - 300
McLaughlin, Drew J. - V-082, V-093, IV-107, IV-108
McLemore, Jennifer - III-144
McMullen, Keely - II-004
McNamara, Danielle - 174
McNamara, Timothy P. - I-077
McNeely-White, Katherine L. - V-155
McNeill, Makyah - 63
mcQueen, Trase - II-036
McRae, Ken - 48
Meacham, Ashley M. - IV-115
Meacham, Jack - III-038

Meade, Michelle - II-142, IV-128
Mears, Rae - V-064
Medina, Miranda - II-145
Meeter, Martijn - I-106
Mehra, Aryan - IV-045
Mehrvarz, Mahbod - 11
Mehta, Uma - V-098
Meinzer, Marcus - IV-005
Mejia, Kemberly - V-017
Mejia, Manuel Alejandro - II-188
Melguy, Yevgeniy - IV-108
Melinger, Alissa - I-035
Mendel, Jonathan - III-004
Mendez, Katelyn - III-006
Mendoza, Marcela P. - 286
Menezes, João - 227
Meng, Lionel - 325
Menon, Meenakshi - 248
Merenstein, Jenna L. - 217
Merseal, Hannah - IV-025
Mert, Nazike - III-142, SYM-016
Mertens, Gaetan - II-128
Metcalfe, Janet - 55, IV-080, SYM-024, SYM-V
Michael, Kirsi - III-133
Michal, Audrey L. - I-055
Midgley, Katherine J. - 127, V-085, II-108
Mikula, Lulu G. - IV-116
Miles, James - III-172
Miletić, Steven - V-042
Millan-Gomez, Leonel - 261
Miller, Adriana R. - 293
Miller, Faith - 194
Miller, Olivia - SYM-019
Miller, Rachel K. - II-166
Miller, Taylor S. - V-152
Milligan, Catherine - III-134
Milligan, Sara - 131, 257, 259, I-108
Milliken, Bruce - 43
Minda, John Paul - 269
Minear, Meredith O. - 222
Mireles, Alena J. - 62
Mirman, Daniel - 148
Mishra, Maruti - I-170, V-071, IV-060
Mitchel, Aaron D. - 333
Mitchell, Mackenzie - 344
Mitra, Ava - I-024
Mitroff, Stephen R. - 71, I-032, II-170, III-086
Mittal, Vijay A. - IV-059
Miyake, Akira - III-160, III-163
Mlinarič, Maša - I-106
Mock, Jeffrey - 138
Mocke, Viola - 264
Moe, Miranda - IV-091
Mogheeth, Niya - V-038
Mohammadi Ghohaki, Tahoura - I-002, IV-169
Mohammed, Amna - II-107
Mohan, Anto Jude - 36
Mohney, Carley - II-051
Mohseni, Fateme - V-073
Molinaro, Nicola - IV-098
Monaco, Antonio - 153
Monajemi, Kian - V-116
Moncalieri, Brittany - I-159
Mondor, Todd - IV-176
Monroy, Jenna - IV-030
Monsell, Stephen - 91, III-021
Montás Aristy, Luis - I-108
Montakhaby, Sevda - 43
Montefinese, Maria - 121, 246
Montelongo, Joana - IV-138
Montemayor, Maxwell J. - V-067
Monteza, Jay Von R. - II-045
Montiel, Ma Angela Edith - IV-096
Montoya, Gustavo Leon - 100
Moon, Diane H. - 167
Moore, Cathleen M. - 68
Moore, Ethan - 130
Moore, Isabelle L. - V-133, II-033
Moore, Katherine S. - 34, II-022
Moore, Spencer - I-149
Moradian, Arineh - V-001, III-043
Morales, Jorge - V-157
Morales, Michael - 18
Morehead, Amelia G. - I-164
Moreland, Molly B. - IV-121
Moreno Cervantes, Marcos - 99
Morett, Laura M. - 60, II-097, IV-097
Moretti, Luca - 35
Morgan, Owen - 94
Morgan-Short, Kara - I-033, IV-034
Morin, Olivier - I-134
Morris, Joanna - 130
Morrison, Katherine - IV-012
Morton, Neal W. - 271, III-114, III-118

Moss, Jarrod - V-147, III-076
Mota, Mariana - I-020
Motz, Benjamin A. - 174, I-128, V-049
Mousseau, Tim - III-086
Mpadanes, Elena Georgia - II-089
Mu, Baitong Barbara - II-003, II-006
Mu, Sen - 285
Muezzinoglu, Mine - II-135
Mukherjee, Kushin - 69
Mulhearn, Sarah - I-068
Mulligan, Neil W. - 228, I-140, I-156, II-138, IV-053
Mullin, Ann - II-144
Mullis, Grayce - III-133
Multhaup, Kristi S. - V-051
Mundell, Janae - II-045
Munneke, Jaap - III-083
Munns, Mitchell E. - I-075
Murat, Zhaniya - II-107
Murphy, Dillon H. - 55, II-152
Murphy, Erin L. - II-125
Murphy, Gillian - II-136
Murray, Baylee - V-101
Murray, Laura - 205
Muscha, Kara - I-165
Mutaf, Sıla - SYM-020
Myers, Emily - IV-098

