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## EDITORIAL: Increasing the Representation of Diversity in the *Psi Chi Journal*

Steven V. Rouse

Social Sciences Division, Pepperdine University

Editor, *Psi Chi Journal of Psychological Research*

In the fall issue of the *Psi Chi Journal of Psychological Research*, Rihana Mason (2021) reflected on the limited representation of diversity in the field of psychology. If public representations of psychologists only portray nondisabled White men, then it is less likely that people of color (e.g., Black, Indigenous, Latinx, Asian-American), women, and those with disabilities will be able to envision themselves within this important profession. However, if intentional efforts are put into practice to portray a more diverse profession, she predicted that we would see a more diverse career pipeline develop, which would allow our profession to be better suited for meeting the needs of a diverse society. Although Mason focused primarily on changes that can happen within educational institutions (e.g., creating career training courses at undergraduate levels, sponsoring conference attendance for undergraduate students who come from underrepresented populations, selecting textbooks and other educational curricula that include the accomplishments of women and people of color), equally important questions can be raised about how to increase equitable representation in empirical psychological research.

Not only is there a lack of representation of diversity in public images of psychologists, but inequitable representation can also be seen within the pages of psychological research journals. Roberts and colleagues (2020) noted four troubling trends in past and current psychological research, especially in consideration of racial representation. First, articles specifically addressing topics of racial diversity comprised a very small proportion of the psychological research literature. Approximately 5% of the articles they reviewed between the 1970s and 2010s explicitly highlighted topics of race in their titles and/or abstracts. Focusing primarily on what some psychologists may consider race-neutral, universal topics, researchers have not marshaled their collective efforts toward focusing on important topics of diversity. Second, Roberts and colleagues

noted a lack of diversity among those who make important decisions regarding which manuscripts get published in research journals. In their review of journal leadership, few editors-in-chief and few associate editors were people of color. Instead, the editorial boards were overrepresented by White psychologists. The impact of this overrepresentation was stark; White editors were significantly less likely to have published articles that highlight important topics of race. This suggests that increased representation of diversity within editorial boards might result in more publications about topics related to diversity. Roberts and colleagues' third troubling observation was that the majority of published research articles focusing on aspects of race were written by White authors. One implication is that when research on racial diversity is published those articles may carry subtle assumptions and perspectives of European American worldviews. Even when authors sincerely commit to the highest levels of intentional objectivity, their work may reflect the perspectives that derive from their own identity positionality. Fourth, Roberts and colleagues observed that White participants are often overrepresented in research articles. Although diverse samples were observed more often when the authors were people of color, White researchers tended to publish articles that were overrepresented by the experiences of their White participants. Roberts and colleagues (2020) painted a concerning picture of the lack of racial representation in the psychological research process, and the same patterns of underrepresentation are likely to exist for gender diversity, diversity of ability and disability, and sexual identity diversity as well.

As I write this editorial, I am in my second week as the new editor of the *Psi Chi Journal of Psychological Research*, having moved into this position after Debi Brannan's impressive five-year term as editor. Although I have served as an associate editor for seven years, I am excited for the opportunity to take on a new leadership role for the journal.

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While doing so, however, I am highly aware of the call issued by Roberts and colleagues to increase representation in psychological research. In this context, my own identity as a White, nondisabled, cisgender male brings into sharp focus the reality that it is my responsibility to be involved in the work of increasing representation within the pages of this journal. As I envision the impact that I hope to have on the journal during my tenure as its editor, recommendations by Roberts and colleagues inspired me to formulate four specific goals that I believe will help us move toward more equitable representation.

First, I urge authors to be conscientious in the comprehensive reporting of demographic data. According to the American Psychological Association's Journal Article Reporting Standards (Applebaum et al., 2018), all empirical articles published in psychology should report descriptive statistics for age, gender, race or ethnicity, and any other characteristics salient to the topic of the study. Historically, the reporting of demographic characteristics has been inconsistent across different subdisciplines of psychology; although researchers in some topic areas have a long history of providing comprehensive descriptive statistics, such characteristics were often not presented in other areas where the phenomena under study were presumed to be race-neutral. However, psychological researchers should no longer presume that any research topic is unrelated to participant diversity. By conscientiously reporting demographic characteristics, future meta-analyses may be able to uncover complex ways in which different identity domains are related to phenomena once believed to be universal. However, care should be given not only to the reporting of demographic data but also to the way in which this data is reported. For example, simply reporting the proportion of White participants without detailing proportions of other racial and ethnic identity groups reinforces a view that Whiteness is the standard against which other identities are compared. Rather, when proportional data is reported for every identity group, especially allowing multiracial individuals to report each of their identity groups rather than just being merged into a nondescript category labeled "multiracial," readers will be more likely to see their own identities represented in the journal's pages. I request that authors report all demographic characteristics of their samples, informed by guidance by the American Psychological Association's (2019) standards on bias-free language.

Second, I call on authors to begin including Constraints of Generality (COG) statements in their Discussion sections. Once demographic data are reported, authors should openly acknowledge how those participant characteristics might limit the extent to which their results can be generalized, and to reflect on the populations and subpopulations to whom generalizations might not be warranted. Although it is common for manuscripts in many journals to have a cursory statement acknowledging sample homogeneity as a limitation, a COG statement requires the author to go beyond this acknowledgment to give explicit and thoughtful recognition to the need for caution. Although not overtly labeled as a COG section, Goldie and O'Connor (2021) provided a wonderful example of such intentional reflection. In their analyses of a sample of students of color, most of whom came from families with low socioeconomic status, Goldie and O'Connor found that the quality of the relationship between the students and their teachers mediated the relationship between gender and high school academic achievement. Although these findings have important implications for reducing the gender achievement gap, the authors acknowledged that the sample was comprised almost exclusively of adolescents who were described by their parents as Black or African American. Rather than simply including this as a cursory limitation, the authors went on to acknowledge that it would be an unwarranted leap to presume that the same findings are true for students from other communities of color. Moreover, because of the high representation of students from low socioeconomic status families, one should even take care not to generalize the findings to all Black students. Such an overt recognition of the Constraints on Generality reminds the reader that few psychological phenomena are universal and that additional research is often needed to determine the extent to which findings generalize across groups. Interestingly, COG sections appear to be most common when a sample has a high representation of people of color; it seems rare to see a COG section for samples predominated by White participants. Moving forward, however, I call on authors to include a COG section, especially for any study in which the sample lacks diversity.

Third, consider writing Positionality Statements as part of your Author Note for manuscripts submitted to the journal, especially for studies that focus on diversity or that highlight a marginalized community. Although empirical research seeks to be objective and impartial, researchers bring their

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own perspectives and worldviews to the work of planning, conducting, analyzing, and interpreting their research. When a paper addresses a marginalized community, it is valuable for the reader to have insight into the positionality of its authors—whether they have approached the topic from the perspective of one who has first-hand experiences relevant to that community or approached it from an external perspective. We do not have exemplars of Positionality Statements within the *Psi Chi Journal* yet, but this could simply take the form of a statement in the Author Note indicating, for example, the racial identities of authors writing a paper about race, the sexual identities of authors writing a paper about sexual orientation, or the ability statuses of authors writing a paper about disabilities. This will not be considered a requirement for publishing in *Psi Chi Journal*; after all, some dimensions of identity carry burdens of stigma, and authors of research should have the autonomy to decide for themselves whether or not to disclose their identity positionality. However, Positionality Statements raise the level of transparency in the publication process, informing readers of the perspectives from which the research has been conducted.

The fourth goal is a personal commitment to actively recruit a diverse pool of manuscript reviewers. More equitable representation can be sought by being intentional about diversity within the pages of the *Psi Chi Journal*, but it is also important to be intentional about diversity among those who provide feedback about which studies should be accepted for publications and improvements that can be made prior to publication. As I begin my term as editor of the journal, I have set a goal to increase the overall number of potential manuscript reviewers, especially recruiting those who can bring diverse viewpoints and perspectives to the process of evaluating manuscripts. I recognize that people of color often carry an inequitably heavy service burden at many institutions of higher learning, and I am aware that such a request to engage in professional service represents an additional service

burden. However, if you have a doctoral degree in psychology or an allied field and would like to join us as a reviewer, please email me at [steve.rouse@pepperdine.edu](mailto:steve.rouse@pepperdine.edu) and I'll be happy to help you get included in this important role.

Although psychology is a diverse field with professionals who serve diverse populations, people of color are underrepresented in the profession relative to the U.S. population (Lin et al., 2018). Unfortunately, that diversity is also underrepresented in the public images of the profession, in the pages of our research journals, and behind the scenes of the research process. I am eager for the *Psi Chi Journal of Psychological Research* to take some important steps toward more equitable representation and transparency.

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Positionality Statement: Steve Rouse identifies as a cisgender White man. As a bi man, he identifies as part of the LGBTQ+ communities. He is nondisabled. He acknowledges that his perspective is influenced by his position within all of these dimensions of identity.

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## Media Consumption: Association With Implicit Theories of Romantic Relationships

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**ABSTRACT.** Media has grown in popularity throughout time, and with it, so has media's ability to influence those who watch it. Specifically, romantic media has the potential to influence personal romantic beliefs. However, to date, research has typically relied on self-reported questionnaires for determining associations. Therefore, the present study examined the influence of romantic reality media on a specific set of romantic beliefs (i.e., individuals' implicit theories of relationships) using an experimental procedure. Participants from a small liberal arts college first completed an online, prevideo survey ( $N = 128$ ) assessing their prior romantic media consumption and their current romantic beliefs. A subset of the participants ( $n = 81$ ) then came into a computer lab and watched 1 of 3 videos: emphasizing growth beliefs, emphasizing destiny beliefs, or a nonromantic media video. Immediately after the video, participants filled out a postvideo survey assessing their romantic media consumption and postvideo romantic beliefs. Analyses revealed a significant 3-way interaction between implicit theories of relationships, wave of data collection, and video condition, Wilk's  $\lambda = .80$ ,  $F(2, 74) = 9.38$ ,  $p < .001$ ,  $\eta_p^2 = .20$ . Specifically, participants who watched the growth video had a significant change in their implicit theories of relationships beliefs; there was not a significant change in beliefs for participants who watched the destiny video. Results are discussed in relation to cultivation theory, professional implications in the counseling fields, and future directions.

**Keywords:** implicit theories of romantic relationships, media, romantic beliefs, romantic reality media, cultivation theory

Media may play a significant role in the cultivation and modification of romantic ideals. Popular films, such as Disney princess movies, have been associated with strong themes such as emphasizing romantic ideals, displaying gender differences (i.e., damsel in distress), and overcoming challenges (Hefner et al., 2017; Tonn 2008). These strong themes have been found to have an influence on viewers' beliefs on love, their relationship-contingent self-esteem, and, for men, an endorsement in masculine strategies for courtship (Hefner & Kretz, 2021; Tonn, 2008). It may be, though, that other forms of romantic media (e.g., romantic reality media) can also influence individuals' beliefs about relationships. As such, the following research assessed the

influence of romantic reality media on young adults' romantic beliefs. We recognize that many factors contribute to individuals' romantic beliefs (Frazier & Esterly, 1990) and the success of their relationships (Le et al., 2010), but opted to focus on romantic media, and specifically romantic reality media, as a contributor to their beliefs in this study. Furthermore, we could have examined many different types of romantic beliefs, but we chose to focus on implicit theories of relationships (ITRs).

### Implicit Theories of Relationships

Implicit theories are beliefs about the stability of a characteristic, in someone or something, and the situations that might stimulate change in it (Ross, 1989). These beliefs impact how someone interprets

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or reacts to certain situations, and thus, individually held implicit theories can influence behaviors (Ross, 1989). Knee (1998) acknowledged that implicit theories can play a role in relationships, in that people have assumptions about how relationships are cultivated and developed, and whether certain aspects of relationships are unchangeable. Knee (1998) posited two components of aspects of ITRs: destiny and growth beliefs. It is important to note that destiny and growth beliefs are orthogonal and both exist on a continuum; they are not dichotomous (i.e., growth or destiny; Knee, 1998; Knee et al., 2003). Therefore, there are technically four groups of beliefs: (a) the evaluators with high destiny/low growth, (b) the cultivators with high growth/low destiny, (c) the optimistics with high on both, and (d) the helpless with low on both (Knee et al., 2001). Although there are four groups, most studies have predominately focused on individuals' growth and destiny beliefs separately (i.e., high versus low destiny beliefs and high versus low growth beliefs).

Individuals with stronger destiny beliefs, or a soulmate perspective, tend to believe that to have a satisfying relationship they need to find the right person, of which there may be only one person, or a select few people, in the world (Franiuk et al., 2002; Knee, 1998). Individuals with stronger growth beliefs, or a work-it-out perspective, tend to believe that satisfying relationships are cultivated and are a matter of working at it together (Franiuk et al., 2002; Knee, 1998). There are distinguishable differences in relationship expectations and behaviors between those who endorse stronger growth beliefs and those who endorse stronger destiny beliefs.

Stronger growth beliefs are correlated with a generally optimistic evaluation of a relationship's potential (Franiuk et al., 2002; Knee, 1998). Having stronger growth beliefs increases the likelihood of using relationship maintenance strategies (e.g., active coping, planning, and positive reinterpretation) in response to negative relationship events (Knee, 1998). Further, stronger growth beliefs are associated with less denial about a relationship hardship (Knee, 1998). Those who hold stronger growth beliefs are also less threatened and less negatively impacted by the idea or realization that their partner is not their ideal mate (Franiuk et al., 2004; Knee et al., 2001). Stronger growth beliefs are also associated with being less likely to acknowledge their part in ending the relationship, especially in women, indicating an increased desire to continue working on the relationship instead

of ending it (Knee, 1998). Furthermore, looking retrospectively on ended relationships, those with stronger growth beliefs were somewhat less likely to agree that the relationship was wrong from the beginning (Knee, 1998), indicating more optimism after its termination as well.

In comparison, those with stronger destiny beliefs tend to place more importance on initial relationship satisfaction (Franiuk et al., 2002; Knee, 1998). Moreover, for those with stronger destiny beliefs, high initial satisfaction and initial closeness are positively correlated with relationship longevity, and may function as successful relationship cues for those who have stronger destiny beliefs (Franiuk et al., 2002; Knee, 1998). However, stronger destiny beliefs increase the likelihood of disengaging and distancing oneself from a relationship in response to a negative relationship event (Knee, 1998; Knee et al., 2003). As such, stronger destiny beliefs are linked to ending a relationship quicker when satisfaction is low early in the relationship (Franiuk et al., 2002; Knee, 1998), including using more withdrawal and avoidance strategies to end the relationships, such as ghosting (i.e., ending the relationship by unilaterally ending communication with the partner; Freedman et al., 2019; Koessler et al., 2019). Stronger destiny beliefs are also associated with being more likely to acknowledge their part in ending the relationship (Knee, 1998). Destiny beliefs' utility is apparent, though, when the beneficial outcome of a relationship is to terminate. For example, an individual with stronger growth beliefs may stay in an abusive or unhealthy relationship for a longer period (Knee & Petty, 2013). On the other hand, those with stronger destiny beliefs may see the conflict in the relationship as a sign that it is not the right relationship and take earlier action to end a potential unhealthy relationship (Knee, 1998).

For the most part, ITR beliefs are thought to be relatively stable, but prior research has shown that ITR beliefs can be malleable and altered upon exposure to specific stimuli (Franiuk et al., 2004; Knee et al., 2003; Wickham et al., 2010). One potential influence on individuals' ITR beliefs is exposure to media, specifically the genre of romantic media.

### Media's Influence of Relationship Beliefs

According to cultivation theory, media has the power to change a viewer's perception of reality over time (Gerbner et al., 1986). Gerbner et al. (1986) and Gerber et al. (1980) used the difference between symbolic reality and objective reality to test how the compelling nature of television facts



is accepted as truth in the real-world. Gerbner et al. (1980) found that the underrepresentation of the older adult population in television dramas persuaded viewers that older adults were a smaller portion of the real-world population, when in reality, that population was growing. Similar associations were found in media's display of violence. Most television programs show more action-violence than is true in the real world (Gerbner et al., 1986). Research by Gerbner and colleagues (1979, 1980, 2002) found that heavy exposure to violence in television programs cultivated inflated perceptions of people involved in real-world violence.

