**Program Addendum**

Please make note of recent changes to the Annual Meeting program.

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**Presidential Address Title Change**

Saturday, October 1, 2022
11:30 a.m.-12:30 p.m. PDT

*Salience and Cognitive Control: Inter- and Intraindividual Differences and Implications for Social and Clinical Behavior*

Bruce D. Bartholow, PhD

**Symposium Withdrawal**

The following symposium has been withdrawn:

Friday, September 30, 2022
1:00 p.m.-2:30 p.m. PDT

*Symposium 4.3 THE PSYCHOPHYSIOLOGY OF EFFORT: CARDIOVASCULAR AND PUPILLARY CORRELATES OF EFFORTFUL PROCESSING*

Session Chairs: Michael Richter
Liverpool John Moores University
Guido H.E. Gendolla
University of Geneva

**Faces of the Future Flash Talk Title Change**

The following Faces of the Future Flash Talk title has been changed to the following:

*The Associations Between Loneliness, the Brain, and Inflammation*

Anna Finley
University of Wisconsin, Madison

**Big Ideas Session Change**

The following presentation has been withdrawn due to health issues.

Friday, September 30
1:00 p.m.-2:30 p.m. PDT

*Big Idea Session: Psychophysiology of Cognitive Control and Executive Functions*

*THE INTEROCEPTIVE NEURAL MECHANISM UNDERLYING ADAPTIVE COGNITIVE CONTROL*

Seung Suk Kang
University of Missouri, Kansas City

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**Revised Abstract**

The following abstracts have been revised:

**Poster Session 3**

Late-Breaking Poster #94

**COGNITIVE LOAD LEADS TO POORER SENSORY ENTRAINMENT**

Brendan Huff, Jules Faunce, Bruce Friedman
Virginia Tech

The cognitive process of neural entrainment, in which neural oscillations synchronize with a given stimulus, may help improve selective attention. However, the specific conditions that determine the presence and strength of entrainment effects require further investigation. The present study investigated differences in entrainment based on level of engagement with the entrainment stimuli. In the active condition, participants tapped along to stimulus beats, whereas in the passive condition participants simply received the stimuli. Two critical measurements for observing entrainment effects are the amplitude and phase coherence of steady state evoked potentials (SSEPs). Results show that active conditions negatively impacted entrainment, both in SSEP amplitude ($\beta = -0.05$, $t(2870) = -4.61$, $p<.001$) and in SSEP phase coherence ($\beta = -0.08$, $t(2870) = -5.22$, $p<0.001$). This result allows this study to reject the null hypothesis and suggest that there is a statistically significant difference between the strength of entrainment in the active and passive conditions, with active conditions (cognitive load) of an active entrainment task leading to weaker acute entrainment.

**Poster Session 3**

Late-Breaking Poster #96

**TESTING BENEFITS OF ENTRAINMENT ECHO AFTER RHYTHMIC STIMULATION**

Brian Angus, Jules Alex Faunce, Bruce Friedman
Virginia Tech

Neural entrainment, a process of synchronizing oscillations with rhythmic stimuli, may help cognitive functioning. There is an “echo” period where stimuli have ceased but the entrainment and related cognitive enhancements continue for several cycles. The present study examined whether the strength of entrainment during echo periods predicted attentional performance. Twenty participants were exposed to auditory and visual stimulation while electroencephalogram was recorded. Entrainment was...
defined using the amplitude and phase coherence of steady state evoked potentials in 1.25 Hz. After the cessation of the stimuli, participants completed a Flanker task in order to assess if strong entrainment during these echo periods predicted attention or not. Neither entrainment amplitude, nor coherence, predicted better Flanker scores during post-stimulus periods ($\beta = -0.01$, $t(934) = -0.259$, $p=0.796$; coherence $\beta = 0.02$, $t(934) = 0.787$, $p=0.431$). This suggests that entrainment echo does not have a significant impact on acute attentional performance.

Poster Session 3
Late-Breaking Poster #98
THE RELATIONSHIP AMONG MUSICAL TRAINING, PHYSICAL ACTIVITY, AND SENSORY ENTRAINMENT
Brian Angus, Jules Alex Faunce, Bruce Friedman
Virginia Tech
Musical training and physical activity are both associated with more fine-tuned timing of motor and electrophysiological responses. The interrelationship between these variables and cognitive functioning suggests an underlying mechanism of synchronization of neural oscillations to external stimuli (sensory entrainment). The present study investigated whether musical training and exercise were related to sensory entrainment (1.25Hz amplitude and phase coherence (PC) from electroencephalogram, or EEG) to auditory vs. visual stimulation. Twenty participants, sorted into groups based on self-reported years of musical training (cutoff at 2 years) and weekly exercise (cutoff at 3 days per week), were exposed to auditory and visual stimulation while EEG was recorded. Counter to expectation, high exercisers and musically trained people did not entrain better (for amplitude, $\beta$ (exercise) =-0.21 , $t(16)=1.13$, $p=0.276$; $\beta$ (music) =-0.13, $t(16)=0.73$, $p=0.476$; for PC, $\beta$ (exercise) =-.03, $t(16)=0.5$, $p=0.619$, $\beta$ (music) =0.1, $t(16)=1.59$, $p=0.132$). This suggests that there is not a significant relationship among musical training, physical activity, and sensory entrainment.