Nadav, Tehila - I-069
Nadler, Sydni M. - III-087
Nag, Sonali - IV-099
Nagaraj, Akshitha - IV-109
Nagaraj Reddy, Divith Tahsin - II-184
Nagy, Cintia Anna - V-070, III-117
Nagy, Zita - V-070, III-117
Nair, Kalyani - III-122
Nakamura, Kuninori - II-038
Nakamura, Megan - 186
Nakayama, Mariko - IV-106
Nargarkar, Neha - IV-163, III-044
Narhi-Martinez, William - III-112
Narwal, Ambar - V-049
Nason, Kathryn - I-082
Nath, Kalpita - II-166
Nation, Kate - IV-099
Navarro, Ester - V-032
Naveh-Benjamin, Moshe - II-012, II-157
Navidi, Parisa - IV-035
Neal, Joshua - I-010
Nee, Derek Evan- IV-070
Needham, Abigail - I-091, II-090
Neisser, Joseph - V-155
Nejatmand Malari, Hedieh - I-046
Nemeth, Dezso - 83, V-070, II-129, II-130, III-117
Nenning, Karl-Heinz - II-028
Nepangue, Jexy An - 16
Netto, Madeline - II-147
Netzband, Nige - V-019
Neuner, Sara E. - II-065
Neveu, Anne - 30, 182, 183
Newell, Ben R. - 155, 270, IV-002, III-008
Newman, Rochelle S. - II-135
Ng, Audrey D. - 167
Ngo, Anh - I-072
Nguyen, Alexander - II-105
Nguyen, Allison - IV-087
Nguyen, Amy - 46, III-038
Nguyen, Cecilia - V-092
Nguyen, Dan Quoc- 90
Nguyen, Derrick - 60, IV-097
Nguyen, Nhi - II-073
Nguyen, Quan - 313
Nguyen, Tan T. - V-048
Nguyen, Thuy Tien - II-125
Nichols, Jasmine R. - II-083, IV-122
Nicholson, Josephine F R - V-002
Nicole, Jeanne - I-134, SYM-010
Niu, Xinran - III-054
Nobre, Kia C. - III-112
Nodine, Briana - V-098, V-103
Noelle, David - I-056, III-098
Noh, Sharon M. - 271
Nolasco Braaten, Claire - II-083
Noniyan, Emilia - I-169
Nord, Camilla - 37
Norman, Kenneth A. - III-148
Norouzizadeh, Farnaz - IV-150
Nosofsky, Robert M. - 108, IV-134
Nourbakhshi, Hamid - II-193
Novick, Jared M. - IV-095
Noyce, Abigail - I-022
Nozaka, Yoshimune - IV-177
Nozari, Nazbanou - I-115, V-008, III-099
Nuño, Christopher O. - III-011
Nygaard, Lynne - V-091, III-094

Nyhus, Erika - IV-064

Oberauer, Klaus - 13, 264, 265
Oberton, Josephine M. - III-027
Obineche, Joseph - 9, III-015
O'Brien, Jessica - IV-051
O'Dell, Jolie - V-083
Oh, Serin - III-088
Ohyama, Junji - IV-177
O'Keeffe, Fiadhnait - IV-051
Okubo, Matia - I-063, II-014, IV-052
O'Leary, Ryan M. - V-082
Oliva, Mercedes - 339
Oloumi, Elaheh - II-066
Olschewski, Sebastian - I-057
Olsen, Grace W. - IV-131
Olszewska, Justyna - V-164, IV-161
Oltmanns, Thomas - III-126
Omae, Yuka - I-073
O'Neill, Ryanne - III-133
Ongsing, Jared - 324
Opdenaker, Joe - 36, 102
Oralova, Gaisha - 331, II-104
O'Reilly, Jamie A. - IV-009
Orlando, Maria S. - I-021
O'Rourke, Holly - 345, III-136
Ortega, Joshua R. - IV-074
Ortega, Sofia E. - II-108
Ortega, Stella - IV-045
Ortega Llebaria, Marta - V-089
Orthy, Maisha Tahsin - II-184
Orzechowski, Jaroslaw - V-164
Osabiya, Adeola F. - IV-048
Oscar, Yafit - 304
O'Seaghdha, Padraig - II-094
Osman, Allen M. - II-078
Osth, Adam - 162
Ostrand, Rachel - 205
Ostrovsky, Tehilla - II-077
Osuna Benavides, Ángela - 12
Otahara, Yutaka - II-014, IV-052
Ouchikh, Yasmine - V-031
Overlander, Annika T. - 22
Overono, Acacia - V-106
Owen, Tyler - 36
Oxford, Skylar J. - IV-046
Ozata, Nur - III-055
Ozburn, William - IV-018
Ozdemir, Oyku Goze - 107
Ozimac, Kayley - I-003, I-005
Ozomaro, Bella - IV-059

Pérez, Héctor - 253, IV-090
Pérez-Navarro, Jose - IV-098
Paap, Kenneth R. - 92
Paban, Véronique - 211
Pablo Ríos, Victoria - 12
Paff, Harrison A. - I-035
Page, Ciara H. - II-159
Paige, Amie - 306, 309
Paik, Se-Bum - III-045
Paircharoen, Chidchanok - II-095
Paladino, Morgan - IV-139
Palin Montero, Katherine - III-027
Pallis Hassani, Natalia - III-162
Palmer, Cara - II-142
Palombo, Daniela - 159
Palsamudram, Tanvi - V-157
Pambuccian, Felix - II-072
Pan, Katie - 181
Pan, Steven C. - 175, V-126
Pan, Yali - I-109
Panayiotou, Angel M. - III-163
Pannier, Patrick E. - 72
Pantesco, Elizabeth J. - 78
Pantoja, Maué - 272
Papaleonti, Isabella M. - I-070
Papesh, Megan H. - 116, V-135
Paquette, Natalie - II-025
Paranjape, Pratik S. - I-002, IV-169
Park, Geuntae - II-035
Park, Joyce S. - III-089
Park, Youngeun - 344
Parker, Eric - I-022
Parker, Kaya - I-007
Parker, Tyler - V-116
Parks, Colleen M. - IV-150, III-154
Parra, Dani - 135
Parshina, Olga - II-107
Patel, Gia - V-156
Patel, Naomi - III-132
Patel, Reet - IV-025
Patel, Vinaya - I-007
Pat-Osagie, Ikponmwosa - 179