Gerbner et al. (1986) postulated that the cultivation process goes beyond comparing television facts with real-world statistics. They proposed that the most interesting and important areas for cultivation involve the perceptions of general issues and assumptions in one's own beliefs. Television facts are likely to grow as a basis for a broader view of the world, thus making television a significant source for the cultivation of values, ideologies, assumptions, beliefs, and images (Gerbner et al., 1986). This is known as the cultivation of value systems (Hawkins & Pingree, 1982).

The cultivation of value systems is evident in the idea of mean world syndrome (Gerbner et al., 1986). Although little to no real-world statistics exist about the extent to which people are selfish versus altruistic, or how likely someone can be trusted, research has found that viewers heavily exposed to violent programs tended to view the world in such a dangerous manner (Appel, 2008; Gerbner et al., 1980). The cultivation of value systems (Hawkins & Pingree, 1982) can also be attributed to the cultivation of romantic beliefs given the exposure to romantic media. With romance being a popular topic in media, the portrayal of romantic relationships in media has the potential to affect a viewer's relationship beliefs (Gerbner et al., 1986).

Mass media (e.g., movies, TV shows, books) romanticizes relationships within the United States (Johnson & Holmes, 2009). Media does this by incorporating romantic themes throughout songs, movies, TV shows, talk shows, and so forth. In visual media (e.g., TV shows, movies) viewers can choose from many different genres. When it comes to relationships, research has predominately focused on scripted romantic media (e.g., Disney, romantic comedies, romantic dramas). Such research consistently found that those types of genre-specific programming have a greater effect on relationship expectations than general TV viewing (Lippman

et al., 2014; National Institute of Mental Health, 1982; Segrin & Nabi, 2002). Disney princess movies have been used in past research due to their idealistic romantic themes (Hefner et al., 2017; Tonn 2008). However, in recent years, Disney films have transformed into themes consistent with independence, and less solely relied on romantic "happily ever after" endings (Hefner et al., 2017; Hine et al., 2018). In fact, princesses in later films are more likely to stay single (e.g., Moana; Hine et al., 2018). As such, today's viewers see more realistic representations of love and romance in Disney princess movies than their parents' generation saw (Hefner et al., 2017).

Beyond Disney movies, romantic comedies also portray strong relationship themes, such as the concept of a soul mate or one-and-only love, idealization of partners, love conquers all, and love at first sight (Hefner & Wilson, 2013). Studies have found that viewers' preference for viewing romantic themed media has been significantly correlated with "love finds a way" (Lippman et al., 2014) fantasy rumination, marital intentions (Galloway, 2013), belief in predestined soulmates, and an expectation for mind reading in relationships (Holmes, 2007; Holmes & Johnson, 2009). Furthermore, outside of merely preference, frequent viewing of romantic comedies and dramas can influence viewers' idealizations that love conquers all (Galloway, 2013). Romantic comedy exposure can also predict viewer's idealization of their partner, especially if they are watching to learn about romance (Hefner & Wilson, 2013). Further, Holmes and Johnson (2009) found that those who were in relationships had greater relationship satisfaction if they viewed a romantic comedy manipulation compared to a control. Meanwhile, those not in relationships had less relationship satisfaction if they watched a romantic comedy manipulation compared to a control.

More recently, scholars have explored both scripted and unscripted romantic media. Such research revealed that genres of romantic media are differentially associated with romantic beliefs, such that greater consumption of soap operas was associated with a stronger belief in soulmates than consumption of romantic movies (Kretz, 2019). Moreover, viewing reality dating programs was positively correlated with adversarial sexual beliefs, endorsement of sexual double standards, as well as beliefs that men are sex-driven, appearance is important in dating, and that dating is a game (Zurbriggen & Morgan, 2006). Research on the impact of watching wedding-based reality media

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has been mixed. Some research reports that greater consumption is associated with stronger beliefs in the idea that real love gives couples the strength to overcome anything (Hefner, 2016), whereas other research reports that greater consumption is not associated with the idea that love finds a way but was positively associated with stronger beliefs in love at first sight and idealizations of partners (Lippman et al., 2014). Overall, scripted and unscripted media across various genres can portray differing relationship ideals and beliefs, and viewers' perceptions are impacted by what the media they are watching portrays (Lippman et al., 2014). These findings support that the media has a role in cultivating expectations of romantic relationships and marriage.

### Media Consumption

Watching TV continues to rise in popularity (Krantz-Kent, 2018). In 2018, 80% of Americans watched TV daily. Watching TV accounted for more than half of all the time Americans spent in leisure activities/sports, therefore, making watching TV the leisurely choice for most Americans (Krantz-Kent, 2018). Within the emerging adult population, in the 2013–2017 statistics period, almost 75% of 15- to 35-year-olds watched TV on a given day (Krantz-Kent, 2018). With the development of streaming devices (e.g., tablets, phones, computers, and TVs connected to the internet), TV programs, videos, and movies are now easily accessible from various devices. Having a television is no longer the only way people can engage in TV watching (Krantz-Kent, 2018). Thus, the accessibility to media has increased and media engagement continues to be a common past-time for most Americans.

When it comes to specific genre watching, in a sample of 2,200 respondents, 63% of 18- to 29-year-olds mostly watched romance media and 68% mostly watched romantic comedies (Watson, 2018). In a sample of similar size, 77% of women and 55% of men indicated that romance media was their favorite genre, and 84% of women and 67% of men indicated that romantic comedy was their favorite genre (Watson, 2019). Furthermore, reality TV first made an appearance in the top 10 rankings in 2000 and, since the 2002–2003 season, has consistently captured the largest percentage of the audience watching the top 10 broadcast programs (Nielsen, 2011). In addition to being a preferred genre for media consumption, a recent poll found that more than 60% of 25- to 34-year-olds believe at least some reality romances to be genuine (Tiley, 2016). Therefore, because the blending of romantic

media and reality TV is popular among emerging adults, it is justified to examine whether romantic reality media influences their romantic beliefs.

### The Present Study

Previous researchers have predominately examined associations between media consumption and romantic relationship beliefs using self-reported questionnaires, which has the limitation of selective exposure (e.g., Kretz, 2019; Segrin & Nabi, 2002). Specifically, those with idealized views of marriage could selectively expose themselves to romanticized media content because it is consistent with their already held beliefs. Limited research has experimentally examined the association. For example, Holmes & Johnson (2009) demonstrated the utility of an experimental manipulation of romantic media to test cultivation. The current study extended the research by measuring the malleability of growth and destiny beliefs while addressing selectivity bias for the media by assigning a film genre using an experimental design. The two assigned romantic reality media compilations were created from the same source. The romantic reality media used in this study was derived from the reality TV show, *Married at First Sight* (Kinetic Content, 2014). *Married at First Sight* is a show where four experts in romance pair strangers to get married, such that the couple does not meet until at the altar. If they choose to go through with the wedding, the show follows the couple for six weeks, and after the six weeks, the couple decides if they are going to stay married or get divorced (Kinetic Content, 2014). Lastly, the nonromantic (i.e., object media) video was a specific episode from the series *Everyday Miracles* (BBC, 2014), which has no romantic content.

The primary aim of this study was to examine whether watching romantic reality media can modify participants' ITRs. A two-part experimental study was conducted. Participants completed an online survey about their ITRs and amount of romantic media consumed. They were then randomly assigned to one of three media conditions, which they watched in a computer lab. Immediately afterward, they completed a second online survey, once again capturing their ITRs. First, we hypothesized that those who reported watching romantic media in their regular pastime would have higher destiny beliefs and lower growth beliefs. Second, we hypothesized that those who were randomly assigned to either romantic reality media condition (i.e., compilation highlighting destiny beliefs and compilation highlighting growth beliefs) would

report higher destiny and lower growth beliefs on the postvideo survey than those randomly assigned to the nonromantic media condition. Given that prior research has demonstrated that watching romantic media can influence relationship expectations and beliefs, the analysis for the second hypothesis was also conducted controlling for participants' reported frequency of romantic media consumption.

## Method

### Participants

Participants consisted of emerging adults from a small liberal arts college in the Southeast. A target sample size of 148 was sought.

A total of 128 participants completed more than just the consent screen on the prevideo survey. Most participants were women (71.9%; 20.3% men, 7.8% did not disclose). Their ages ranged from 18 to 47 ( $M = 19.96$  years,  $SD = 3.07$ ) and most participants were underclass students (58.8%; 25.9% upperclass students, 15.4% did not disclose). Similar to the population drawn from, most participants identified as European American (75.0%; 7.8% African American, 3.1% Biracial, 2.3% Latinx/Hispanic, 1.6% Asian American, 1.6% other, 0.8% Native American, and 7.8% did not disclose). Additionally, most participants identified as heterosexual (85.2%; 4% bisexual, 1.6% gay or lesbian, 0.8% asexual, 8.6% did not disclose). Participants varied, though, in their current relationship status (38.3% dating seriously, 35.2% single, 9.4% "talking," 3.9% dating casually, 3.1% on-again/off-again, 1.6% engaged, 8.6% did not disclose).

A total of 81 participants came to the lab to watch one of the video conditions and complete the postvideo survey. Most were women (75.3%; 24.7% men). Their ages ranged from 18 to 47 ( $M = 20.00$  years,  $SD = 3.52$ ) and most participants were still underclass students (70.3%; 29.7% upperclass students). Participants identified as predominately European American (82.7%; 9.9% African American, 3.7% Biracial, 1.2% Latinx/Hispanic, and 2.5% other). Additionally, most participants identified as heterosexual (92.6%; 3.7% bisexual, 3.7% gay or lesbian). Participants remained varied in their current relationship status (44.4% dating seriously, 40.7% single, 4.9% "talking," 4.9% dating casually, 2.5% on-again/off-again, 2.5% engaged).

### Materials

The following measures are listed in the order that they were completed by participants.

### Implicit Theories of Relationships

To assess participants' ITRs, the Implicit Theories of Relationships Scale (Knee, 1998; Knee et al., 2003) was used in both the pre- and postvideo survey. The Implicit Theories of Relationships Scale (Knee, 1998; Knee et al., 2003) consists of 22 questions; each question is scored on a 1 (*strongly disagree*) to 7 (*strongly agree*) Likert-type scale. Eleven questions assess destiny beliefs (e.g., "If a potential relationship is not meant to be, it will become apparent very soon") and 11 questions assess growth beliefs (e.g., "The ideal relationship develops gradually over time"). Average destiny and growth beliefs scores were calculated; means, standard deviations, and Cronbach's alphas are shared in Table 1.

### Romantic Media Consumption

Participants were then asked a series of questions pertaining to their outside media consumption on the pre- and postvideo surveys. These outside media consumption questions were comprised of six questions: (a) "How often do you watch romantic media" answered on a 0 (*always*) to 5 (*never*) Likert-type scale; (b) "How much do you enjoy watching romantic media" answered on a 1 (*like a great deal*) to 7 (*dislike a great deal*) Likert-type scale; (c) "How likely are you to choose a romantic film over others?" answered on a 1 (*extremely likely*) to 7 (*extremely unlikely*) Likert-type scale; (d) "How much TV do you watch in an average weekday" with the choices of 10+ hours, 8–10 hours, 4–8 hours, or 0–2 hours; (e) "How much TV do you watch in an average weekend" with the choice of 10+ hours, 8–10 hours, 4–8 hours, or 0–2 hours; and (f) "Out of your media consumption, how much is romantic media" answered on a 0–100 ratio scale. Only the first question was used in these analyses and was reverse coded so that higher scores would indicate more frequent media consumption; participants' mean and standard deviation to that question is shared in

TABLE 1

### Means, Standard Deviations, and Cronbach's Alphas for Core Survey Variables

Variable	Pre		Post	
	<i>M</i> ( <i>SD</i> )	$\alpha$	<i>M</i> ( <i>SD</i> )	$\alpha$
ITR growth	5.20 (0.66)	.75	5.39 (0.62)	.76
ITR destiny	3.64 (0.81)	.80	3.30 (0.89)	.87
Media consumption	3.43 (1.03)	n/a	3.52 (0.94)	n/a

Note. Higher media consumption scores are associated with more frequent watching of romantic media. ITR = implicit theories of relationships. Higher growth and destiny scores are associated with stronger beliefs.

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Table 1. The term “romantic media” was not defined for participants; participants were permitted to use their implicit definition for the term given that romantic media can cross multiple genres.

### *Demographic Information*

On both the pre- and postvideo surveys, participants were then asked demographic questions including age, gender, race, and year in school. Participants were also asked further questions pertaining to their romantic relations. These questions included their sexual orientation, their current relationship status, their longest romantic relationship, and when their last relationship was (if not currently in one).

### *Experimental Video Conditions*

The in-lab session consisted of watching an assigned video and then completing a post-video questionnaire. During the in-lab session, participants watched one of three different videos; two were romantic in content and one was not focused on interpersonal relationships but, rather, on objects. All films were an hour in length to control for time.

Similar to Wickham et al. (2010), two combinations of ITR beliefs (high destiny/low growth and low destiny/high growth) were used for the experimental videos. Both videos were created from the romantic reality series *Married at First Sight* (Kinetic Content, 2014). In the film that depicted the high growth beliefs condition, a couple was unsure of each other at first, but learned to love each other, and stayed together; thus, accurately showing a growth mindset. In the film that depicted the high destiny beliefs condition, a couple believed that they were meant for each other, soon had problems, and chose not to stay together; thus, showing an accurate depiction of destiny beliefs. Although it was decided by the researchers to show the ending of the taping for each couple (i.e., staying together or not), it is recognized that this is a confounding variable and is discussed further in the limitations section.

The romantic reality media films were hand-made by the first author. *Married at First Sight* (Kinetic Content, 2014) is filmed unscripted where the cameras follow three different couples per season. The researcher went through multiple seasons of *Married at First Sight* (Kinetic Content, 2014), Season 1 for the growth video and Season 2 for the destiny video, and selected scenes from each that only depicted the intended couple; no other couples were shown in either video. Each segment was selected to make a coherent video and depict high growth or high destiny attributes in each couple. The created videos were then reviewed by

the second author and small tweaks were made to ensure coherence, flow, and quality depiction of growth or destiny beliefs.

Different endings for each film were chosen to further emphasize either high growth or high destiny beliefs. Supported by the tenets of Cultivation Theory, both films were designed to portray the highest level of each belief from beginning to end. In high growth beliefs, conflict resolution and a work-it-out mentality facilitates growth and maintenance of a relationship (Franziuk et al., 2002; Knee, 1998). Therefore, the film shown to participants illustrates the couple working through their differences together, even when they were less sure about the match in the beginning, and then as they decide to stay married in the end. In high destiny beliefs, high satisfaction is important and certain deal breakers are nonnegotiable, which increases the odds of relationship dissolution; as such, if there is too much conflict, then that person is not the one for them and they should end the relationship (Franziuk et al., 2002; Knee, 1998). Therefore, the film shown to participants portrays the couple feeling quite positive about their match and attraction to the person initially, but then illustrates the couple having disagreements and unresolved conflict, and ultimately deciding to get a divorce at the end. Both researchers reviewed each created film and determined that they each accurately portrayed the assigned ITR.

The third video, nonromantic media, was the entirety of episode two from the documentary series *Everyday Miracles* (BBC, 2014), which did not contain any romantic content. Episode two of *Everyday Miracles* (BBC, 2014) features a materials scientist, Mark Miodownik, who presents historical information about everyday objects used today. He explores what everyday objects (e.g., bicycles, lightbulbs, etc.) used to look like, how they were used in the past, and how they were improved throughout history to become what they are presently.