Poster Session 3
Late-Breaking Poster #101
THE IMPACT OF NEURAL ENTRAINMENT METRIC ON THE RELATIONSHIP BETWEEN SENSORY ENTRAINMENT AND ATTENTION PERFORMANCE
Arthur Louie Deapera, Jules Alex Faunce, Bruce Friedman
Virginia Tech
Sensory entrainment describes the synchronization of neural oscillations to rhythmic sensory stimulation. Entrainment is related to attention. However, different measures of entrainment exist, and these measures may differ in the information that they provide about behavior. In the present study we investigated whether entrainment amplitude or phase coherence (PC) was a better predictor of attentional performance due to sensory entrainment stimulation. Electroencephalogram (EEG) measurements were recorded while participants were exposed to trains of repetitive visual and auditory stimuli. Before and after each train of stimuli, participants responded to Flanker test questions. The measures of entrainment were amplitude and PC of 1.25-Hz steady state evoked potentials. The results from the analysis indicate that either amplitude nor PC were associated with differences in the Flanker effect ($\beta$(amplitude) = -0.4, $t(278) = -1.60$, $p= .111$; $\beta$(PC) = -0.05, $t(278) = -1.119$, $p = 0.264$). The results suggest that entrainment may not directly affect attentional performance as measured by the Flanker test.
Virtual Poster Session
Poster #86
VAGALLY- MEDIATED HEART RATE VARIABILITY IS ASSOCIATED WITH STRESSFUL LIFE EVENTS BUT NOT SELF-PERCEIVED STRESS IN A PREDOMINANTLY HISPANIC SAMPLE OF FEMALE COLLEGE STUDENTS
Grant Benham, Jordan Kenemore, Juliana Chavez, Samantha Garcia, Marco Fuentes, Natali Tamez
The University of Texas Rio Grande Valley

The following poster has been withdrawn. Instead, it will be presented in the Big Ideas Session on Thursday, September 28.

Poster Session 1
Poster #71
HOW LOW CAN YOU GO? MEASUREMENT OF EVENT-RELATED BRAIN POTENTIALS FROM A TWO ELECTRODE EEG SYSTEM

Duplicate Poster Presentations
Two of the same submissions were accepted for presentation. The duplicate presentation was withdrawn. The poster below will be presented:

Poster Session 2
Poster #6
Revised Title:
EXPLORE THE AUTHENTIC SELF: DECOMPOSE SELF IN SELF-POSITIVITY BIAS
Chengli Huang¹, James Butterworth¹, Douglas Angus², Constantine Sedikides¹, Nicholas Kelley¹
¹University of Southampton, ²Bond University, Queensland
Previous Title:
THE SELF-REFERENCE EFFECT: SELECTIVE MODULATION OF THE N170, P300, AND LPP

Two of the same submissions were accepted for presentation. The duplicate presentation was withdrawn. The poster below will be presented.

Poster Session 3
Poster #9
ALEXITHYMIA AND AUTONOMIC REACTIVITY DURING AN AFFECTIVE PRIMING TASK

Withdrawn Presentations
Please make note of these abstracts that have been withdrawn:

Poster Session 2
Poster #3
STARTLING WORDS: STIMULUS-DRIVEN AND EMBODIED OR UNDER COGNITIVE CONTROL? EVIDENCE FROM EMG AND EEG

Poster Session 2
Poster #59
THE REWARD POSITIVITY’S DISSOCIABLE INFLUENCE ON REWARD LEARNING AND MOTIVATION

Poster Session 2
Poster #66
FRONTAL ERP ACTIVITY DURING INFANT INHIBITORY CONTROL

Poster Session 2
Late-Breaking Poster #91
BREATHING-INDUCED RELAXATION: A DIRECT COMPARISON BETWEEN SLOW AND MINDFUL BREATHING

Poster Session 2
Late-Breaking Poster #99
COMPARING DEFENSIVE RESPONDING DURING UNPREDICTABLE THREAT ANTICIPATION ACROSS THE ANXIETY SPECTRUM

Virtual Poster Session
Poster #71
PATCH IT UP: MEASUREMENT OF ERP'S FROM A TWO-ELECTRODE EEG SYSTEM

Poster Session 3
Poster #9
THE NUMBER OF SMILES AMONG MULTIPLE OTHERS’ FACES MODULATES EARLY NEURAL RESPONSES

Poster Session 3
Late-Breaking Poster #102
COGNITIVE REAPPRAISAL OF NEGATIVE EMOTIONS DURING MUSIC LISTENING: AUTONOMIC AND FACIAL EMG REACTIVITY