Patrick, Ryan - 170, I-132
Patten, Kristopher J. - II-189
Patton, K. Jakob - 319
Paul, Brandon - IV-069
Paulino-Gomez, Katherine - V-031
Paulis, Charlotte - III-105
Pavlik, Philip - 323
Pavlov, Yuri G. - II-162
Paxton, Alexandra - 235, 311
Payne, Brennan - 257, 259, 320
Payne, Jessica D. - III-054
Paynter, Ernie - V-116
Pe Benito, Charynna - III-059
Peña, Tori - 215, II-079
Pearson, Caitlin - V-085
Pece, Francesca - I-108
Pedersen, Nigel - V-155
Peelle, Jonathan E. - V-082
Peled, Reut - IV-063
Peltier, Chad - IV-162
Peng, Haowei - II-048
Peng, Linkai - IV-098
Peng, Shikang - IV-149
Pennekamp, Pia - III-144
Pennycook, Gordon - V-052, SYM-004
Peper, Phil - 345
Pepperberg, Irene M. - 64
Perdomo, Michelle - I-096, IV-101
Perdue, Bonnie - V-061
Pereira Soares, Sergio - 93
Perez, Eliany - I-076
Perez, Sienna - SYM-015
Perfetti, Charles A. - 331, IV-094
Perfors, Andrew - 270
Perkins, Claire - III-090
Perlman, Jonah - II-045
Permenter, Brady - II-139
Perotti-Orcutt, Shayla - 154
Perri, Rachel L. - III-035, III-037
Perry, Nathaniel - I-091, II-090
Persaud, Kimele - 288, I-064, V-129
Pesthy, Orsolya - V-070, II-129, III-117
Petcovic, Heather - 269
Peterson, Daniel - 176, II-180
Peterson, Emma - 233
Peterson, Mary A. - 10
Petrick, Riley - III-138, III-140
Pfaff, Daniel - 32
Pfahl, Tyler - IV-075
Pfister, Roland - II-037
Pham, Mai Phuong - V-040
Phan, Hieu - 340
Philbeck, John - 98
Philip, Vineetha S. - 205
Picken, Camryn - II-113
Pierce, Benton H. - I-119
Pietarinen, Ahti-Veikko - 338
Pignatti Pino, Luiza - I-169
Pilegard, Celeste - 328, I-131
Pili, Ryan - IV-109
Pilipenko, April - II-042, IV-178
Pillai, Mark - V-012
Pillai, Raunak - I-058, V-055
Pirrone, Angelo - 278
Pisch, Frank - 56
Pistono, Aurélie - II-086
Pitt, Mark - I-111
Plass, Jan L. - IV-057
Pleskac, Timothy - V-036
Pliatsikas, Christos - 186
Plonsky, Ori - 118
Pochron, Taylor - 90
Pola, Shrinidhi - III-062
Pollock, Clay - III-170
Polozova, Sophia - I-173
Polyn, Sean M. - 240
Porret, Axelle - I-083
Potter, Christine - II-047
Potts, Cory - III-175
Pradhan, Rujuta - V-045
Prasai, Ruisha - II-013
Pratt, Danielle N. - IV-059
Pratt, Jay - I-006, IV-019, III-177
Preston, Alison R. - 45, 267, 271, III-114
Previtali, Paola - V-057
Price, Jodi - 337, I-165, V-072, II-171
Price, Marlin - 340
Prigorkina, Veronika - I-109
Prioleau, Tamia - I-127
Privitera, Adam John - 123
Priya, Khushi - I-016
Proskurin, Aleksei - III-180
Protzko, John - 86
Pulido, Joemari - 130

Pun, Carson - IV-069
Purcell, Jeremy J. - 258
Purcell, Jeremy J. - II-102, III-025
Purdom, Beau D. - I-166, III-169
Pusser, Anna - 194
Puthusseryppady, Vaisakh - I-173
Putnam, Adam - SYM-019
Pyers, Jennie - 59, V-162

Qadri, Muhammad A. - IV-006
Qian, James - 77
Qiu, Lanting - II-017
Qiu, Melissa - 179
Quazi, Naria - IV-164
Quertemont, Etienne - III-105
Quiñones, Dillon A. - 237, V-142, III-110
Quigley, Kristen G. - 237
Quinn, Jessie - 28
Quintero, Ulises - V-092
Quteibi, Nour - I-170, V-071

Röer, Jan Philipp - I-024, I-027
Rabelhofer, Luke - II-057
Racioppo, Keith - I-025
Radach, Ralph - 297
Radhi, Ali - II-192
Radpour, Nelu D. - I-042
Radvansky, Gabriel A. - 135
Raffel, Noah - IV-161
Ragó, Anett - I-045
Rahgosha, Pouria - V-147
Rajaram, Suparna - II-079
Rakison, David H. - I-048
Ramaglia, Rachel Jordan - V-112
Ramesh, Prathibaa - V-126
Ramey, Michelle M. - 112, IV-152
Ramirez Hernandez, Luis - 63
Ramirez-Esparza, Nairan - III-034
Ramon Alaman, Jonay - I-134
Ramos, Danielle - 244
Ramos de Camargo, Julia - V-084
Ramos-Marte, Crismar - 130
Rampat, Ajay - I-169
Ramseyer, Max - III-128
Ranade, Arnav - V-060
Rancorn, Emily A. - V-004, IV-017, IV-055
Rand, David G. - V-052, SYM-003, SYM-004
Rangel, Antonio - 117
Rann, Bailey - III-183
Rapp, Brenda - 207, III-111
Rapp, David N. - 253, II-065, IV-059
Rashidi, Marjan - I-075
Rath, Tapas - IV-049
Rathbone, Clare - SYM-021
Ratiu, Ileana - I-107
Ravizza, Susan M. - III-085
Ravula, Sriya - V-148
Raymond, Camila - I-039
Ray-Morales, Miyah - V-044
Raz Groman, Zohar - V-128
Rea, Stephany - V-121
Read, Katriel - III-146
Reber, Paul J. - III-120
Redick, Thomas S. - 8
Redifer, Jenni L. - 17
Reed, Catherine - 96, II-030, IV-030
Reich-Fuehrer, Melissa - I-071
Reid, Lorena E. - V-164, IV-161
Reil, Selina - I-169
Reimer, Jason F. - V-006, III-006
Reinhartz, Alice - II-068
Reips, Ulf-Dietrich - 22, II-179
Reitan, Kristina-Maria - II-007
Rennels, Jennifer - 234
Reppa, Irene - II-020
Resultan, Julian - V-119
Revill, Kate P. - V-091
Rey, Arnaud - 211
Reyes Ayala, Annyher - 222
Reyna, Valerie F. - 276, 317, I-072, V-114, IV-045
Reynaga, Jajaira L. - I-135, III-091
Reynvoet, Bert - 50
Reysen, Matthew - V-136
Rhilinger, Joshua - IV-070
Rhodes, Emma - V-149
Rhodes, Matthew G. - I-154, V-109, V-153
Ricco, Robert - II-074, II-115
Rich, Anina - II-015
Rich, Antonia - V-062
Richmond, Alexis M. - III-157
Richmond, Lauren L. - IV-038
Richtsmeier, Peter - V-075
Rickard, Timothy C. - IV-135
Ricker, Timothy J. - 237, V-142, V-148