After viewing the assigned video, participants were asked comprehension questions to validate their attention during the assigned video stimulus. Participants who watched either of the romantic reality media films were asked: (a) “What were the names of the couple” answered with a free response, (b) “What was the outcome of the couple” answered on a binary scale of either Divorce or Remained married, (c) “Do you believe the decision was the right one” answered on a 1 (*definitely yes*) to a 5 (*definitely not*) scale, and (d) “Following your answer on the previous question, why do you think that”

answered with a free response. Participants who watched the nonromantic media video were asked: (a) “What was discussed in the video” answered with a free response, (b) “Did you find what was discussed to be interesting” answered on a 1 (*definitely yes*) to a 5 (*definitely not*) Likert-type scale, and (c) “Why was it interesting or not interesting” answered with a free response.

### Procedure

After institutional review board approval (18077) was granted at the southeastern liberal arts college, we recruited participants through email and via SONA systems. SONA systems is the program that the college’s Psychology Department uses to sign participants up for psychological research and allocate course credit for participation. Those who were not a part of SONA systems were sent an email about the study and offered a chance to win a \$15 gift card to a local coffee shop or to apply their credits to their service organization.

Participants were recruited to complete a two-part questionnaire. The first part was completed online before the in-lab session. The questionnaire was hosted on Qualtrics and accessible to participants online at their convenience. After participants finished the first questionnaire, they were emailed about how to sign up for the second part of the study. Participants came into the computer lab during their selected time. Participants were assigned to their experimental condition based on the session they signed up for. On average, the in-lab session occurred 1.5 to 2 weeks after the online prevideo survey.

When participants came to their selected lab time, they watched one of three videos: high growth, high destiny, or the nonromantic media video. All participants in the computer lab at the same time watched the same video content from a shared TV in the lab. There was also a video proctor, who was part of the research team, at all video sessions to make sure participants were paying attention to the video stimuli. As participants watched the video, they were emailed a link to the postvideo questionnaire.

After watching the assigned video as a group, participants turned to their computer screens to complete the postvideo questionnaire. The postsession questionnaire was also hosted on Qualtrics. The postvideo questionnaire contained the same questions as the prequestionnaire but also contained comprehension check questions about the video. There were two different postvideo

questionnaires: one that incorporated the romantic videos’ comprehension check questions and one that incorporated the nonromantic media video’s comprehension check questions.

### Results

Preliminary correlations (see Table 2) followed by regressions were conducted to examine the first hypothesis that participants who reported regularly watching romantic media in their pastime would have higher destiny beliefs and lower growth beliefs than those who did not report regularly watching romantic media. Reported romantic media consumption on the prevideo survey was not significantly associated with participants’ prevideo growth beliefs,  $R^2_{adi} = .00$ ,  $F(1, 120) = 0.54$ ,  $p = .465$ , or destiny beliefs,  $R^2_{adi} = .00$ ,  $F(1, 120) = 0.22$ ,  $p = .642$ . The association between reported romantic media consumption on the postvideo survey and their postvideo growth beliefs was trending,  $R^2_{adi} = .03$ ,  $F(1, 79) = 3.59$ ,  $p = .062$ . Specifically, more regular romantic media consumption was marginally associated with higher growth beliefs on the postvideo survey. There was not a significant association between reported romantic media consumption on the postvideo survey and their postvideo destiny beliefs,  $R^2_{adi} = .01$ ,  $F(1, 79) = 0.96$ ,  $p = .331$ . As such, this hypothesis was largely unsupported.

A 2 (ITR beliefs: growth, destiny)  $\times$  2 (wave: pre-, postvideo)  $\times$  3 (video condition: destiny, growth, nonromantic) mixed analysis of variance (ANOVA) was then conducted (see Table 3)<sup>1</sup> to examine the second hypothesis that those who were randomly assigned to watch either romantic reality media would report higher destiny and lower growth beliefs on the postvideo survey than those assigned to watch the nonromantic media. Of particular interest in this analysis was the 3-way interaction between ITR beliefs, wave

**TABLE 2**

#### Correlations Between Self-Reported Media Consumption and Implicit Theories of Relationships on Each Survey

Media consumption	Growth		Destiny	
	<i>n</i>	<i>r</i>	<i>n</i>	<i>r</i>
Romantic media consumption (pre)	122	-.07	122	-.04
Romantic media consumption (post)	81	.21 <sup>†</sup>	81	-.11

*Note.* The degrees of freedom for the correlations on the prevideo survey data (top row) were 117. The degrees of freedom for the correlations on the postvideo survey data (bottom row) were 80.

<sup>†</sup> $p < .05$ .  $^{\dagger}p = .062$ .

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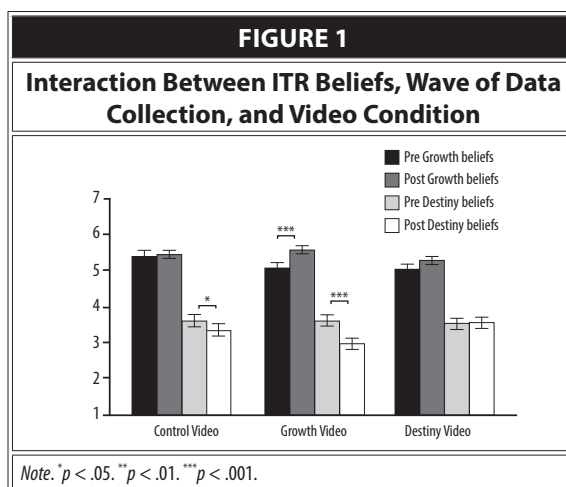
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of data collection, and video condition, which was significant (see Figure 1). Follow-up paired-sample *t* tests were conducted to identify where change in ITR beliefs had occurred. After watching the growth video, there was a significant increase in growth beliefs,  $t(24) = 6.07, p < .001$ , and a significant decrease in destiny beliefs,  $t(24) = -4.10, p < .001$ . After watching the destiny video, there was no significant change in either growth or destiny beliefs,  $t(27) = 1.47, p = .154$  and  $t(27) = 0.21, p = .838$ , respectively. Furthermore, after watching the nonromantic media, there was no significant change in growth beliefs,  $t(23) = 0.16, p = .876$ , but there was a significant decrease in destiny beliefs,  $t(23) = -2.56, p = .017$ . As such, although significant change was found, especially for the growth video, it was not in the direction posited by the hypothesis.

TABLE 3					
ANOVA Examining Change in Implicit Theories of Relationships					
	Wilks's $\lambda$	df	F	p	$\eta_p^2$
ITR	0.19	1, 74	325.71	< .001	.82
Wave	1.00	1, 74	0.25	.618	.00
ITR x Video	0.96	2, 74	1.45	.241	.04
Wave x Video	0.95	2, 74	1.89	.159	.05
ITR x Wave	0.71	1, 74	29.80	< .001	.29
ITR x Wave x Video	0.80	2, 74	9.38	< .001	.20

Note. ITR = implicit theories of relationships (i.e., growth and destiny); Wave = point of data collection (i.e., pre- or postvideo); Video = experimental condition (i.e., growth, destiny, nonromantic).



<sup>1</sup> This analysis was also conducted controlling for participants' frequency of romantic media consumption, as reported on the postvideo, and the results were essentially the same. As such, the reported results are based on the ANOVA described in the text, not the ANCOVA with romantic media consumption.

## Discussion

A regular leisure activity of young adults is the consumption of visual media, and the viewing of romantic and reality media is quite common (Tiley, 2016; Watson, 2018). As such, the present study assessed whether watching romantic reality media impacted individuals' growth and destiny beliefs. Contrary to expectations, participants' reported consumption of romantic media was not associated with their ITRs. Prior research had revealed that participants' reported consumption of romantic media impacted their relationship/marital expectations and beliefs in both scripted (Hefner, 2016; Hefner et al., 2017; Hefner & Wilson, 2013; Galloway, 2013; Holmes, 2007; Holmes & Johnson, 2009; Lippman et al., 2014; National Institute of Mental Health, 1982; Segrin & Nabi, 2002; Tonn, 2008;) and unscripted romantic media (Kretz, 2019; Lippman et al., 2014; Zurbriggen & Morgan, 2006). However, in this sample, a similar association was not extended to participants' ITRs.

Supported by cultivation theory (Gerbner et al., 1986), showing a video stimulus high in growth or destiny beliefs was implemented to test if its viewing might change participants' views of their own ITR beliefs on the postvideo survey, when compared to their ITR beliefs on the prevideo survey. This study demonstrated that, after viewing a single hour of a romantic reality video, that growth and destiny beliefs were altered. Specifically, those who watched the growth romantic reality video had a significant increase in their growth beliefs and a significant decrease in their destiny beliefs. This finding relates to cultivation theory (Gerbner et al., 1986) in that the exposure of a romantic reality video emphasizing growth beliefs successfully changed individuals' prior growth and destiny beliefs. However, watching the destiny romantic reality video did not change participants' ITR beliefs. Because the growth romantic reality video was more influential than the destiny romantic reality video, it may reflect that showing a couple whose interest in each other grows across time and who work through differences may be particularly meaningful to young adults. This may be particularly impactful as a preponderance of romantic reality media tends to focus on couples with instant attractions, in conflict, and/or making the decision to break-up or divorce.

Ultimately, this study used extreme combinations of ITR beliefs and demonstrated that the manipulation of ITRs can occur using relatively short video stimuli which enhances upon the prior research (Knee et al., 2003; Franiuk et al.,

2004; Walton, 2014; Wickham et al., 2010). We recognize, though, that the structure of the study did not permit examining how long the belief change persisted for those who watched the growth video and encourage similar projects to include additional questionnaires days or weeks after the experimental manipulation.

Although this study looked at growth and destiny beliefs separately, individuals actually possess a combination of these ITR beliefs. Some people may hold strong growth beliefs when it comes to maintaining the relationship, and at the same time, strong destiny beliefs when it comes to the fruition of the relationship (Knee, 1998; Knee et al., 2003). Therefore, the utility of ITRs is apparent in their combination. Recognizing the utility of growth and destiny beliefs is not only valuable in individual relationships, but also, the professional world. Specifically, understanding an individual's ITR beliefs is beneficial for couples/marital counseling. To begin, those who hold stronger growth beliefs are more likely to seek professional help in their relationship than those with higher destiny beliefs (Knee & Petty, 2013). However, if those with stronger destiny beliefs do seek help, it is more often to ask the professional if the relationship should be terminated or not (Knee & Petty, 2013). While in counseling, those with stronger growth beliefs are more likely to be open about their feelings and be nondefensive toward one another (Knee & Petty, 2013). Furthermore, having a higher willingness to compromise as a couple, more motivation to implement new coping strategies, and having fewer avoidant behaviors, which demonstrate stronger growth beliefs (Knee & Petty, 2013), often leads to a higher success rate in couples/marital counseling. As such, possessing strong growth beliefs can facilitate a positive outcome for couples in counseling. On the other hand, a professional working with couples who possess strong destiny beliefs may have a more difficult time facilitating the couple to compromise, especially on deal breakers, to change their avoidant patterns, be more open with their partner, and find areas for growth in themselves (Knee & Petty, 2013). Furthermore, the utility of growth beliefs is often taught and encouraged during couples/marital counseling. For example, growth beliefs can be found in marriage counseling by the therapists' intentions to support communication between the couple, elicit problem solving tactics, and encourage the discussion and acceptance of differences (Shanmugavelu & Arumugam, 2020).

### Limitations and Future Directions

The current study combatted previous limitations by including an experimental manipulation via video, rather than solely asking participants about their television viewing habits and associating their self-reported viewing with their relationship beliefs. The pre/post design enhanced the literature by allowing the examination of change in participants' ITRs (i.e., growth and destiny). The incorporation of romantic reality videos that were of the same concept but demonstrated different ITR beliefs, as well as a nonromantic video on objects for comparison, enhanced the quality of the study by focusing on a specific genre of romantic media that may have stronger or weaker influences on ITR beliefs. However, the study has limitations that must be recognized.

First, focusing on the media used for the romantic reality conditions, which was derived from the show *Married at First Sight* (Kinetic Content, 2014), there are some limitations. A major limitation concerning the videos is that the two romantic films had different conclusions. The couple in the growth video stayed married, whereas the couple in the destiny video got divorced. This is a confounding variable. The ending could have impacted how the participants viewed their film, and thus influenced the change in their beliefs and expectations. In the future, the videos could be stopped before the ending is revealed. The participants could then be asked their opinion about whether they think the couples stay together or get divorced. They could also be asked about the quality of the couples' relationship satisfaction and extent to which the couples possess certain relationship beliefs. Moreover, scholars could compare the participants' responses based on the video condition and to their own relationship beliefs. Another option might be to randomly assign participants to an ending such that the romantic reality videos result in four different experimental conditions: destiny/stay married, destiny/divorced, growth/stay married, growth/divorced. Researchers could then evaluate if the ending of the films have an influence on the participants.

Furthermore, *Married at First Sight* (Kinetic Content, 2014) is an unscripted, romantic reality TV show. The unscripted design is contradictory to what most may assume when thinking about the genre of romantic media. Common romantic movies, like Disney films and Hallmark movies, tend to portray the romantic theme that, despite all odds, the couple is meant to be and live happily ever after (Hefner et

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al., 2017; Hefner & Wilson, 2013). Therefore, *Married at First Sight* (Kinetic Content, 2014) is not completely representative of all romantic media genres, but romantic reality media is commonly viewed by college-aged individuals (Nielsen, 2011; Watson, 2018, 2019) and is more likely to have couples that portray heavier destiny themes (Kretz, 2019; Lippman et al., 2014). Additionally, we acknowledge that the romantic reality videos were not pilot tested before showing them to the participants; rather, decisions of their appropriateness for each ITR condition were made by the research team.

Another limitation is that the participants only watched one film, a romantic reality video (i.e., growth or destiny) or a nonromantic video. Cultivation theory (Gerbner et al., 1986) refers to the repeated exposure of media on an individual. Therefore, future studies could be more longitudinal in design, in which many romantic videos are shown across a period of time and participants are assessed throughout their exposure. Furthermore, we did not ask participants on the postvideo survey if they were familiar with the media they watched in their video condition (i.e., *Married at First Sight* or *Everyday Miracles*). Future projects that use media in their experimental paradigm should explore whether participants are familiar with the chosen media and if it influences the impact of the experiment.

A limitation within the pre- and postvideo questionnaires is that the term “romantic media” was not defined for the participants. Participants were instead allowed to use their implicit definition for the term. It was assumed by the researchers that college-aged students could interpret the term “romantic media” across multiple genres and understand the aspects of such a term. However, this was an assumption made by the researchers and therefore is a limitation within the questionnaires. In the future, the term “romantic media” could be defined for the participants to narrow the scope of the definition. Another limitation within the postvideo questionnaire is that the returning participants were not assessed to see if their own love life had changed within the period that they filled out the pre-video questionnaire and when they participated in the second part of the study. Future studies could add assessment questions in the postvideo questionnaire to check if the participants fell in love, had a breakup, and so forth within the time gap. In doing so, potential confounding variables, such as self-selection due to interest in learning more about love and a change in participants’ ideas about love for outside reasons rather than the video stimuli, could be accounted for. In

regard to ITRs, given that Knee (1998) proposed that growth and destiny beliefs are situational in nature, it would be interesting for future research to test the situational nature of growth and destiny beliefs; specifically, there may be certain perceptions (e.g., importance of initial attraction, utility of working through conflicts, acceptable methods of relationship dissolution) that are more or less modifiable by romantic media influences.

Lastly, another limitation was attrition. The high attrition rate between the pre- and postvideo surveys (33.06%) led to a small postvideo sample to analyze, which limited our power in conducting the planned analyses that examined ITR belief change. Therefore, future studies should consider altered incentives or other practices to reduce attrition. One way to reduce attrition could be to structure the study so that the prevideo questionnaire, experimentally-manipulated video condition, and postvideo questionnaire all occur in one sitting. Or, scholars may choose to offset attrition concerns by recruiting a larger of participants by recruiting from subject pools at multiple institutions or recruiting from online platforms such as Prolific.

## Conclusion

In conclusion, the study successfully illustrated the influence of romantic reality media, specifically on ITR beliefs, using an experimental paradigm in which participants viewed videos designed to emphasize aspects of growth or destiny beliefs. The findings are in congruence with cultivation theory. Furthermore, the study also found romantic reality media that emphasizes growth beliefs to be influential on individuals’ ITR beliefs, whereas romantic reality media that emphasizes destiny beliefs did not change their established beliefs.