Ridchenko, Marina - I-033
Ridout, Kenji - II-074
Riedmann, Casey M. - II-100
Ries, Stephanie K. - III-022, III-026
Rieskamp, Jörg - I-057
Riggenbach, Mackenzie - V-107, III-133
Rinaldi, Luca - V-057
Rios, Jaime Ali H. - V-013
Rischert, Noah - II-118
Risko, Evan F.- III-164
Rissman, Jesse - III-162
Ristic, Jelena - 213, III-052
Ritchey, Maureen - III-129
Ritchie, Michaela - IV-132
Rivard, Justine - III-166
Rivers, Michelle - SYM-026
Rivkin, Brady - IV-105
Rizzo, Michael - II-177
Roark, Casey L. - I-046
Robinson, Maria - 53
Robison, Matthew K. - V-022
Roby, Cintya - IV-081
Rocha, Harold - V-004
Rochanavibhata, Sirada - V-026
Rodas De León, Nancy E. - 61
Rodríguez Aramendía, Marta - 210
Rodrigo-Tamarit, Maria - IV-026
Rodriguez, Gabriel A. - I-100
Rogers, Alexandria B. - 313
Rogers, Chad S. - V-082
Rogers, Curtis - 84, III-121, III-153
Rogers, Nicholas - III-079
Rogge, Stefan - 56
Roldan, Michelle - I-101
Rollins, Taj - IV-048
Román Irizarry, Alexandra - IV-027
Romagano, Joseph - IV-140
Romero, Bryce C. - IV-017, IV-055
Romero, Veronica - 235, 311
Rompilla, David Brian - 25
Rooney, Tess - 130
Rosales, Kevin P. - V-006, V-017, III-006
Rose, Nathan - II-119
Rose, Nicole F. - II-078
Rosenbaum, David A. - 24, I-160, V-001, III-043
Rosenbaum, R. Shayna - I-021
Rosenberg, Monica - 344, IV-067
Rosmawati, Rosmawati - V-127
Ross, Josephine - I-035
Rossi, Eleonora - 208, V-032
Rotello, Caren - III-152
Roth, Yefim - 118
Rothermich, Kathrin - 63, 292, III-027
Rothman, Jason - 93, 184, I-037
Rotondo-Valentine, Joshua - IV-072, III-145, SYM-017
Rouder, Jeffrey - 11, II-173
Roussell, Tristen - III-181
Rubinova, Eva - V-108
Ruffell, Simon - V-019
Rukundo, Joshua - II-075
Rummel, Jan - 193
Ruppel, Susan E. - 209, III-060
Russell, Luke - V-041, IV-157
Rust, Edith - II-139
Ruthruff, Eric - II-007
Ryan, Christian - IV-051
Ryskin, Rachel - 124, III-098

Sánchez Gómez, Jose - 345
Saavedra, Sophia - 78, III-119
Sabo, Melinda - III-112
Sadeh, Talya - V-128
Saeki, Erina - II-163
Safi, Omran K. - 159
Sagi, Eyal - 334
Sahakyan, Lili - 84, 109, II-154, III-110, III-121, III-153
Sahar, Tomer - 143
Saiki, Jun - I-073
Saito, Joseph - 3
Saito, Satoru - II-167
Saji, Noburo - IV-129
Sakuma, Kaito - I-011
Sakuma, Yasuyuki - II-167
Salasel, Ava - IV-176
Salasel, Tina - IV-176
Sali, Anthony W. - 238
Salomon, Maya - 105
Salvador, Alyssa - II-187
Samaha, Jason - II-042, IV-178
Samuel, Arthur - 321, V-094, II-144, IV-108
Sana, Faria - V-121
Sanabria, Daniel - 38

Sanchez, Christopher A. - V-076, IV-084
Sanchez, David - I-039
Sanchez, Jocelyn - II-187
Sanchez, Marissa - V-011, V-115
Sanders, Lisa D. - I-116
Sandone, Madelyn K. - III-087
Sandry, Joshua - V-142, V-148
Saneyoshi, Ayako H. - V-066
Sanford, Emily M. - II-075
Sansevere, Kayla - II-022
Santoscoy, Marco - SYM-015
Sanusoglu, Isil - II-026
Sargent, Paige - IV-110
Saricicek, Firat Caglar - II-122
Sarmiento, Mike - V-158
Sarrett, McCall E. - 322
Sasmita, Karen - V-050
Saucedo, Imelda - V-017
Savelson, Isaac - II-008
Savoie, Jessica - 213
Sawada, Reiko - III-053
Sawada, Tomoyasu - IV-125
Saxena, Shreshth - II-105
Saydır, Özgür - IV-050
Sayim, Bilge - II-190
Scarince, Collin - I-030
Schönherr, Johanna - 170
Schachner, Adena - 46, III-038
Schacter, Daniel L. - II-151
Schafer, Robert J. - II-078
Schechtman, Eitan - 289, III-132
Scheibe, Daniel A. - I-123
Schems Maimon, Yael - III-106
Scherer, Rives - IV-092
Schleihauf, Hanna - II-075
Schloss, Karen B. - 69
Schmidt, Joseph - I-163, II-025, II-109
Schneider, Darryl W. - 72
Schneider, Nicola A. - V-042
Schneider, Vivian I. - V-078
Scholl, Colin - IV-082
Schooler, Jonathan W. - 49, I-017, IV-013, IV-074, III-075
Schooler, Lael - V-043, II-066, III-074
Schotter, Elizabeth - 131, 243, 257, 259, I-108, II-106
Schroder, Elizabeth - 117
Schubert, Torsten - 303
Schubotz, Ricarda - SYM-021
Schultz, Allison - 168
Schultz, Genevieve - IV-126
Schultze-Gerlach, Thomas - II-063
Schulze, Christin - 113
Schwalm, Laura - 297
Schwarb, Hillary - I-171
Schwartz, AJ - I-097
Schwartz, Ana I. - 27
Schwarz, Samantha - 131, 243
Scimeca, Jason - IV-164
Scolari, Miranda - 36, 102, II-133
Scott, Brandon G. - III-015, SYM-007
Scullin, Michael - 18
Secrest, William H. - II-009
Sedillo, Nolan - 19, 326
Seeligmüller, Emily - I-027
Segal, Dorit - 182, 183
Sehyr, Zed - 131, 330, II-091
Seifert, Maci - IV-001
Seigneuric, Alix - II-054
Seitz, Aaron R. - III-083
Sellers, Jacob - 79
Selmeczy, Diana - I-159, III-170
Semizer, Yelda - 68, 75
Sendek, Katherine - 93, 184
Senghas, Ann - V-162
Senko, Michael - II-096
Seo, Ahhyun - IV-083, IV-148
Sepulveda, Christopher - II-047
Serra, Michael J. - 19, 326
Servant, Mathieu - 114, III-046
Setti, Annalisa - IV-051
Seymour, Travis L. - III-017
Shafer, Erica S. - II-147
Shaghasi, Honai - V-119
Shah, Priti - I-055, III-068
Shahidy, Ali - 146
Shahrazad, Amin - 44
Shaikh, Alisha - 270
Shammout, Aya - I-082
Shang, Jiaan - I-147, I-157, IV-141
Shank, Mason - 337
Shao, Tiffany - 231
Shao, Yi - 200
Shao, Yuli - IV-057

Sharma, Achint - IV-182
Sharma, Komal - IV-005
Sharma, Riya - III-159
Sharma, Saryu - 205
Shaw, Raymond J. - 137
Shaw, Sarah - 14
Shea, Jennifer - 207
Shea, Keara - IV-058
Shelat, Shivang - I-017, IV-013
Shelton, Jill - II-139
Shen, Mowei - V-015, V-150
Shen, Yumeng - I-112, V-029
Sheridan, Heather - I-109
Sherman, Aleksandra - IV-081
Sherman, Brynn E. - IV-146
Shevchenko, Yury - II-179
Shi, Aike - I-136
Shi, YuanYu - V-014
Shi, Zhuanghua - 74
Shideler, Darcee R. - I-137
Shields, Grant S. - 112, 214, II-161, IV-152
Shimojo, Shinsuke - V-067
Shin, Maisie R. - I-167
Shinn-Cunningham, Barbara - I-022, IV-107
Shiota, Asuto - I-073
Shirey, Hannah M. - IV-150
Shomstein, Sarah - 98, III-013, III-014, III-086
Short, Mitch - SYM-016
Shu, Feng - 23
Siesel, Mackenzie J. - II-027
Sievers, Kaitlyn - IV-142
Signorini, Guilherme - III-050
Silcox, Jack W. - 257, 259
Silva, Brianna - V-013
Silvanto, Juha - III-055
Simon, Dominic A. - V-001, IV-130, III-043
Simon, Katharine - I-085
Simone, Patti - V-122, V-156
Simons, Christopher - III-050
Simonsen, Nick - 315
Simor, Péter - 83, II-129, II-130
Simpson, Dyllan - 3
Sims, Regan - IV-171
Sinclair, Alyssa - SYM-001
Sinclair, Grace - II-109
Singh, Aadya - 317, I-072
Singh, Banjit - I-084
Singh, Sartaj - 207
Singhal, Pankhuri - I-004
Singmann, Henrik - V-145
Sinnett, Scott - I-012
Sinnott-Armstrong, Walter - I-014
Siqi-Liu, Audrey - I-032
Siriner, Ilaria - V-043
Skeene, Thalia - I-169
Skorburg, Joshua A. - I-143
Skoubo, Carden - II-037
Slabbekoorn, Dana - II-010
Slagter, Heleen - IV-051
Slavik, Anna - II-164
Slevc, L. Robert - V-165, II-135, IV-095
Sloman-Moll, Aurora - I-018, III-092
Smalley, Isaac M. - I-113, IV-086
Smith, Amy - IV-124
Smith, Andrew M. - 161, V-095, II-148
Smith, Bailee - I-145
Smith, Daniel - I-031
Smith, Derek M. - I-051
Smith, Elliot - SYM-009
Smith, Emily - V-105
Smith, Erin I. - 17
Smith, Hannah Lum - 97
Smith, Lilli - SYM-019
Smith, Rebekah - III-147
Smith, Steven M. - I-040, IV-139, III-073
Smith-Peirce, Rachel N. - 225, I-152
Smołka, Ewa - SYM-021
Snell, Joshua - 242, I-105, I-106
Snyder, Joel S. - III-066
Soares, Julia S. - V-137, II-085
Soares De Almeida, Antonio - V-003, V-010
Soderstrom, Nicholas - IV-128
Sohn, Myeong-Ho - 106, II-021, IV-165
Sokol-Hessner, Peter - II-045
Solis, Oscar - 4
Sommers, Mitchell S. - V-082
Song, Juhyeon - II-019
Sosa, Barbara - II-074
Soto, Concepción - I-036
Sozer, Elif - 229
Spaniol, Julia - 80, IV-069, III-041
Spetch, Marcia - 315
Spillars, Kyler - IV-151
Spinelli, Giacomo - 206

Spivey, Delanie J. - 298
Srivastava, Chandan - IV-009
St. George, Julia M. - IV-143
Staley, Donni - II-145
Stallard, Mary K. - I-014
Staras, Chase - V-062
Stark, Brielle C. - 205
Stark, Craig - 218, I-075, III-111
Starling, Laramie LJ - V-004, IV-017, IV-055
Starrett, Michael - I-075
Starrett Ambrose, Mike J. - I-173
Staub, Adrian - II-103
Stefanucci, Jeanine K. - 145, I-074, III-174, SYM-009
Stein, Gabriel - I-172
Stenson, Anthony R. - 111, IV-007
Stern, Erica - 176
Stern, Lena - III-011
Stevens, Amanda R. - I-166, III-169
Stevens, Grace - 340
Stevenson, Braxton M. - 298
Stevenson, Niek - 104, 316
Stevenson, Ryan A. - IV-175
Stickel, Ariana - SYM-015
Stilwell, Brad T. - II-003, II-005, II-006
Stinson, Lex - III-019
Stoermer, Viola S. - 239
Stone, Genevieve - II-107
Stone, Hannah - I-086
Stone, Nicholas - 198, V-158
Storm, Benjamin C. - 16, 223, II-080, III-080
Stovall, Alyssa - II-159
Stover, Soren - 47
Strand, Julia - IV-086
Strayer, David - SYM-009
Strobach, Tilo - 33, II-068
Stroever, Stephanie - 19, 326
Sturgill, Hunter B. - I-160
Su, Haowen - IV-054, IV-066
Su, I-An - 290
Subramanyan, Janvi - III-120
Suegami, Takashi - V-067
Sulfaro, Alexander A. - II-015
Sullivan, Hannah - III-133
Sullivan, Kendall E. - I-138
Summersill, Alexa R. - IV-077
Sumner, Meghan - II-096
Sun, Lu - I-089
Sun, Mei - II-164
Sunder, Sricharan - II-078
Sung, Nikolas - I-036
Supran, Geoffrey - II-058
Suseelan, Shayam - V-019
Sutherland, Kate - V-122
Suto, Satoru - IV-125
Swallow, Khena M. - V-050
Sweigman, Sarah LF - 81
Swire-Thompson, Briony - V-157
Szabo, Eszter - I-045
Szollosi, Aba - 155, I-059
Szpiro, Sarit - V-033
Szpunar, Karl K. - 87, III-146
Sztajnkrycer, Luke - II-070