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# Is the Blood Donation Deferral Policy a Reflection of Anti-LGBTQ Institutional Bias? Community Perceptions Amid the COVID-19 Pandemic

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**ABSTRACT.** As part of its responsibilities to protect the safety of the American public, the United States Food and Drug Administration (FDA) regulates activities associated with blood donation. One FDA policy concerns the deferral period of blood donation by men who have sex with men (MSM), and their sexual partners. The policy risks reinforcing stigma against people in the lesbian, gay, bisexual, transgender, queer/questioning (LGBTQ) community. The 2019 novel coronavirus pandemic created an urgent need for blood products; hence, the FDA shortened the deferral period for MSM and their sexual partners. Yet, the public's support of the deferral policy remained unclear. U.S. community adults ( $N = 829$ ,  $M_{age} = 46.83$ , 50.3% women, 9.5% lesbian, gay, bisexual (LGB) individuals) rated their approval of the FDA's deferral policy and attitudes toward blood donations from people across various sexual orientations and gender identities. Approximately 78% of participants reported positive attitudes toward receiving blood from heterosexual donors, whereas 54% reported positive attitudes toward receiving blood from LGBTQ donors. Participants were inclined to believe that the 2020 policy revision was motivated by an increased demand for blood donations amid the coronavirus pandemic rather than an intent to reduce discrimination. Relative to LGB participants, heterosexual participants were less willing to receive blood from LGBTQ donors, more likely to endorse the FDA's deferral policy, and less likely to consider this policy to be discriminatory. Grounded in a minority stress framework, understanding public opinion can contextualize the possible negative impact on LGBTQ health and inform future FDA policies.

**Keywords:** blood donor, COVID-19, exclusion, prejudice, sexual behavior

According to the American Red Cross (n.d.), each blood donation can save the lives of up to three people who suffer from life threatening illnesses or injuries. The spread of the coronavirus disease in 2019 (COVID-19) evolved into a global pandemic by March 11, 2020

(Cucinotta & Vanelli, 2020). The large number of ill and injured individuals has resulted in an increased and urgent demand for blood and blood components in the United States (FDA, 2020a). Prior to the availability of vaccines, research showed that patients who recovered from COVID-19



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might contain antibodies in their plasma. These antibodies were considered to be possibly effective in treating other patients who contracted the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2; CDC, 2020a; Chen et al., 2020; Shen et al., 2020). Given the importance of blood donation, assuring the safety of the blood supply is a public health priority (CDC, 2020b).

The United States Food and Drug Administration (FDA) is responsible for preventing the transmission of communicable diseases via blood transfusion and protecting the health of blood donors and the ultimate recipients (FDA, 2018a). With the primary goal of reducing the risk of human immunodeficiency virus (HIV) transmission via transfusion, the FDA previously enacted a deferral policy that affected some blood donors. This policy prohibited men who have sex with men (MSM) and women who have sex with MSM from donating blood. In 2015, the lifetime ban was changed to a 12-month deferral period since individuals' last sexual activity. During the beginning phase of the COVID-19 pandemic, the FDA again revised this policy and shortened the deferral period from twelve months to three months. The revision was implemented immediately without input from the public (FDA, 2020b). Despite a shorter deferral period, the 2020 revision to the policy may perpetuate stigma and mischaracterizations about the sexual activities of not only MSM, but also other lesbian, gay, and bisexual (LGB) individuals (Bensing, 2011; Deacon, 2006; Herek & Capitano, 1999; Herron, 2016). Yet, it is unclear whether people in the general public consider the FDA's deferral policy to be discriminatory against LGB individuals. The present study was aimed to examine individuals' knowledge and opinions about blood donation and the FDA's deferral policy in a sample of United States community adults. Considering the continued demand for blood donation amid the ongoing COVID-19 pandemic, our study addressed a timely and important public health and social justice issue.

### Blood Donation Policies

The mission of the FDA is to protect public health by ensuring the safety of biological and medical products, and food supply (FDA, 2015, 2018b). Consistent with this mission, the FDA provides a set of regulations on the collection, screening, and use of blood and blood components to assure the health and safety of donors and recipients. The FDA guides the development and use of donor

educational materials and donor history questionnaires. Blood centers not only are required by the FDA to maintain a list of individuals who are unsuitable for donating blood, but also to test all donated blood for a host of infectious diseases including HIV, Hepatitis B and C, West Nile, and Zika viruses (FDA, 2018c, 2020a). Only blood products that test negative for communicable diseases can be used for transfusion. Additionally, the FDA maintains a set of recommendations in deferring blood donations by individuals who may be at increased risk for communicable diseases. These recommendations have prohibited or limited blood donations by individuals who have used nonprescription drugs via intravenous injections, engaged in sex in exchange for money or drugs, received a piercing or a tattoo from any nonregulated entities, MSM, and women who have had sex with MSM.

The blood donation deferral policy targeting gay or bisexual men, and other MSM was first introduced in response to the HIV epidemic (FDA, 2020a). In the early 1980s, compared to the rest of the U.S. population, people who injected nonprescription drugs, immigrants from Haiti, and MSM who had multiple sexual partners were considered at higher risk for HIV transmission (CDC, 1983). Given the limited understanding of HIV and AIDS at the time, in 1983, the FDA implemented a lifetime ban on blood donations by these groups.

Throughout the late 1980s and early 2000s, scientific advancement in the understanding of HIV enabled routine screening of donated blood via antibody and nucleic acid tests (Branson, 2003; Busch et al., 2005). As a result of improved blood screening and universal testing of all donated blood products, the risk of transfusion-related HIV infection became extremely low (Karamitros et al., 2017). Furthermore, with increased public education, prevention, and screening, incidence rates of HIV declined substantially (CDC, 2020c; Haire et al., 2018; Larkin, 2011). Between the years of 1997 and 2010, the FDA and the Department of Health and Human Services held public meetings and workshops to discuss the transmission risk of HIV and the lifetime ban on blood donations in place for MSM (FDA, 2020a). Representatives from several governmental health and safety agencies also formed a workgroup to review scientific evidence and re-evaluate the blood donation deferral policy (FDA, 2020a). In 2015, at the recommendation of the Interagency Blood, Organ, and Tissue Safety Working Group, the FDA's lifetime ban was reduced to a 12-month deferral for blood donation by MSM

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since their last sexual encounter with another man. This same revised deferral policy also applied to female donors who had sex with MSM (FDA, 2020a). Still, researchers criticized that the revision to a 12-month deferral period was not justified scientifically; rather, the FDA's decision mirrored changes made in countries where deferral policies also had been shortened (e.g., United Kingdom and Australia; APHA, 2015). Some researchers suggested that an even shorter, three-month deferral period might appropriately balance the need to manage transfusion-related health risks, and to include suitable blood donors (e.g., Haire et al., 2018). Other researchers and public health professionals asserted that any blood donation deferral policy targeting MSM would be unnecessary. For example, it has been estimated that eliminating the deferral policy for MSM would result in a 2% to 4% increase in the U.S. annual blood supply—enhancing the potential to save over a million lives each year (APHA, 2015; Miyashita & Gates, 2014).

Amid the COVID-19 outbreak, the FDA issued a set of revised guidelines on blood donation prohibitions to address the urgent need for blood products in the United States. Without soliciting comments from the public for its immediate implementation in April 2020, the new policy specified that “high-risk” blood donors—MSM and women who had sex with MSM—should be deferred from donating blood for three months since their last sexual encounter (FDA, 2020a). Although these recent policy changes eased restrictions further for blood donors in the LGB community, gay and bisexual men, and other MSM nevertheless are treated differently than other donors—regardless of their HIV status.

### **Policy, Systemic Discrimination, and Potential Impact on LGB Health**

To the extent that blood donations are routinely screened for communicable diseases, scholars and U.S. senators have argued that the FDA's blood donation deferral policy inadvertently perpetuates stigma and prejudice against MSM (Baldwin et al., 2020; Wainberg et al., 2010). Maintaining outdated recommendations can reinforce the harmful stereotypes that MSM are promiscuous and engage in risky sexual behaviors (Galarneau, 2010; Lake, 2010; Larkin, 2011). Thus, deferral periods of any length treat potential blood donors differentially on the basis of their sexual partners. Differential treatment at the policy level may reinforce public prejudice against people in the LGBTQ community.

Bias persists in public perceptions of LGBTQ

individuals. A 2021 Gallup poll showed that approximately 30% of Americans believed gay and lesbian relationships to be morally wrong, 29% believed that same-sex couples should not receive the same legal rights received by heterosexual couples, and 18% believed that gay or lesbian marriages should not be legalized (Gallup, 2021). A 2019 national survey from the Trevor Project showed that 71% of LGBTQ youth experienced discrimination based on their sexual orientation or gender identity (The Trevor Project, 2019). In 2020, 36% of LGBTQ Americans reported experience with discrimination in the past year (Center for American Progress, 2020).

Consistent with the minority stress framework (Meyer, 2003), policies that stigmatize LGB individuals' sexual behaviors have been considered to marginalize this segment of the population, and in turn contribute to LGB health disparities (Hatzenbuehler, 2010). LGB individuals are disproportionately confronted with chronic social disadvantages, such as alienation from institutions and social heteronormativity. Structural forms of stigma can contribute to sexual minority stress (Hatzenbuehler, 2016; Meyer, 2003). Furthermore, direct or vicarious experiences with homophobia, stigma reinforced in society, and discriminatory policies have been linked to disproportionately higher rates of mood disorders, suicidality, and substance misuse, and poorer self-rated physical health among LGB individuals, relative to their heterosexual counterparts (Almeida et al., 2009; Bostwick et al., 2014; Brewster et al., 2013; Hatzenbuehler & Pachankis, 2016; Lee et al., 2016).

Some research has suggested that anti-LGBTQ policies can precipitate minority stress, whereas policies promoting sexual equality may be linked to better health in the LGBTQ community. Before the U.S. Supreme Court ruled in favor of same-sex marriages at the federal level in 2015, states differed in their legislations. Cross-sectional comparisons have shown higher levels of self-reported anxiety and lower levels of life satisfaction among LGB individuals who lived in states that denied same-sex marriages than their counterparts who lived in states that permitted same-sex marriages (Tatum, 2017). Longitudinal research has shown that, in states where a ban on same-sex marriage was implemented, LGB individuals showed increases in the rates of mood disorder symptoms (e.g., depression, dysthymia, mania), anxiety problems, and alcohol use disorders compared to before the bans were implemented (Hatzenbuehler et al., 2010).

## The Present Study

The FDA's current recommendations for a three-month deferral period for gay and bisexual men, and other MSM blood donors, may perpetuate anti-LGB stigma and exert harmful effects on LGB health. It also is possible that a shortened deferral period functions as a compromise between the FDA's responsibility to assure public safety and unfair treatment of LGB blood donors. Whereas previous FDA workgroups engaged public feedback in changing the lifetime deferral to a 12-month deferral period, amid the current COVID-19 pandemic, the policy revision was implemented in April 2020 without public comment. Hence, it was unclear whether American people considered the current FDA blood donation deferral policy to be discriminatory against LGB donors. Understanding the public's opinions about blood donation and the FDA's policy is an important step in examining the possible impact of federal regulations on LGB health. In the present study, using a large convenience, community sample of U.S. adults, we sought to describe the public's attitudes toward blood donation policies affecting heterosexual and LGBTQ individuals. Given that the blood donation deferral policy targets MSM (and women who have sex with MSM), there may be systematic differences in the beliefs between LGB and heterosexual individuals. Thus, we aimed to explore attitude differences between LGB and heterosexual participants. Preregistration for the present study was archived in the Open Science Framework online repository (<https://osf.io/dhmjk>). Study materials and deidentified data also were made publicly available in the repository (<https://osf.io/73uwy/>).

## Method

### Participants

Participants were recruited via Qualtrics Panel, an online crowdsourcing platform used to collect data for academic and commercial research purposes. This study consisted of 829 adult participants who resided in the District of Columbia and 42 states across the United States (age range = 18–85,  $M_{age} = 46.83$ ,  $SD_{age} = 15.73$ , 50.3% women). Similar to the patterns in the general U.S. population (U.S. Census Bureau, 2019), most participants reported residence in California (24.5%), New York (9.7%), Texas (8.0%), and Florida (6.2%). The sample included 406 Asian American, 153 White/European American, 145 Hispanic/Latinx American, 133 Black/African American, 17 Native American/Native Alaskan/Indigenous, 2 Arab/

Middle Eastern/North African individuals, and 24 individuals who identified with another ethnoracial background. Most participants identified as completely heterosexual ( $n = 748$ ). Two individuals did not report their sexual orientation. Participants who identified as “mostly heterosexual,” “bisexual,” “mostly homosexual,” or “completely homosexual” ( $n = 79$ ) were coded as LGB in the present study. A large proportion of the sample attended some college or attained a bachelor's degree (60.3%), and held an advanced degree (31.5%). There was a great deal of variability in participants' annual household income, which ranged from < \$20,000 to > \$200,000 (Mode = \$100,001–\$200,000).

### Measures

We developed 14 survey items to assess participants' knowledge of and attitudes toward blood donation deferral policy in the United States (see Table 1, and Table S1 in online supplemental materials). In terms of knowledge, participants responded to three items on their belief of whether heterosexual, LGB, and transgender people were allowed to donate blood. Response options included *accurate*, *inaccurate*, and *unknown*. In terms of attitudes toward blood donation and deferral policies, items were constructed to assess participants' approval of blood donation by individuals who identified as heterosexual and LGBTQ, willingness to receive blood from heterosexual, LGB, and transgender donors, and perception of the FDA regulations. Participants' approval of blood donations (e.g., “People are allowed to donate blood if they are heterosexual;” 3 items) were rated on a scale from 1 (*strongly disapprove*) to 7 (*strongly approve*). Participants also indicated their willingness to receive blood from different donors (e.g., “I would receive blood from someone who identifies as heterosexual”) on two items rated on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*).

Prior to responding to survey items regarding the FDA's blood donation policies, participants read a passage summarizing the 2015 and 2020 deferral recommendations as they pertained to MSM and women who have sex with MSM. Participants indicated their endorsement and evaluation of FDA's blood donation deferral policies in 2015 and 2020 (e.g., “I endorse the policy issued in 2015”) on four items that were rated on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Finally, participants' perception for why the deferral period was shortened amid the COVID-19 pandemic (e.g., “The revised policy in 2020 is implemented only because

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of an increased demand for blood donations”) was assessed on two items rated on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*).

We conducted a series of principal component analyses (PCAs) using data from the 11 items assessing attitudes toward blood donation and FDA’s deferral policy. A parallel analysis indicated that a four-component solution would fit the data. Although four components achieved eigenvalues greater than 1.0, results from a PCA with varimax rotation showed that three components were interpretable. Items across these components indicated (a) willingness to receive blood from donors of various sexual/gender identities (5 items;  $\alpha = .78$ ), (b) beliefs about FDA’s deferral policy and reasons for the 2021 revision (4 items;  $\alpha = .67$ ), and (c) endorsement of the FDA’s policy (2 items;  $\alpha = .61$ ).

### Data Collection Procedures and Statistical Analyses

The study was approved by Southern Methodist University’s institutional review board (IRB). Data came from baseline survey responses collected as a part of a short-term longitudinal survey study examining people’s experiences with stress, discrimination, and health behaviors during the

COVID-19 pandemic. Asian American participants were oversampled for the study design to address other research questions related to anti-Asian discrimination amid the COVID-19 pandemic (Lui et al., 2021a, 2021b). Thus, we specified quotas to recruit Asian Americans to make up 50% of the sample, and other major ethno-racial groups (i.e., Black/African American, Hispanic/Latinx, and White/European American) to make up 15% of the sample, respectively. Additional sampling quotas were used to ensure that our participants reflected the U.S. population in terms of age group and gender.