Tahan, Alex - 66
Takahashi, Maiko - I-125
Takaki, Shuichi - II-167
Takarangi, Melanie - 147, 335
Tam, Joyce - 139
Tam, Ryan - 291, IV-183
Tamber-Rosenau, Benjamin J. - I-025
Tammineedi, Laya - IV-001
Tan, Bhing Leet KC - V-127
Tanaka, Yoshihiko - II-014, IV-052
Tang, Yunxiu - V-039
Tangen, Jason - I-129, IV-042
Tanis, Selma Berfin - III-129
Tao, Yuan - 207
Tarin, Karla - 185
Tauber, Uma - IV-031
Tavakoli, Amir Vala - V-067
Tay, Daniel - 42
Tay, Peter KC - V-127
Tayem, Tala - IV-036
Taylor, Annette - 17
Taylor, Holly A. - I-172, IV-166, III-087
Taylor, Shaiana M. - I-126
Tchala, Yemi - SYM-011
Techasukij, Aris - II-107
Tegiacchi, Rebecca - V-165
Ten Braak, Dieuwer - IV-008
Teng, Jiaxuan - III-135
teng, Santani - 291, IV-183
Tennyson, Cailey E. - 73

Teodorescu, Kinneret - IV-075
Terry, Brody A. - IV-152
Tesoro, Sasha A. - V-017
Teubner-Rhodes, Susan - 194
Tewes, Joshua N. - 196
Theiring, Olivia - I-174
Therriault, David J. - II-081
Thibeault, Nicola - I-062
Thielecke, Liana Y. - IV-153
Thoma, Volker - 141
Thomas, Ashley - II-048
Thomas, Ayanna K. - 20, III-128, III-143
Thomas, Brandon - III-173
Thomas, Rick - V-040, III-047
Thompson, Bill D. - II-075
Thompson, Blake - 278
Thornton, Ian M. - I-024
Thrasher, Jordyn - IV-091
Thurmann, Kyle E. - 167
Thye, Melissa - 148
Thyer, William - III-184
Tian, Sixinyang - 317
Tian, Tian - II-064, IV-044, IV-047
Tighe, Emily - I-074
Tiopan, Jennifer - III-130
Tissier, Marie Nguyet Cam Jade - 148
Titone, Debra - 185
Tiv, Mehrgol - 185
Todd, Peter - IV-075
Todorovic, Daniel - 133
Toglia, Michael P. - IV-116
Tolomeo, Dominick - II-007
Tomalin, Douglas W. - IV-176
Tomat, Miriam - I-052
Tompkins, Rodney - 46, III-038
Tonkin, Delaney - I-014
Toon, Sophia - III-122
Topcu, Meymune N. - 229, SYM-018, SYM-020
Toppa, Merium A. - III-138
Torrance, McKinzey G. - III-143
Torres, Alexis S. - IV-018
Torres, Brianna - 168
Toscano, Joseph C. - 322, V-091, V-093, IV-107
Toure-Tillery, Rima - V-056
Townsend, James T. - IV-174
Tozzi, Sophia - III-108
Tracey, Samantha - IV-166
Tracy, Taylor - II-148
Tran, Alina - II-067
Tran, Phuong (Fiona) - I-155
Tran, Sophia H. N. - 173
Tran, Steven - III-132
Trautfetter, Emma - V-113
Traxler, Matthew - V-166
Treadway, Hannah G. - 31, V-032
Trego, Maribeth M. - I-138
Trendova, Snezana A. - 257
Tringali, Alexa - I-121
Triplett, Cody S. - 78
Tripp, Alayo - 329
Troiden, Brenden - I-118, V-110
Troyer, Melissa - 234, II-088
Trueblood, Jennifer S. - 156, II-027
Truong, Thanh Lan - 247
Trzesniewski, Kali H. - SYM-025
Tsai, Rob - 179
Tsang, WaiFung - V-019
Tseng, Philip - II-153
Tsuda, Hiroyuki - I-073
Tsukahara, Jason S. - IV-068
Tsurumi, Shuma - I-011
Tsvinev, Alice - II-042
Tu, Alina S. - I-075
Tu, Jack - V-118
Tu, Shining - V-102
Tullis, Jonathan G. - IV-136
Tumen, Ceyda - 273
Tung, Elisya - 175
Tung, Tzu-Yung - V-088
Turet, Leila J. - II-018
Turkstra, Lily - I-086
Turner, Brandon M. - II-008
Twito, Renana - V-033
Tzeng, Christina - V-092

Udry, Jessica - I-060, II-136
Ueda, Yoshiyuki - III-053
Uhl, Celeste - III-062
Uhl, Robert - 21
Ulicnik, Benjamin - 115, IV-041
Umanath, Sharda - 215, I-158, I-162, I-167, V-130, III-165
Umeobi, Godwin - IV-048
Unanyan, Anais - IV-079

Undorf, Monika - 56
Unkelbach, Christian - 196
Utochkin, Igor - 1, 2, IV-149
Uzer Yıldız, Tugba - 149, II-124, III-124