Individuals aged 18 years or older received brief information about the study (i.e., longitudinal psychology survey, time involvement, and total compensation in the amount that they agreed with their panel vendors). Individuals who opted in were provided with additional information about the study and an electronic informed consent. Responses were anonymous and were linked only to participants’ Panel identification number. Each survey took 10 to 20 minutes to complete. Consistent with other Qualtrics Panel studies, participants received point-based incentives for the present study. Descriptive analyses were conducted to examine participants’ beliefs about the blood donation practices and FDA

**TABLE 1**  
**Summary Descriptive Statistics on Attitudes Toward Blood Donation, Deferral Policies, and Discrimination**

Item	<i>M (SD)</i>			<i>t</i>	<i>df</i>	<i>p</i>	<i>d</i>
	Overall Sample	LGB	Heterosexual				
1. People are allowed to donate blood if they are heterosexual.	5.59 (1.50)	5.46 (1.84)	5.61 (1.46)	0.78	748	.449	0.09
2. People are allowed to donate blood if they are gay, lesbian, bisexual, or of other sexual minority backgrounds.	4.50 (1.87)	4.31 (2.18)	4.52 (1.84)	0.87	760	.384	0.10
3. People are allowed to donate blood if they identify as transgender or transsexual (i.e. completed gender reassignment surgery).	4.47 (1.85)	4.53 (2.07)	4.47 (1.83)	−0.26	757	.793	0.03
4. I would receive blood from someone who identifies as heterosexual.	5.76 (1.52)	5.82 (1.55)	5.76 (1.51)	−0.34	825	.735	0.04
5. I would receive blood from someone who identifies as lesbian, gay, bisexual, transgender, or queer (LGBTQ).	4.80 (1.88)	5.47 (1.59)	4.73 (1.90)	−3.3	825	<.001	0.42
6. I endorse the policy issued in 2015.	4.28 (1.83)	3.24 (2.00)	4.38 (1.78)	5.37	825	<.001	0.60
7. I endorse the policy issued in 2020.	4.40 (1.73)	3.94 (1.96)	4.45 (1.69)	2.52	825	.012	0.28
8. The 2015 policy is discriminatory toward men who have had sex with a man.	4.32 (1.87)	5.37 (1.68)	4.21 (1.85)	−5.34	825	<.001	0.66
9. The 2020 policy is discriminatory toward men who have had sex with a man.	4.08 (1.81)	4.87 (1.81)	4.00 (1.79)	−4.13	825	<.001	0.48
10. The revised policy in 2020 is implemented to reduce discrimination toward men who have had sex with a man.	3.79 (1.61)	3.87 (1.78)	3.78 (1.59)	−0.48	825	.631	0.05
11. The revised policy in 2020 is implemented only because of an increased demand of blood donations.	4.91 (1.53)	5.23 (1.54)	4.87 (1.53)	−1.95	825	.051	0.23

*Note.*  $N = 829$  in the overall sample.  $n = 79$  for lesbian, gay, and bisexual (LGB) participants.  $n = 748$  for heterosexual participants. Two participants did not identify their sexual orientation. Item responses ranged from 1 (strongly disapprove/strongly disagree) to 7 (strongly approve/strongly agree). An independent samples *t* test was performed to compare group mean differences on each item between LGB and heterosexual participants. On Item 1, there were  $n = 65$  and  $n = 12$  missing responses from heterosexual and LGB respondents, respectively. On Item 2, there were  $n = 56$  and  $n = 9$  missing responses from heterosexual and LGB respondents, respectively. On Item 3 there were  $n = 57$  and  $n = 11$  missing responses from heterosexual and LGB respondents, respectively. There were no missing responses on the remaining items.

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policies. Independent-samples' *t* tests were used to examine differences between LGB and heterosexual participants on attitude ratings.

## Results

### Attitudes Toward Blood Donation and Deferral Policies

Participants were first asked to rate their knowledge about the blood donation deferral policies, and the patterns are summarized in Table S1 (see online supplemental materials). Table 1 summarizes participants' self-reported attitudes toward blood donations and the FDA's 2015 and 2020 deferral policies. Table S2 provides additional, detailed distributions of responses to all survey items across the full sample, and the LGB and heterosexual subsamples (see online supplemental materials). In the full sample, participants reported moderate levels of approval for blood donations from heterosexual individuals ( $M = 5.59$ ,  $SD = 1.50$ ) and moderate levels of willingness to receive blood from heterosexual donors ( $M = 5.76$ ,  $SD = 1.52$ ). By contrast, participants on average reported that they were "neutral" about to "somewhat approving" of blood donations by LGB individuals ( $M = 4.50$ ,  $SD = 1.87$ ) and transgender individuals ( $M = 4.47$ ,  $SD = 1.85$ ). Participants also were "neutral" to "somewhat approving" of receiving blood from donors who identified as LGBTQ ( $M = 4.80$ ,  $SD = 1.88$ ).

Upon reading the FDA's recommendations for a 12-month deferral period, sample mean ratings fell between "neutral" and "somewhat agree" response categories regarding participants' endorsement of the policy implemented in 2015 ( $M = 4.28$ ,  $SD = 1.83$ ). Similarly, in response to the FDA's recommendations for a three-month deferral period, participants' endorsement of the policy implemented in 2020 fell between "neutral" and "somewhat agree" categories ( $M = 4.40$ ,  $SD = 1.73$ ). Regarding whether they considered the blood donation deferral policies to be discriminatory against MSM, sample mean ratings were close to the "neutral" response option for both the 2015 ( $M = 4.32$ ,  $SD = 1.87$ ) and the 2020 policy revisions ( $M = 4.08$ ,  $SD = 1.81$ ). On average, participants' ratings were close to the "neutral" response option in their belief that the 2020 revision to the deferral policy was implemented to reduce discrimination toward MSM ( $M = 3.79$ ,  $SD = 1.61$ ). Participants tended to "somewhat agree" that the 2020 revision was motivated by an increased demand for blood supply amid the COVID-19 pandemic ( $M = 4.91$ ,  $SD = 1.53$ ).

### LGB and Heterosexual Group Differences

We first explored demographic differences between LGB and heterosexually identifying participants in our sample. LGB participants in our sample were younger ( $M = 38.30$ ,  $SD = 15.79$ ) than heterosexual individuals ( $M = 47.70$ ,  $SD = 12.38$ ),  $t(825) = -5.13$ ,  $p < .001$ ,  $d = 0.66$ . A chi-square test of independence revealed that, among the LGB sample, there was a higher proportion of men (62.0%) and a lower proportion of women (38.0%) compared to the heterosexual sample (48.3% men, 51.7% women),  $\chi^2(1, N = 827) = 5.42$ ,  $p = .020$ . The distribution of participants across ethnic groups did not differ by sexual orientation,  $\chi^2(5, N = 827) = 10.57$ ,  $p = .061$ .

Table 1 summarizes the ratings by LGB and heterosexually identifying subgroups. We observed no differences in the degree to which participants approved of heterosexual, LGB, and transgender individuals being permitted to donate blood. LGB and heterosexual participants did not vary in their willingness to receive blood from heterosexual donors. Relative to LGB participants ( $M = 5.47$ ,  $SD = 1.59$ ), heterosexual participants were less willing to receive blood from sexual and gender minority donors ( $M = 4.73$ ,  $SD = 1.90$ ),  $t(825) = -3.33$ ,  $p < .001$ ,  $d = 0.42$ . LGB participants were less likely to endorse the FDA's 2015 deferral policy,  $t(825) = 5.37$ ,  $p < .001$ ,  $d = 0.60$ , and 2020 deferral policy,  $t(825) = 2.52$ ,  $p = .012$ ,  $d = 0.28$ , relative to their heterosexual counterparts. Although there were no group differences in individuals' perceptions for why the FDA shortened the blood donation deferral period amid the COVID-19 pandemic, LGB participants indicated stronger beliefs than heterosexual participants that the 2015 policy,  $t(825) = -5.34$ ,  $p < .001$ ,  $d = 0.66$ , and the 2020 policy,  $t(825) = -4.13$ ,  $p < .001$ ,  $d = 0.48$ , respectively, were discriminatory against MSM.

### Exploratory Analyses on Other Demographic Differences

Additional *t* tests and correlation analyses were performed to explore possible differences in participants' attitudes toward blood donation and deferral policies across gender, ethnoracial backgrounds, and age (see Table S3 in online supplemental materials). Because multiple exploratory analyses can increase the likelihood of type I error, we used Bonferroni corrections to compensate for these additional comparisons across 11 items with a new significance level set to  $p < .005$ . One-way ANOVAs revealed no differences in attitudes across ethnoracial groups or education attainment levels. Relative to women,

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men reported lower levels of approval of blood donations by transgender,  $t(759) = -3.56, p < .001, d = 0.26$ , and LGB individuals,  $t(762) = -3.02, p = .003, d = 0.22$ . We observed a positive correlation between age and endorsement of the 2015 policy ( $r = .14, p < .001$ ). Younger age was linked to greater willingness to receive blood donations from LGBTQ donors ( $r = -.11, p = .002$ ), and greater inclination to believe that the 2015 ( $r = -.17, p < .001$ ) and 2020 ( $r = -.14, p < .001$ ) blood donation deferral policies were discriminatory toward MSM.

### Discussion

This study was designed to examine participants' awareness of the U.S. FDA's blood donation deferral policy targeting MSM, and attitudes toward blood donation from people of heterosexual and LGBTQ backgrounds. Since the FDA revised its recommendations for immediate implementation in April 2020, this is one of the first published empirical examinations of public opinions about blood donation and its prohibition for MSM and women who have sex with MSM. Findings from the present study can provide a foundational understanding of how individuals in the United States react to government regulations on blood giving from heterosexual, LGB, and transgender donors. Our results may be helpful in informing future FDA blood donation policies that are nondiscriminatory toward members of the LGBTQ community.

Participants tended to report favorable attitudes about blood donation by heterosexual individuals. By contrast, participants reported relatively less favorable views about blood donations from LGB and transgender donors. Participants' differential attitudes toward heterosexual and LGBTQ blood donors may reflect American adults' concerns about the safety of blood donations from LGBTQ individuals. Given the close-ended nature of the questions, it is unclear the exact reason behind our participants' attitudes toward blood donation by LGBTQ individuals. These attitudes may reflect harmful cultural stereotypes ascribed to MSM, such as promiscuity and risky sexual behavior (Galarneau, 2010; Lake, 2010; Larkin, 2011). The general public also may be undereducated about the improvements in blood screening and the low risk of transfusion-related disease transmission. Current screening procedures at blood centers are closely regulated and are effective in reducing the risk for transmitting HIV as well as other communicable diseases through transfusions (CDC, 1996; Karamitros et al., 2017). In fact, since blood donation prohibitions changed from a lifetime ban

to a 12-month deferral period for MSM donors and female donors who have sex with MSM, research showed no change in the risk for HIV infections (Grebe et al., 2020). Given the recency of changes to the deferral policy, there are no data on whether the shift to a 3-month deferral period would yield differences in the risk for HIV transmission via blood transfusion. Scientific advancements have made it possible to detect HIV infection through nucleic acid testing in a window period as short as 10 to 33 days after a potential exposure (CDC, 2021). Although deferral policies are intended to protect the public by reducing the risk of infection during the window periods between exposure and testing, the current implementation of a deferral period differentially targets MSM donors and does not apply to heterosexual donors who may be at risk for HIV infection. Thus, any blood donation deferral policies that treat donors differently because of their sexual behaviors and partners may be unnecessary and may perpetuate institutional bias against individuals in the LGBTQ community.

Considering persistent LGBTQ health disparities, we expected to observe attitudinal differences across LGB and heterosexual participants. Compared to LGB participants, our exploratory analyses revealed that heterosexual participants were less willing to receive blood from LGBTQ donors. Similarly, heterosexual participants were less prone to consider the FDA blood donation deferral policy to be discriminatory against the LGBTQ community, relative to their LGB counterparts. Because heterosexual individuals are not impacted by the blood donation deferral policy, they may be unaware of its negative impact.

As shown in a qualitative study with Canadian gay and bisexual men, respondents believed that a shortened—but not an abolishment of—deferral period for blood donation was inadequate, and these respondents did not believe that deferral policies reflected the state of the science on HIV risk assessment and prevention (Grace et al., 2019). These Canadian gay and bisexual male respondents preferred an approach that treated all donors fairly and equitably, regardless of donors' sexual orientations and behaviors (Grace et al., 2019). Even though the FDA had announced that its recommendation for a shortened, three-month deferral period would stay after the COVID-19 pandemic, any prohibitions that explicitly target gay, bisexual, and other MSM donors nevertheless reinforce anti-LGBTQ stigma. Ratings from our study suggested that participants were more inclined to believe

that the FDA's policy revision was motivated by a practical need for urgent and immediate blood supply amid the COVID-19 pandemic, rather than a moral need for eliminating unfair policies. Given the link between structural stigma and LGBTQ health (Hatzenbuehler, 2010), our results highlight the need to examine how the FDA's blood donation policy may perpetuate systemic bias and maintain LGBTQ health disparities.

### Limitations

The present results should be interpreted with the following limitations in mind. First, our data included self-reported attitudes from a convenience sample of U.S. adults in the general community, who were recruited via a crowdsourced online survey platform. Responses might have been influenced by social desirability. Additionally, current assessments of beliefs likely do not generalize to all U.S. individuals. On average, our participants were high-achieving and reported above-average annual household income. Additional systematic examinations of the public opinions should capture broader segments of the population. Second, we did not examine the relations between LGB individuals' attitudes about the blood donation deferral policy, their self-esteem, and mental health outcomes. Future research should build on the present findings to examine how anti-LGBTQ stigma implicated in the blood donation deferral policy may be linked to LGBTQ health. Third, in asking participants to rate their awareness of the FDA deferral policies, the current survey items only asked if LGBTQ individuals were permitted to donate blood. We did not specify in the items the length of time MSM and women who have sex with MSM have to wait to be able to donate blood following their last sexual encounter. Future research could incorporate more precise language about the specific sexual behaviors and the length of deferral periods in assessing the public's knowledge of these policies. Finally, we used participants' self-reported sexual orientation to categorize LGB and heterosexually identified individuals in our exploratory group comparisons; we did not assess participants' sexual behavior and partners in the last three- or twelve-month periods, as specified in the FDA deferral policy. Our present approach did not allow us to investigate refined within-group differences in the attitudes toward the FDA blood donation policies. To adequately represent the beliefs of those who are directly impacted by the policies, future studies will benefit from oversampling individuals from the LGBTQ community and disaggregate data from people of diverse sexual behaviors/partners (e.g.,

women who have sex with women versus MSM). Qualitative methods can be helpful in understanding how different segments of the LGBTQ community view FDA and other relevant federal policies.

In conclusion, individuals in the United States may benefit from enhanced awareness of existing blood donation regulations—particularly the deferrals for donors in the LGBTQ community. Blood donation may be one area in which homophobic stigma and structural anti-LGBTQ biases are perpetuated. Given the implications for minority stress and LGBTQ health disparities, it would be important to continue assessing public opinions about the current blood donation deferral policy, and continue evaluating its utility and potential negative consequences on LGBTQ health during, and beyond the COVID-19 pandemic.

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# Measurement Invariance Analysis on the Revised Cheek and Buss Shyness Scale in a U.S. and Japanese College Sample

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**ABSTRACT.** In the present study, we tested the factor structure of the 20-item Revised Cheek and Buss Shyness Scale (RCBS; Cheek & Melichor, 1985) in a U.S. sample and used measurement invariance analysis to explore its cross-cultural validity in a previously collected Japanese sample (Sato et al., 2018). We additionally measured related personality traits (Big Five; Locus of Control, LOC; and Behavioral Inhibition System/Behavioral Activation System, BIS/BAS) to examine whether each predicted shyness. Participants were undergraduate students in the United States ( $N = 525$ ) and Japan ( $N = 508$ ). Exploratory factor analysis ( $n = 261$ ) revealed a unidimensional structure for shyness to be the best fit. Measurement invariance analysis ( $n = 256$  for United States) showed that the RCBS did not establish configural invariance, the weakest level in measurement invariance, suggesting that it may not be a cross-culturally valid and reliable tool to assess shyness. We thus did not perform any cross-cultural comparisons of variables, as initially intended. Results from a hierarchical multiple regression in the U.S. sample found extraversion to negatively predict shyness,  $\beta = -.59$ ,  $p < .001$ , and neuroticism,  $\beta = .18$ ,  $p < .001$ , LOC (external),  $\beta = .14$ ,  $p < .001$ , and BIS,  $\beta = .19$ ,  $p < .001$ , to positively predict shyness. Gender was not a significant predictor,  $\beta = .09$ ,  $p = .075$ . Future work may focus on the development of a Japanese shyness measure independent from U.S. conceptualizations to improve the cross-cultural validity and reliability of shyness measures.

**Keywords:** shyness, factor analysis, measurement invariance, personality, United States–Japan



Open Data and Open Materials badges earned for transparent research practices. Data and materials are available at <https://osf.io/967e5/>.

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## 概要

本研究は、日本でのシャイネス先行研究 (Sato et al., 2018) における異文化間の妥当性を検討するために、改訂版Cheek and Buss Shyness 尺度 (RCBS; Cheek&Melichor, 1985) の20項目の因子構造について測定不変性分析を使用し、アメリカ人におけるサンプルで検討を行った。さらに、関連する性格特性 (ビッグ・ファイブ尺度、統制の所在; LOC、行動抑制システム/行動賦活化システム; BIS / BAS) を測定し、各尺度がシャイネスを予測できるかどうかを検討した。調査参加者は、アメリカ ( $N = 525$ ) と日本 ( $N = 508$ ) の大学生であった。探索的因子分析 ( $n = 261$ ) を行った結果、RCBSは一次元構造が最適であることが明らかになった。アメリカでのサンプル ( $n = 256$ ) の測定不変性における検定を行ったところ、RCBSは配置不変性が成立しなかったことが示された。これは、因子数が不変であることを示す測定不変性が最も弱い水準であったことから、シャイネスを評価するための異文化間で有効で信頼できるツールではない可能性が示唆された。この結果を考慮し、仮説として予定していた日本とアメリカの異文化間比較は行わなかった。アメリカでのサンプルにおける階層的重回帰分析の結果、シャイネス ( $\beta = -.59, p < .001$ )、情緒安定性 ( $\beta = .18, p < .001$ )、統制の所在 (LOC) は外的統制 ( $\beta = .14, p < .001$ )、そして行動抑制システム (BIS) ( $\beta = .19, p < .001$ ) が予測因子となることが明らかになった。性差は予測因子にならなかった ( $\beta = .09, p = .075$ )。今後の研究では、シャイネス尺度の異文化間の妥当性と信頼性を向上させるために、日本のシャイネス測定をアメリカのシャイネスを概念化から独立して開発することに焦点を当てる必要がある。

**キーワード:** シャイネス, 因子分析, 測定不変性分析, 性格, アメリカ/日本

The universality of shyness has been identified in many cultures such as Turkey (Koydemir & Demir, 2008) and the United States (Jones, Cheek, et al., 1986) as a syndrome of social anxiety, behavioral inhibition, and fear of negative evaluation. Shyness consists of affective (e.g., anxiety, increased heart rate, and other physiological reactions), cognitive (e.g., excessive self-consciousness, negative self-appraisal, irrational belief system), and behavioral (e.g., not speaking at social gathering, avoiding large groups, avoiding eye contact) components (Carducci, 2015; Weyer & Carducci, 2001). Some components of shyness are more present in some people than others. Shyness is a construct highly associated with social anxiety, and although some findings supported shyness and social anxiety to be on a continuum (Ran et al., 2018), other evidence describes them as separate constructs (Yang et al., 2013), with shyness manifesting as a personality trait with lower levels of fear, avoidance, and social and functional

impairment compared to social anxiety (Turner et al., 1990).

The pervasiveness of shyness has shown a small but significant increase (42% to 45%) in the past 40 years and may be related to the rise of technology and the decreased opportunity to develop basic interpersonal skills (Carducci & Conkright, 2018). Different types of shyness are associated with varying social and cultural norms (Chen, 2019), and levels of shyness may differ across cultural groups (Afshan et al., 2015). A major study examined the shyness factor structure and its association with key aspects of personality in Japan (Sato et al., 2018). In this study, we extended this work to compare the shyness factor structure between the United States and Japan, as well as its relationship to related personality traits.

## Shyness in the United States and Japan

Cultural influences can have direct effects on the manifestations of shyness, and much of the

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cross-cultural research on shyness has focused on comparisons between Eastern and Western countries (Sakuragi, 2004; Stöckli, 2002). Although shyness is a globally pervasive phenomenon, Eastern cultures (e.g., Japan) tend to have higher reported rates of shyness than Western cultures (e.g., United States; Aizawa & Whatley, 2006). Such differences may be due to varying cultural contexts (Sato et al., 2018). Benedict (1946) described the United States as a “culture of sin” that emphasizes internal sanctions. In such cultures, shyness is based on evaluations of individual actions as violations of one’s personal values. On the other hand, she described Japan as a “culture of shame” that relies on external sanctions for good behavior. With regard to shyness, this means that experiences of shyness in Japan are more commonly attributed to evaluated individual actions that violate one’s cultural values or the values of the surrounding people.

This distinction between “culture of sin” in the United States and “culture of shame” in Japan is consistent with the individualism-collectivism concept (Triandis, 1996, 2001). Individualistic cultures such as the United States emphasize independence, autonomy, and individual responsibility, whereas collectivistic cultures strive to maintain interdependence and social harmony in interpersonal contexts. Therefore, shyness in the United States may be manifested more as embarrassment due to violation of personal or internal values (i.e., private self), whereas shyness in Japan is manifested as heightened self-consciousness of how the people around may judge them (i.e., public self; Sato et al., 2018).

Another explanation for differences in the expression of shyness is self-presentation theory (Arkin et al., 1986; Jackson et al., 1997). Self-presentation theory states how concerns about disapproval from others, perceived deficits in interpersonal skills, and reduced self-esteem can be predictive of shyness. Research has shown that culture can play a role in self-presentation theory and shyness in Japanese and American college students (Jackson et al., 2000). In the United States, people tend to value self-expression and thus have more positive descriptions of self (Kanagawa et al., 2001), lower feelings of shame and guilt (Heine et al., 1999), and higher feelings of pride, especially in individual accomplishments (Furukawa et al., 2012). In fact, shyness tends to be less favorable and even discouraged in Western countries (Rubin et al., 2009). In Japan, however, the Japanese tend to be more vulnerable to their

surroundings, with higher fears of rejection from groups (Yamaguchi, 1994) and higher sensitivity to punishment (Yamaguchi et al., 1995). In addition, major differences in communication styles such as being less assertive and responsive (Thompson et al., 1990) and using less emotion in interpersonal conversations in Japan (Frymier et al., 1990) may also be contributors. These opposing relationships between fostering self-expression in the United States and inhibiting self-expression in Japan may account for different manifestations of shyness.

### **Measuring Shyness and Comparing Its Factor Structure Across Cultures**

There have been numerous tools created to assess shyness in the United States. One of the earliest starting points on the assessment of shyness came from the construction of the 44-item Stanford Shyness Survey (Zimbardo, 1977). Later, the development of other scales such as the Interaction Anxiousness Scale (Jones, Briggs, et al., 1986) and the Social Reticence Scale (Leary, 1983) have also contributed to capturing shyness and its related constructs. Finally, a major step forward in improving the construct validity of shyness came with the creation of the original 9-item Cheek and Buss Shyness Scale (Cheek & Buss, 1981) and its subsequent 13-item (Cheek, 1983), 14-item (Cheek & Briggs, 1990), and 20-item Revised Cheek and Buss Shyness Scale (RCBS; Cheek & Melichor, 1985).

Research findings on the most “fit” U.S. shyness factor structure are mixed. When the 9-item Cheek and Buss Shyness Scale and later versions of the RCBS were initially created, it was designed as a unidimensional tool to measure shyness (Cheek, 1983; Cheek & Buss, 1981; Cheek & Melichor, 1985). However, a later study reported a two-factor model to have better fit with the data compared to a unidimensional model (Crozier, 2005), and other studies have reported a clear, three-factor solution in U.S. shyness measures (Hopko et al., 2005; Jones, Briggs, et al., 1986). Hopko et al. (2005) used the 13-item RCBS and reported a three-factor solution labeled Social Distress, Stranger Shyness, and Assertiveness Deficit/Difficulty. The three factors were compatible with other prominent shyness theories, classifications, and related behaviors that illustrate shyness with elements of public and private shyness (Pilkonis, 1977), public and private self-consciousness (Fenigstein et al., 1975), and behavioral inhibition and increased wariness when exposed to novel stimuli or unfamiliar situations (Kagan, 1989).

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There has been increased interest in translating U.S. shyness measures to other languages in order to assess shyness and its factor structure in different cultures. Kwiatkowska et al. (2016) used a Polish adaptation of the 13-item RCBS and found a unidimensional solution, but Vahedi (2011) found a two-factor solution using the 14-item RCBS in a Persian sample. Sato et al. (2018) used a Japanese adaptation of the 20-item RCBS and found a three-factor shyness solution characterized by general anxiety and nervousness (Factor 1), lack of perceived personal competence, capabilities, or skills in social contexts (Factor 2), and a “disability” dimension that may illustrate the significant impairment in functioning shy individuals experience in social situations (Factor 3).

When comparing variables from different cultures, it is important for measurement instruments to maintain equivalence and to capture the same psychological construct. Measurement invariance has been an important technique to assess cross-cultural validity issues in measurement instruments because establishing measurement invariance allows for meaningful and accurate comparisons of psychological constructs across cultures (Milfont & Fischer, 2010). Descriptions of one cultural group may not automatically apply to other cultural contexts, and research conceptualizations developed in the United States may not apply in other countries (Arnett, 2008). Thus, the current study aimed to answer the following question: Can the original shyness conceptualization in the United States, as defined by the RCBS, adequately capture shyness as a construct in Japan?

### **Shyness and Related Personality Traits: Big Five, Locus of Control, and BIS/BAS**

Along with examining the cross-cultural invariance of a measure of shyness, we also wanted to test associations between shyness and key personality variables across cultures. The Big Five is a descriptive model that classifies individual differences in personality into five main factors (Goldberg, 1990). Shyness is most closely related to introversion and neuroticism on the Big Five dimensions in the United States (Briggs, 1988). Numerous cultures have demonstrated the consistency of the five factor personality structure (McCrae & Terracciano, 2005) and have also confirmed introversion and neuroticism to be positively related to shyness (Afshan et al., 2015; Kwiatkowska et al., 2016) including Japan (Sato et al., 2018).

To investigate the causal relationship between a

person's behavior and its associated rewards, Rotter (1966) distinguishes locus of control (LOC) with two types: internal and external. Having higher internal LOC is often associated with more positive life outcomes such as increased sociability (Crozier, 2011), whereas higher external LOC is often linked to negative outcomes such as anxiety (Weems et al., 2003) and poorer interpersonal relationships (Martin et al., 2005). Shyness is more associated with an external LOC orientation in the United States (Henson & Chang, 1998). However, cultural values can also have direct influences on LOC orientation, and previous research has shown lower external LOC in individualistic cultures and higher external LOC in collectivistic cultures (Kang et al., 2015). We thus expected lower external LOC in the United States and higher external LOC in Japan with respect to shyness.

The examination of shyness with dispositional sensitivities is important to understand the neurological origins of shyness and its manifestation in different cultures. Gray's (1981) theory on behavioral inhibition and activation systems (BIS/BAS) postulates two competing motivational systems that regulate inhibited and action-oriented behavior, respectively, in response to environmental cues. Because shyness is related to feelings of anxiety and lack of initiation of a particular behavior, BIS should be more related to shyness, as previous research has shown (Bowker et al., 2019; Ran et al., 2018). Due to the varying cultural contexts as outlined above, we expect higher BIS to relate to Japanese shyness compared to U.S. shyness.

### **Purpose of Current Study**

Sato et al. (2018) reported a three-factor shyness solution in a Japanese sample using a Japanese translation of the 20-item RCBS. Additionally, they reported associations between shyness and key personality traits (i.e., Big Five, LOC, BIS/BAS) to provide evidence for the validity and reliability of the Japanese version of the RCBS through its identical associations to previous U.S. shyness studies. Although the RCBS was developed based on U.S. shyness conceptualizations, Sato et al. (2018) did not statistically compare the Japanese shyness factor structure to a previously-established U.S. shyness factor structure to assess whether the Japanese adaptation of the RCBS is a valid and reliable tool to measure shyness in Japan.

In this study, our goal was to first examine the factor solution of the 20-item RCBS in a contemporary U.S. sample in the light of conflicting results

from past studies and use measurement invariance to see how the shyness factor solution tested on a U.S. sample compares to a Japanese sample collected a few years prior (Part 1). Next, we wanted to test if the relationships between shyness and personality as presented in Sato et al. (2018; Big Five, LOC, and BIS/BAS) held for the U.S. sample, as well as perform a cross-cultural comparison on these key personality measures, contingent upon the establishment of measurement invariance (Part 2). A cross-cultural comparison on the relationship between shyness and related personality traits would shed light on how these variables can be predictive of shyness across cultures.

## Method

### Participants and Procedure

Participants in the United States were 525 undergraduate students (i.e., 416 women, 101 men, 4 self-identify, 3 transgender people) enrolled in introductory psychology classes at a large, public university in the western United States, recruited between April to December 2020. The study was conducted online and created using Qualtrics, and the university's Institutional Review Board approved the study prior to commencing. Participants selected the study from many options in a participant pool, and informed consent was obtained prior to participation. Students participated in the research in exchange for course credit.

The ages ranged from 18 to 69 years ( $M = 22.20$ ,  $SD = 6.47$ ). Most of the sample was White or European American (65.7%), followed by Asian American (17.3%), Hispanic or Latinx (13.0%), African American (3.8%), Middle Eastern (2.9%), American Indian or Alaska Native (1.5%), or not listed (7.2%). Most identified as straight or heterosexual (83.0%), followed by bisexual (7.6%), gay or lesbian (2.7%), bicurious or questioning (2.7%), queer (1.7%), asexual (0.8%), or different identity (0.6%).

The Japanese sample used in this study was a previously collected sample from the study by Sato et al. (2018). Participants were 508 Japanese undergraduate students (i.e., 278 women, 230 men) from four universities in Japan, recruited between August and December 2015. Students participated in the study as part of a class assignment.

### Measures

#### Shyness

Shyness was measured using the 20-item RCBS (Cheek & Melichor, 1985). The RCBS measures

the affective, cognitive, and behavioral components of shyness (Weyer & Carducci, 2001). Participants rated the extent to which each question was characteristic of one's feelings and behavior on a 5-point scale (1 = *very uncharacteristic or untrue or strongly disagree* to 5 = *very characteristic or true or strongly agree*). The RCBS is a revised version of the original 9-item Cheek and Buss Shyness Scale with strong internal consistency (reliability = .94), correlates highly with the original 9-item version ( $r = .96$ ), and has a 45-day test-retest reliability coefficient of .91 (Melchior & Cheek, 1990). The Cronbach's alpha for the U.S. study was .93. The Japanese adaptation of this measure is a direct Japanese translation of the 20-item RCBS (Sato et al., 2018).

#### Big Five

The 44-item Big Five Inventory (BFI; John & Srivastava, 1999) measures the Big Five Factors of personality proposed by Goldberg (1990), which are extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience. The scale asks participants to rate each statement on a 5-point scale (1 = *disagree strongly* to 5 = *agree strongly*). The BFI is the most well-validated, consistent, and widely used personality measure in the United States that measures these five dimensions. The Cronbach's alphas for this study were .88 (extraversion), .78 (agreeableness), .78 (conscientiousness), .82 (neuroticism), and .76 (openness to experience). The Japanese version of the Big Five (Murakami & Murakami, 1997) measures the same five dimensions and has established evidence for its validity. For the Japanese version, higher scores for neuroticism equated to greater emotional stability; the neuroticism scale was reversed when performing the cross-cultural comparison.