Vékony, Teodóra - 83, II-129, II-130
Vachon, François - V-021
Vaid, Jyotsna - 307
Valdes Kroff, Jorge R. - 31
Valdez, Madeline R. - I-015, III-141
Valentine, Brendan - III-012
Valenzano, Sabrina - 87, 191
Vallejo, Emely - V-119
Van Bavel, Jay - I-058
Van Bergen, Geertje - I-105
Van den Bussche, Eva - 50
van der Lem, Esmee - 37
van der Wel, Robrecht - 44, III-052, III-175, III-179, III-182
Van Engen, Kristin J. - I-110, V-082, IV-102
Van Hedger, Stephen C. - V-087
van Hell, Janet - 293, IV-025, III-023
van Schie, Kevin - 37, 133
Van Zandt, Trisha - III-050
Vanden Bosch der Nederlanden, Christina M. - IV-175
Vanderlip, Casey - III-111
Varela, Lilana - V-111
Varga, Nicole - 45, III-114
Vargas, Daisy A. - I-173, I-174
Varma, Sashank - III-126
Vasquez, Angelica - V-024
Vasquez, Daniella - IV-006
Vattoth, Lamis - I-094
Vaughn, Kalif - IV-127
Vaught, Wesley - II-161
Vecchi, Tomaso - V-057
Ventura, Santiago - II-063
Verguts, Tom - V-008
Vervliet, Bram - II-141
Vickery, Timothy J. - 65
Viera Resto, Omar - 25
Vignale, Gianna C. - V-098, V-103
Vikas Jadhav, Atharva - V-090
Villwock, Agnes - II-089
Vinaya, Harshada - IV-100
Vincent, Shanya A. - 251
Virgo, Ali - 335
Vitullo, Miriana S. - 82
Vivion, Maëliss - II-165
Vlach, Haley - III-030
Vlasceanu, Madalina - 26
Vo, Thu - I-012
Vogel, Edward - 1, V-020, II-117, IV-067
Voits, Toms - 186, I-037
Volant, Emmanuel - V-021
Volante, Caitlin - IV-093
Vollweiler, David J. - III-066
Volodii, Artom - V-011, V-115
von Bastian, Claudia C. - II-068
Voso, Lauren K. - IV-143
Voss, Andreas - V-042
Vu, Anh - SYM-025
Vu, Kim-Phuong - III-172
Vuorre, Matti – 55

Wagers, Matthew - I-135, III-091
Wagman, Jeffrey - III-173
Wahlheim, Christopher N. - 150, 285, II-011, III-116, III-150
Walasek, Lukasz - 332, III-049
Walatka, Hunter - V-022
Walenski, Matthew - 63, 292
Walker, Abby - III-052
Walker, Drew - II-192
Wallace, Raven S. - III-137
Walles, Mackenzie - IV-143
Walsh, Jessica D. - 251
Walsh, Rachael - III-027
Walther, Laurel - III-121, III-153
Waltzer, Tal - SYM-026
Wammes, Jeff D. - III-137
Wang, Catherine - IV-032, IV-037
Wang, Emerald - 217, III-070
Wang, Huijun - 23
Wang, Kai-Ning - III-058
Wang, Min - 203, V-077
Wang, Peng - 123
Wang, Qi – III-123, III-142, SYM-016
Wang, Tengfei - V-150
Wang, Weiqi - 255, IV-094
Wang, Xiaoqin - III-067
Wang, Xiaoye Michael - IV-004
Wang, Xinran - 52, I-152

Wang, Yiming - 314
Wang, Yiwen - I-044, V-050
Wang, Yuchen - I-090
Ward, Lila - II-013
Ward, Nathan - 216, IV-166, III-087
Ward, Oliver - II-023
Wardell, Amber L. - V-017
Warker, Jill A. - V-075, III-151
Warner, Cheyna - II-140
Waroquier, Laurent - 211
Warren, Kalil N. - 204
Warren, Tessa - IV-094
Warren, Zoë F. - IV-144
Warren-Nassri, Rebecca N. - 10
Was, Christopher A. - I-007, II-016
Washmuth, Nicholas B. - V-072
Wasserstein, Leah - III-011
Watson, Duane G. - I-096, IV-101
Watson, Jason M. – V-005, SYM-005
Wear Jones, Kimberly - II-110
Weatherford, Dawn R. - II-083, IV-122
Weaver, Havily M. - II-046
Wedell, Emma - III-034
Weeks, Everett - II-037
Wei, Yizhi - I-136
Wei, Yunfeng - IV-128
Weiß, Marco - 56
Weidler, Blaire J. - I-070, II-013, III-116
Weinbach, Noam - 304
Weisberg, Steven M. - I-076
Weisblum, Margaret - 71
Weiss, Brandon - V-019
Weiss, Daphne - 321, IV-108
Weissman, Benjamin - II-098
Weldon, Rebecca - IV-045
Welhaf, Matthew - I-015, IV-001
Weller, Rebecca - V-158
Wellons, Bayley M. - 150, II-011, III-116
Welsh, Eilis - 88
Welsh, Timothy N. - 44, IV-004
Wennberg, Janna W. - II-166
Wertman, Ava - IV-117
West, John T. - IV-053
Westerhold, Hannah - I-005
Westfall, Georgia Z. - 251
White, Jill - 19, 326
White, Katherine K. - III-100, III-122
White, Marne - III-134
White, Nathan - V-019
Whitfield, Lisa - V-122, V-156
Whitlock, Jonathon - V-113, V-137, II-154
Wicker, Madeline - V-117
Wiedenmann, Emma S. - 106
Wiemer, Katja F. - III-166
Wiemers, Elizabeth - II-113
Wikle, Andrea - V-117
Wilbiks, Jonathan - I-026, I-082, IV-132
Wilbur, Robert - I-085
Wiley, Jennifer - V-152, V-154
Wiley, Robert - 207, 258, V-079, II-102, III-111
Wilkins, Ash R. - IV-123
Willey, Chela - II-191
Williams, Ashley B. - 78
Williams, Ciaran C. - V-114
Williams, Cole - III-136
Williams, Mackenzie G. - IV-145
Williams, Samuel - 162
Williams, Todd - V-123
Williams, Tonia - IV-099
Williams, Trevor F. - IV-059
Wilson, Andrew - V-062
Wilson, Brent M. - II-192
Wilson, Holly - V-019
Wilson, Stephanie - II-146
Wilson, Taylor - 168
Windt, Jennifer - I-016
Wingert, Kimberly M. - 188
Winston, Virginia K. - 300
Wintner, Sasha M. - 299
Wiseheart, Melody - IV-076
Wisniewski, Matthew G. - III-010
Wissman, Kathryn - 176, IV-112
Witt, Jessica K. - II-183
Wixted, John T. - 161, 263, V-102
Wolfe, Jeremy M. - 73, I-024, I-027, I-170
Wolfe, Michael - V-123
Wolff, Kyle - 58
Wolff, Wanja - 38
Wolk, Sterling - 176
Won, Bo Y. - III-156
Wong, Brian W. L. - V-094
Wong, Eugene H. - V-017
Wong, Julia - 336
Wong, Lily - IV-028