#### Locus of Control

LOC was measured using the 30-item Japanese LOC Scale (Kamihara et al., 1982) used by Sato et al. (2018), translated into English. The LOC has established evidence for validity and reliability as shown in Kamihara et al. (1982). Participants were asked to indicate whether each question matched with their daily feelings (1 = *yes*, 0.5 = *maybe*, 0 = *no*). Higher scores equated to higher external LOC. The first author, bilingual in English and Japanese, translated the Japanese version into English using back-translation procedures and discussion with another bilingual colleague. We translated the LOC to English to adequately perform the cross-cultural comparison. The Cronbach's alpha for this study was .82.

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**BIS/BAS**

We measured the Behavioral Inhibition System/Behavioral Activation System (BIS/BAS) using the 20-item BIS/BAS scale (Carver & White, 1995). The scale measures both behavioral inhibition (e.g., anxiety, sensitivity to punishment and novel situations, negative emotions) and behavioral activation (e.g., movement towards goal-directive efforts, positive feelings to rewards). Each participant was asked to rate to what extent the individual either agreed or disagreed with the statement presented on a 4-point scale (1 = *very true for me* to 4 = *very false for me*). The scale was then reverse coded (except for two BIS items) to indicate higher scores as greater sensitivity to BIS or BAS. The scale also measures three BAS-related subscales: Drive, Fun Seeking, and Reward Responsiveness. The Cronbach's alphas for this study were .77 (BIS), .76 (BAS), .71 (BAS Drive), .64 (BAS Reward Responsiveness), and .66 (BAS Fun Seeking). Evidence for convergent and discriminant validity was found by correlating the BIS/BAS with other personality measures (Carver & White, 1995). A direct Japanese translation of this scale was used in Japan, which has also shown evidence for validity and reliability in a Japanese sample (Takahashi et al., 2007).

**Data Analysis****Part 1: Examining Whether U.S. and****Japanese Conceptualizations of Shyness Are Similar**

**Factor Structure.** To test that a unidimensional factor solution in the 20-item RCBS is the best fit as proposed by Cheek and Melichor (1985), we first performed an exploratory factor analysis (EFA) on the 20-item RCBS in a U.S. sample. We selected approximately half ( $n = 261$ ) of the U.S. sample data using a random number generator to conduct the EFA. Because the data distribution was not multivariate normal as assessed by Mardia's test, we conducted principal axis factoring to investigate the factor structure of the RCBS in the U.S. sample. To determine the number of factors to retain, a variety of methods were used as recommended by Henson and Roberts (2006), which included visual examination of scree plot, the K1 method (eigenvalue  $> 1$ ; Kaiser, 1960), parallel analysis, and minimum average partial analysis (O'Connor, 2000).

**Measurement Invariance.** Measurement invariance was tested using the following three levels: (a) configural invariance, (b) metric invariance, and (c) scalar invariance, progressively testing weaker to stronger invariance to investigate increasingly stringent tests of invariance across cultures (Chen,

2007). Configural invariance is the weakest level of invariance and tests whether the measure demonstrates the same number of factors and configuration of factor coefficients across cultures (Meredith, 1993). If the measure was found to have configural invariance, then the next level of invariance, metric invariance, was tested by constraining factor loadings. Metric invariance demonstrates that factor coefficients are the same and is one way of assessing whether the individual items are interpreted similarly across cultures (Vandenberg & Lance, 2000). Finally, if the measure was found to have metric invariance, the strongest level of invariance, scalar invariance, constrained item-level intercepts, and factor loadings. Scalar invariance demonstrates that the level of the compared latent construct is equivalent across groups (Vandenberg & Lance, 2000).

To determine adequate measurement model fit for configural invariance, we conducted a confirmatory factor analysis (CFA) using SEM in Lavaan, an R package software (Rosseel, 2012). A CFA model was specified and tested (using the remaining half of the U.S. data;  $n = 256$ ) against the hypothesized EFA model to examine data fit. To assess overall model fit, we used the following goodness of fit indices: Chi-square ( $\chi^2$ ; Bearden et al., 1982), Comparative Fit Index (CFI; Kline, 2015), Tucker Lewis Index (TLI; Tucker & Lewis, 1973), Root Mean Square Error of Approximation (RMSEA; Byrne et al., 1989), and Standardized Root Mean Square Residual (SRMR; Kline, 2015). The following cutoff scores have shown support for reasonably good fit and were used for this study: CFI and TLI  $\geq .90$  (Hu & Bentler, 1999), RMSEA  $\leq .08$  (Brown & Cudeck, 1993), and SRMR  $\leq .10$  (Kline, 2015).

To determine metric and scalar invariance, we compared model fit of each successive model with the immediately prior model using the following criteria to indicate noninvariance: CFI  $\geq -.005$ , change in RMSEA  $\geq .010$ , change in SRMR  $\geq .025$  for loading invariance, and change in SRMR  $\geq .005$  for intercept model (F. F. Chen, 2007).

**Part 2: Examining Associations Between Shyness and Key Personality Variables**

**Hierarchical Multiple Regression.** We performed a hierarchical multiple regression to examine whether dimensions of the Big Five, total LOC, and total BIS/BAS scores predict shyness. If the RCBS was found to have scalar invariance from the measurement invariance analysis, we planned



to enter country (United States or Japan) in Step 1. Due to evidence suggesting gender differences in shyness with higher levels of shyness in women than men (Doey et al., 2014), we planned to enter gender in Step 2, and all other variables in Step 3. If we found that the RCBS was not a cross-culturally valid tool, we planned to conduct the regression only for the U.S. sample, entering gender in Step 1 and all other variables in Step 2.

## Results

Table 1 shows the means, standard deviations, and confidence intervals for RCBS, Big Five, LOC, and BIS/BAS in the United States and Japan. Table 2 shows correlation coefficients between shyness and related personality traits in both samples.

### Part 1

#### *Exploratory Factor Analysis on 20-Item RCBS in the United States*

After examining the factor retention criteria in the RCBS as outlined above, the results supported retention of a single factor for shyness, which had an eigenvalue of 9.04. Results are displayed in Table 3. This factor explained 45% of the variance in the items. Examination of the structure/pattern coefficients showed that each of the factor loadings were moderately to strongly associated with the extracted factor.

#### *Measurement Invariance Analysis*

To compare the degree of “fit” of the one-factor U.S. shyness model in a Japanese sample, we performed a measurement invariance analysis across the two samples. Using cutoff scores outlined above for goodness of fit indices to meet invariance criteria, we found that the configural model did not provide an adequate fit ( $\chi^2 = 970.40$ ,  $p < .001$ /df = 340, CFI = .876, RMSEA = .069, SRMR = .051). Because configural invariance must first be established before examining invariance at more restrictive levels, we concluded that the RCBS is not a cross-culturally valid tool to assess shyness in Japan. Results of the metric and scalar invariance are presented in Table 4.

### Part 2

#### *Hierarchical Multiple Regression*

Because we found that the RCBS did not satisfy the three levels of invariance, we performed a hierarchical multiple regression to investigate whether dimensions of the Big Five, LOC, and BIS/BAS predicted shyness only in the U.S. sample (see

Table 5). Gender was not a significant predictor of shyness (Step 1). However, in Step 2, we found that extraversion was a significant negative predictor of shyness, whereas neuroticism, LOC (external), and BIS were significant positive predictors of shyness.

**TABLE 1**

#### **Descriptive Statistics for Major Study Variables**

Measure	United States (2020)			Japan (2018)		
	M	SD	95% CI	M	SD	95% CI
Shyness	59.30	15.90	[57.93, 60.67]	62.92	13.30	[61.78, 64.04]
Big Five <sup>a</sup>						
Extraversion	25.23	6.90	[24.63, 25.83]	46.30	9.53	[45.42, 47.19]
Agreeableness	34.36	5.61	[33.88, 34.85]	48.14	10.41	[47.18, 49.11]
Conscientiousness	32.60	5.74	[32.11, 33.10]	50.87	10.35	[49.90, 51.83]
Neuroticism (United States)/ Emotional Stability (Japan)	26.01	6.23	[25.47, 26.55]	47.88	9.75	[46.97, 48.78]
Openness to Experience	34.67	6.07	[34.14, 35.20]	49.29	10.34	[48.33, 50.25]
Locus of Control (external)	11.11	4.57	[10.71, 11.51]	15.76	4.53	[15.37, 16.15]
BIS/BAS						
BIS	22.55	3.61	[22.24, 22.86]	20.91	3.95	[20.57, 21.26]
BAS	40.12	4.76	[39.71, 40.53]	39.50	5.53	[39.01, 39.98]
BAS Drive	10.95	2.12	[10.77, 11.14]	11.55	2.51	[11.33, 11.77]
BAS Reward Responsiveness	17.36	1.95	[17.19, 17.53]	16.24	2.25	[16.05, 16.44]
BAS Fun Seeking	11.80	2.20	[11.61, 11.99]	11.69	2.26	[11.49, 11.89]

Note.  $N = 525$  in the United States and  $N = 508$  in Japan. CI = confidence interval; BIS = behavioral inhibition system; BAS = behavioral activation system. Sample sizes reflect missing values.

<sup>a</sup>We used the Big Five Inventory (BFI) in the United States, but a culturally adaptive version of the Big Five was used in Japan (Sato et al., 2018). Therefore, the questions and scales used were different across cultures.

**TABLE 2**

#### **Correlations for Major Study Variables in the United States and Japan**

Measure	1	2	3	4	5	6	7	8	9
1. Shyness		-.62***	-.24***	-.27***	.46***	-.45***	.37***	.49***	-.15***
2. Extraversion			.26***	.14**	-.25***	.36***	-.13**	-.20***	.19***
3. Agreeableness				.19***	-.14**	.08	-.20***	-.04	.14*
4. Conscientiousness					-.03	.41***	-.41***	-.06	.12*
5. Neuroticism						-.14**	.27***	.61***	.02
6. Openness to Experience							-.23***	-.24***	.19***
7. Locus of Control (external)								.26***	-.01
8. BIS									-.03
9. BAS									

Note.  $N = 525$  for the United States and  $N = 508$  for Japan. BIS = behavioral inhibition system, BAS = behavioral activation system. Correlations from the United States are below diagonal and from Japan are above diagonal. The correlation coefficients for the “emotional stability” dimension of the Big Five in Japan were reversed so that higher scores represented greater neuroticism. Correlations reflect missing values.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

## Discussion

The purpose of this study was to determine a shyness factor solution using the 20-item RCBS,

**TABLE 3**

### Results From an Exploratory Factor Analysis on the 20-Item Revised Cheek and Buss Shyness Scale (RCBS) in U.S. College Students

No.	Item descriptions	Structure/pattern coefficients	Communality
1	I feel tense when I'm with people I don't know well.	.75	.56
2	During conversations with new acquaintances, I worry about saying something dumb.	.67	.45
3	I am socially somewhat awkward.	.80	.64
4	I do not find it difficult to ask other people for information. (R)	.63	.40
5	I am often uncomfortable at parties and other social gatherings.	.66	.43
6	When in a group of people, I have trouble thinking of the right things to talk about.	.78	.61
7	I feel relaxed even in unfamiliar social situations. (R)	.69	.48
8	It is hard for me to act natural when I am meeting new people.	.75	.56
9	I feel painfully self-conscious when I am around strangers.	.72	.52
10	I am confident about my social skills. (R)	.78	.61
11	I feel nervous when speaking to someone in authority.	.52	.28
12	I have trouble looking someone right in the eye.	.43	.19
13	I am usually a person who initiates conversation. (R)	.61	.37
14	I often have doubts about whether other people like to be with me.	.59	.35
15	Sometimes being introduced to new people makes me feel physically upset (for example, having an upset stomach, pounding heart, sweaty palms, or heat rash).	.67	.44
16	I do not find it hard to talk to strangers. (R)	.78	.60
17	I worry about how well I will get along with new acquaintances.	.62	.38
18	I am shy when meeting someone of the opposite sex.	.54	.29
19	It does not take me long to overcome my shyness in a new situation. (R)	.57	.33
20	I feel inhibited in social situations.	.74	.55

Note.  $N = 261$ . Reverse scored items are denoted with (R). Factor analysis performed using principal axis factoring.

**TABLE 4**

### Measurement Invariance on the 20-Item Revised Cheek and Buss Shyness Scale (RCBS) in U.S. and Japanese College Students

Invariance Level	$\chi^2(df)$	$\Delta\chi^2(df)$	CFI	$\Delta CFI$	RMSEA	$\Delta RMSEA$	SRMR	$\Delta SRMR$
Configural Invariance	970.40 (340)***	—	.876	—	.069	—	.051	—
Metric Invariance	1104.31 (359)***	133.91 (19)	.853	-.023	.073	.004	.079	.028
Scalar Invariance	1535.55 (378)***	431.24 (19)	.772	-.081	.089	.091	.091	.011

Note.  $\Delta$  = absolute difference;  $\chi^2$  = chi-square;  $df$  = degrees of freedom; CFI = comparative fit index; RMSEA = root mean square error of approximation; SRMR = standard root mean square residual.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

perform a measurement invariance analysis to investigate whether the RCBS is a cross-culturally valid tool to assess shyness in Japan, and investigate whether related personality traits (Big Five, LOC, BIS/BAS) can predict shyness.

Results from the EFA revealed a unidimensional shyness solution in the United States to be the best fit, which supports previous findings on a unidimensional conceptualization for shyness (Cheek, 1983; Cheek & Buss, 1981; Cheek & Melichor, 1985; Jones, Briggs, et al., 1986). However, other version of the RCBS have shown evidence for a two- or three-factor shyness models as the most common fit, although each proposed factor structure has its limitations (Crozier, 2005; Hopko et al., 2005). Jones, Briggs, et al. (1986) found evidence of a three-factor shyness solution but also noted that “there are persuasive reasons to suspect that a single dimension underlies the construct of shyness” (p. 638). Because a unidimensional solution was found for the 20-item RCBS, this suggests that a shorter version of the RCBS may be adequate to capture the full dimension of shyness. This finding further added to the complexity and lack of consensus among researchers in capturing shyness as a construct.

Measurement invariance analysis revealed that the RCBS did not establish configural invariance, the weakest level in measurement invariance, when comparing between a U.S. and Japanese sample. Although RCBS adaptations in other languages have shown excellent reliability and measurement validity compared to previously-established U.S. factor structures (Kwiatkowska et al., 2016; Vahedi, 2011), we did not find this in our current study. These results have several implications. First, the RCBS may not capture the same construct of shyness in Japan. In addition to evidence for higher rates of self-reported shyness among people of East Asian descent than Western decent (Paulhus et al., 2002), the different cultural contexts may lead to differences in the manifestations of shyness between the United States and Japan as outlined above (Sato et al., 2018). However, the correlations between shyness and key personality traits (i.e., Big Five, LOC, BIS/BAS) appeared consistent in both the United States and Japan, which supports the agreement in the major theoretical framework for shyness across the two cultures. Investigating the subtle, nuanced differences, such as cross-cultural differences in the cognitive component of shyness, will be an area of interest for future research to clarify differences in shyness across cultures.

Another related explanation for this difference in shyness may be that, although shyness is considered a subclinical form of a psychiatric disorder (Turner et al., 1990), shyness in the United States may be seen as a combination of more transient course of symptoms that clearly distinguishes from other types of disorders such as social phobia (Beidel & Turner, 1999). Shyness in Japan, however, may be characterized by more severe symptoms that significantly disrupts social and daily functioning as shown by the proposal of the use of Morita therapy, which uses techniques that are specific to Japan's cultural context, as one method to treat shyness (Ishiyama, 1986, 1987).

To address these shortcomings, future work may focus on the creation of a culturally adaptive Japanese shyness measure that is independent from U.S. conceptualizations to perform adequate cross-cultural comparisons. Additionally, the low adequate fit of the configural model also suggests that there may be an issue in the translation of the Japanese adaptation of the RCBS, and future work may also focus on revisiting the translation of the items, preferably administering the items to bilingual (i.e., English and Japanese) speakers and assessing similarity of the results.

There was no gender difference across total U.S. shyness scores, counter to the initial hypothesis, but other studies have also found similar results (Crozier, 2005; Vahedi, 2011). However, other researchers have found that shyness can have different implications for women and men (Doey et al., 2014; Kerr, 2000), and more investigation is needed to clarify the relationship between shyness and gender.