Woo, Brandon - II-048, II-050
Woodman, Geoffrey F. - 240
Woods, Sarah - 320
Wooley, James - 336
Worthy, Darrell A. - 115, II-176, IV-041
Wu, Bing Jie - I-039
Wu, Chia-Huei - III-130
Wu, Daw-An - V-067
Wu, Jinglan - V-150
Wu, Liv - V-143
Wu, Meng-Hsun - III-130
Wu, Zhaocheng - IV-113
Wunder, Zachary - I-168
Wynne, Eleanor R. - IV-116

Xi, Chunyuan - III-058
Xia, Summer - V-143
Xiang, Keshu - I-089
Xiang, Ming - V-143
Xiangv, Angela - 81
Xie, Peizhao - V-041
Xie, Xinyu - III-076
Xie, Zengbo - 23
Xie, Zhilong - 123
Xioang Bearfield, Cindy - II-067
Xu, Chenlingxi - II-119
Xu, Yaqi - III-107
Xu, Yucan - SYM-001
Xu, Zhenjie - II-141

Yöruk, Harun - 8
Yücel, Duygu - II-039
Yamada, Yuki - 67
Yamashiro, Jeremy - 189, 230, II-122, III-145, IV-072, SYM-017
Yamauchi, Takashi - 25, I-018, III-092
Yan, Veronica X. - V-121, V-124, II-082, III-071, III-157
Yang, Cheng-Ta - II-041, II-044, III-130
Yang, Erhong - 256
Yang, Faline H. - III-029
Yang, Hyeonbo - III-045
Yang, Jiarui - II-174
Yang, Lee-Xieng - I-047
Yang, Li - III-176
Yang, Liner - 256
Yang, Lixia - 81, 190
Yang, Qiaoxi A. - IV-154
Yang, Shanglin - II-173
Yang, Weibin - II-012
Yang, Xi - IV-101
Yang, Xiaozhi - I-061
Yao, Chen-Yu - V-058
Yao, Ruoqing - I-135, III-091
Yao, Zai-Fu - V-058
Yao, Zizhan - 230
Yap, Melvin J. - I-088
Yeddu, Serena - IV-045
Yee, Eiling - I-041, II-053, III-034
Yee, Jia'en - 93
Yelinek, Megan E. - IV-155, III-138
Yi, Siqi - III-052
Yildirim, Bugay - II-120
Yilmaz, Anne S. - 263, I-141
Yilmazmre, Ata - II-023
Ying, Jiahe - I-043
Ying, Rebecca C. - 161, V-095, II-148
Yokosawa, Kazuhiko - V-066, IV-177
Yonelinas, Andrew - III-154
Yong, Courtney - I-128
Yoon, Si On - I-038
Yoshihara, Masahiro - IV-106
Yoshimura, Naoto - 67
Young, Asa - 49
Young, Matthew - 270
Yousif, Sami R. - IV-146, IV-181
Yu, Alan C. - V-088
Yu, Chen - V-073
Yu, Christine S.P. - 319
Yu, Emma - II-048
Yu, Huihui - SYM-016
Yu, Hung-Yi - V-058
Yu, Kenny - II-141
Yu, Yuhua - I-067
Yuan, Jiaxin - 256
Yucer, Ece - IV-019
Yue, Qiuhai - 23
Yuksel, Ece - 158
Yuksel, Ezgi - III-030, III-064
Yuzawa, Masamichi - II-167

Zacher, Patrick - V-158
Zack, Jordan L. - III-027
Zacks, Jeffrey M. - 150, V-048

Zait, Taleen - III-006
Zanders, Ella Rae - V-038
Zanelli, Sophia R. - 298
Zanesco, Anthony P. - 298
Zúñiga, Martha C. - IV-089
Zavala, Samantha - III-006
Zeithamova, Dagmar - II-140, III-039
Zemla, Jeffrey - III-035, III-103
Zeng, Peter - 309
Zepeda, Cristina D. - 14, 52, I-152
Zepp, Jacob - V-004, II-118, IV-017, IV-055
Zettersten, Martin - III-031
Zhang, Cathy K. - III-009
Zhang, Han - 79
Zhang, Haoyun - 186
Zhang, He (Hans) - I-155
Zhang, Jacqueline - V-086
Zhang, Jie - 256
Zhang, Jingyun - III-067
Zhang, Lyulei - 162
Zhang, Mengting - IV-054, IV-066
Zhang, Minghua - I-167
Zhang, Qiong - 169, V-132, III-161
Zhang, Snow - II-075
Zhang, Tongyao - II-076
Zhang, Wendy - II-030
Zhang, Xianglin - V-077
Zhang, Xinran Y. - IV-156
Zhang, Xinyi - III-067
Zhang, Yue - 40, II-001
Zhao, Bingsong - 314
Zhao, Chong - II-164, IV-067
Zhao, Mengqi - IV-054, IV-066
Zhao, Qing - I-114
Zhao, Wenhui - IV-062
Zhao, Wenjia - 249
Zhao, Yu - I-074
Zheng, Aner - III-045
Zheng, Jie - IV-146
Zheng, Yitong - V-015
Zhong, Yiwen - 274
Zhou, Hui - V-150
Zhou, Jifan - V-015
Zhou, Li - II-114
Zhou, Lin - I-115
Zhou, Mable - I-075, I-086
Zhou, Qihang - V-150
Zhou, Shijing - III-039
Zhou, Silvia Shiwei - III-137
Zhou, TianGang - V-014
Zhou, Yu - IV-093, IV-147
Zhu, Fuying - V-150
Zhu, Jiyi - 286
Zhu, Wangtiancheng - III-005
Ziaka, Laoura - IV-008
Ziat, Mounia - 96
Ziemann, Christine - I-170
Zinchenko, Artyom - 74
Zinkus, Sidney - II-036
Ziyao, Zhang - 232
Zlomuzica, Armin - III-113
Zou, Yun - I-116
Zoue, Liye - 38
Z-Rivera, Lucia - 258, II-102, III-025
Zung, Inez - I-139
Zuo, Shangfu - III-182
Zur, Amir - II-096


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