Shyness was a significant negative predictor of extraversion and a significant positive predictor of neuroticism, LOC (external), and BIS, which further showed how the RCBS is a psychometrically useful tool to assess shyness in the United States. Previous research has shown shyness to have a substantive negative relationship with extraversion and positive relationship with neuroticism in the United States (Briggs, 1988). Shyness encompasses elements of both introversion and neuroticism (Crozier, 1979) but is a separate construct from either as an orthogonal personality dimension (Cheek & Briggs, 1990). High introversion measures withdrawal from social situations, and although introverts may appear identical to shy individuals, introverts lack the intense levels of internal discomfort and difficulties in social interactions that shy people tend to experience

(Schmidt & Fox, 1999). Neuroticism measures a variety of negative emotional states, one of which includes anxiety (Widiger & Oltmanns, 2017). Thus, the combination of both dimensions of the Big Five captures a more complete experience of shy individuals.

In a sample of U.S. undergraduates, Henson and Chang (1998) found that individuals with a more external LOC reported greater shyness than those with an internal LOC orientation, supporting how external LOC positively predicted shyness in our study. In such instances, shy individuals believe that shyness is destiny and controls their lives rather than believing that individuals can control their own shyness (Carducci, 2000). This uncontrollable anxiety and internal discomfort in social situations makes them more prone to believe that outside forces are stronger determinants of life outcomes.

We also found BIS to significantly predict shyness, and previous studies have shown the positive association with shyness (and similar construct, social anxiety) and BIS (Bowker et al., 2017; Levinson et al., 2011) in Western samples. The positive BIS reflects increases in social defense in shy individuals potentially to avoid approaching a particular stimulus in order to avoid punishment

**TABLE 5**  
**Hierarchical Multiple Regression for Shyness in U.S. College Students**

Variable	B	95% CI for B		SE B	$\beta$	R <sup>2</sup>	$\Delta R^2$
		LL	UL				
Step 1							.01 .01
Constant	560.42	520.83	600.01	1.83			
Gender	3.60	−0.36	7.56	2.01	.09		
Step 2							.63 .63***
Constant	55.07	41.17	68.97	7.07			
Gender	−0.86	−3.46	1.74	1.32	−.02		
Extraversion	−1.35***	−1.51	−1.20	0.08	−.59***		
Agreeableness	−0.11	−0.29	0.07	0.09	−.04		
Conscientiousness	0.13	−0.06	0.32	0.10	.05		
Neuroticism	0.46***	0.23	0.69	0.12	.18***		
Openness to Experience	−0.06	−0.22	0.10	0.08	−.02		
Locus of Control (external)	0.51***	0.27	0.76	0.12	.14***		
BIS	0.89***	0.49	1.29	0.20	.19***		
BAS	0.08	−0.15	0.30	0.12	.02		

Note. *N* = 434. CI = confidence interval; LL = lower limit; UL = upper limit; BIS = behavioral inhibition system; BAS = behavioral activation system. Gender includes only male and female categories due to small sample sizes of the remaining gender categories. Sample size reflects missing values.

\**p* < .05. \*\**p* < .01. \*\*\**p* < .001.

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and unwanted outcomes in social situations. This is illustrated by the approach-avoidant conflict that describes shyness as a syndrome of both social approach and social avoidance motivational tendencies (Asendorpf, 1990). "Forced extraversion," defined as when shy individuals force themselves to be in close proximity with others and/or force themselves to take action that would require social interaction with others, is the most popular self-selected strategy employed by shy individuals to deal with their shyness (Carducci, 2009). For example, shy individuals may go to a party or social event in an attempt to be in close proximity with other people and to engage with the surrounding people. This behavior shows how sociability (the "approach" behavior) is a separate construct often present in shy individuals (Cheek & Buss, 1981). However, oftentimes their doubts in their personal capabilities or lack of social skills leads to the inhibited, withdrawn behaviors, a causal link not tested in the present study.

In addition to the lack of establishment of measurement invariance on the RCBS which voided the cross-cultural comparison, there are several limitations to this study. First, because we intended to perform a cross-cultural comparison using a previously collected Japanese data as presented in Sato et al. (2018), we translated a Japanese version of the LOC (Kamihara et al., 1982) and used this version of the LOC to predict shyness in the United States. This is the first study to date that administered this version of the LOC in a U.S. sample, so we do not have detailed information on the validity and reliability of this measure in a U.S. sample. Second, the U.S. data was collected during remote campus operations due to COVID-19, and due to student challenges associated with pandemic-related environments, the results might have affected the findings of this study, most notably the U.S. shyness factor structure established by the EFA.

The results of this study provided further evidence on the complexity of psychometrically capturing shyness as a construct, with support for a unidimensional shyness solution in our current sample. Our methodology and the use of both U.S. and Japanese samples also highlight significant issues that can arise in this form of work. The pattern of results suggested strong evidence for high validity and reliability of the RCBS in the U.S. sample as shown by its prediction of major related personality traits. However, more research is needed to design instruments that adequately assess shyness across cultures in order to perform

meaningful cross-cultural comparisons for future research. Our work also suggests a closer look at cross-cultural comparisons of other personality constructs is needed as well.

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# The Association Between Psychological Well-Being and Intersectional Awareness: Clarifying the Role of Identity Privilege and Critical Consciousness

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**ABSTRACT.** The goal of these 2 studies was to clarify the association between intersectional awareness (IA) and psychological well-being (PWB). Past research on this association has been mixed, with some studies identifying positive well-being outcomes (e.g., Fischer & Good, 2004; Yakushko, 2007) and others identifying negative well-being outcomes (e.g., Curtin et al., 2015; Greenwood, 2008). Study 1 examined the role of identity privilege, predicting that identity privilege would moderate the relationship between IA and well-being. Analyses indicated a positive relationship between IA and well-being, regardless of identity privilege ( $\beta = .19$ ). Study 2 examined the role of identity privilege and identity group, as well as the role of critical consciousness and its factors: egalitarianism (CC-Eg) and critical action (CC-CA), predicting that any association between IA and well-being would be present for participants with high CC-CA, and intensified by CC-Eg. Analyses indicated that the overall relationship between IA and well-being was insignificant, but CC-Eg played the most important role in predicting well-being by interacting separately with IA ( $\beta = .20$ ) and CC-CA ( $\beta = .22$ ). Study 2 found that the association between IA and well-being was positive only for African American and Black people. Studies 1 and 2 suggest that the factors of critical consciousness uniquely interact with IA as it relates to well-being and that this association may be especially important for African American and Black people. These studies provide future researchers and mental health professionals with a framework for understanding how opinions and awareness of intersecting social hierarchies and injustices may be related to PWB.

**Keywords:** psychological well-being, intersectional awareness, identity, critical consciousness, privilege

For decades, psychological well-being (PWB), a multidimensional condition of life satisfaction and wellness, has been the subject of significant research and exploration (e.g., Ryff & Keyes, 1995). Past research has linked PWB to many aspects of life, including personality traits,

self-esteem, emotional intelligence, family roles, vocational identity and career pursuits, biological regulation, and health outcomes, demonstrating the importance of understanding the factors which contribute to and influence PWB (Ryff, 2013). One set of elements to consider, especially in a



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rapidly changing and globalizing world, are the intersecting social systems that distribute privileges to specific groups.

In particular, individual understanding and grasp of these social systems, defined as intersectional awareness (IA), may be related to PWB (Yakushko, 2007). Furthermore, those very differences in privilege, which accompany individual identities, may affect the direction of the association between IA and PWB (Curtin et al., 2015). To develop the most inclusive and comprehensive wellness interventions, it is critical to understand the association between IA and PWB, as well as any differences rooted in identity.

### Psychological Well-Being (PWB)

PWB was developed and brought to the forefront of positive psychology by Carol Ryff, who refined previous theories and research to create a new, multidimensional measure of eudaimonic well-being (Abbott et al., 2006; van Dierendonck, 2004; Springer & Hauser, 2006). Ryff conceptualized PWB as the convergence of six dimensions: self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth (Ryff, 1989). These unique dimensions have the potential to strengthen researchers' estimates of positive functioning and PWB (Ryff, 1989; van Dierendonck, 2004). Research has shown that PWB and its dimensions may be related to an individual's thoughts and beliefs about oneself, positive affect, and the development of self-esteem (Lightsey, 1996; Miville et al., 2004) as well as to personality traits (Lightsey, 1996). Specifically, Schmutte & Ryff (1997) found that openness to experience was associated with personal growth, agreeableness was associated with positive relations with others, and neuroticism, extraversion, and conscientiousness were associated with environmental mastery, self-acceptance, and purpose in life. Additionally, higher PWB or stronger PWB can be particularly beneficial in the face of negative life events (Lightsey, 1996). Jetten et al. (2014) reported that PWB was boosted by a sense of shared group membership, providing individuals with the "psychological resources" to better navigate adversity and challenges through increased resilience and coping skills. These findings demonstrate that a better understanding of PWB will benefit the field of positive psychology and broader psychological research.

### Intersectional Awareness (IA)

Although many factors influence PWB, one may be

IA, which is a term used to describe the strength of an individual's ability, regardless of social identity, "to perceive the combination of multiple forms of inequality, as well as to critique or reject the legitimacy of that inequality" (Curtin et al., 2015, p. 513). As a relatively new construct within the field of psychology, IA provides insight into the effects of engaging with social injustices.

IA is a product of a long history of individual and group experiences with oppression and activism, and research conducted on the topic of multiple and converging identities. IA has grown out of "intersectionality," a term first introduced by Kimberlé Crenshaw, and has since been expanded by many other scholars (Cole, 2009). Within psychology, intersectionality has recently become a point of interest due to its implications for activism and social justice, as well as a tool for understanding the psychological effects of prejudice and discrimination (Rosenthal, 2016). Other common terms used in psychology literature include "feminism," "consciousness," and many more, but the current study will refer to the concept defined above as IA.

### IA and PWB: An Unclear Association

Although IA may be associated with PWB, the direction of this link is still unclear within the psychological literature. On the one hand, several studies have demonstrated that IA is connected to many of the essential components of PWB. For example, past research has shown that IA is related to positive relations with others, to positive intergroup attitudes (Curtin et al., 2015), group cohesiveness and commitment, and cohesiveness within diverse groups (Greenwood, 2008). Research has also shown that IA is related to environmental mastery, associated with openness to challenging inequality and injustice (Curtin et al., 2015), provides a structure for engaging with prejudice and discrimination (Fischer & Good, 2004), and is accessible for both privileged and marginalized identities (Curtin et al., 2015). Additionally, high IA has positive effects on women's autonomy, self-sufficiency, and value of personal development (Yakushko, 2007).

On the other hand, IA has also been associated with negative PWB outcomes. Through a series of interviews, Hercus (1999) noted that increased IA may be accompanied by increased emotional costs including exhaustion, guilt, self-estrangement, powerlessness, burn out, and most significantly, anger. Increased IA may introduce knowledge that is at odds with previous values and experiences and can make it difficult for an individual to reconcile

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opposing views and phenomena (Fischer & Good, 2004; Yakushko, 2009). Further, these emotional costs may impact other areas of life such as personal and professional relationships, due to increased instances of defensiveness and aggression often associated with engaging in socially taboo topics, negatively affecting an individual's relations with others (Fischer & Good, 2004; Hercus, 1999; Yakushko, 2007). These conflicting findings emphasize the need to continue research on IA as it could have meaningful implications for the PWB of individuals and groups.

### Study 1: The Role of Identity Privilege (IP)

One factor that might explain contradicting associations between IA and PWB is an individual's degree of social privilege. Privileged identities are "historically dominant social identity groups who have access to power, resources, and opportunities and who enjoy the psychological freedoms associated with being the norm" (Vaccaro & Newman, 2016, p. 925).

Studies have shown that privilege influences the way an individual learns about, and is affected by, diversity. Among people from more privileged backgrounds, engaging with diversity and integral components of IA increases moral reasoning and critical thinking (Blankenship et al., 2017; Bowman, 2009). Conversely, among people from marginalized backgrounds, this trend has been absent (Blankenship et al., 2017; Bowman, 2009; Curtin et al., 2015). A study by Bowman (2009), for example, found that White students who took diversity classes saw cognitive gains, whereas people of color who took the same classes did not see critical gains. Bowman's study acknowledged the importance of power and status differences between social identities and how they may affect the association between IA and PWB.

Additionally, when considering socially sensitive topics relating to IA, identity, and mental health, participants may feel negatively toward providing truthful answers that go against current social trends and values and may provide answers that portray them more positively (Fischer & Good, 2004). Providing socially desirable responses misrepresents true behaviors and attitudes and, in the instance of IA and PWB, may misrepresent how IA is or is not associated with PWB. Controlling for social desirability is a common practice in psychological research of sensitive topics, as per Fischer & Good (2004), and helps to clearly identify trends.

The current study was designed to provide a clearer picture of the association between IA, PWB, and IP. Further, the current study controlled for social desirability, but it was not the focus. Based on the findings from other studies presented above, I hypothesized that individuals with higher privilege scores would have a positive correlation between IA and PWB, whereas individuals with lower privilege scores (greater marginalization) would have no correlation between IA and PWB.

### Method

#### Participants

Participants were provided access to the online study and recruited through word of mouth, social media, and emails. Emails were sent to students and staff at Macalester College and community members, and emails were obtained through the college's Psychology Department and through collection by the researcher. To be included in the study, participants needed to be at least 18 years old and able to read English. No participants were excluded, and participants were not compensated. See Table 1 for demographic variables' frequencies, percentages, and privilege codes.

#### Measures

**Demographics.** Participants ( $N = 379$ , ages 18–81,  $M_{\text{age}} = 25.46$ ,  $SD = 13.27$ ) were asked to complete a short questionnaire intending to collect demographic data. Participants answered questions about their gender identity, age, racial/ethnic identity, and socioeconomic status.

**IP.** The current study assigned IP based on the method used by Blankenship et al. (2017): Individuals were assigned scores based on the number of socially privileged identity categories with which they identified. For each of these categories, one identity was coded as privileged in the larger society. These were tallied, producing a total "score" of privilege. Scores ranged from 0 (*least privileged*) to 3 (*most privileged, comparatively*) based on gender, racial and socioeconomic identities, as done by Blankenship et al. (2017). For each identity category, one or several identities were coded as privileged in the larger society (see Table 1).

**IA.** IA ( $\alpha = .86$ ) was measured with a scale of IA, developed by Curtin et al. (2015). This measure was adapted from the work by Greenwood (2008) to be accessible to people of all genders, races, and degree of participation in activism. Additionally, the scale by Curtin et al. (2015) modifies Greenwood's (2008) measure to focus

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**TABLE 1**  
**Frequencies and Percentages of Demographic Variables for Study 1 and Study 2**

Demographics (Privilege Code)	Study 1 N (%)	Study 2 N (%)
<b>Gender</b>		
Women (0)	279 (73.62%)	80 (45.20)
Men (1)	75 (19.79%)	93 (52.54)
Other* (0)	25 (6.60)	1 (0.56)
<b>Race</b>		
White (1)	291 (7.65)	86 (48.59)
Asian, Asian American, and/or Pacific Islander (0)	28 (7.39)	38 (21.47)
Hispanic or Latino (0)	12 (3.17)	8 (4.52)
Indigenous (0)	1 (0.26)	—
Black or African American (0)	11 (2.90)	35 (19.77)
Multiracial (0)	34 (8.97)	5 (2.83)
Other** (0)	2 (0.53)	2 (1.13)
<b>Socioeconomic status</b>		
High SES (1)	84 (22.16)	—
Middle SES (0)	257 (67.81)	—
Low SES (0)	38 (10.03)	—
<b>Sexual orientation</b>		
Straight or heterosexual (1)	—	153 (86.44)
Gay (0)	—	5 (2.83)
Lesbian (0)	—	2 (1.13)
Bisexual (0)	—	11 (6.21)
Asexual (0)	—	1 (0.56)
Other*** (0)	—	1 (0.56)
<b>Total personal income</b>		
Less than \$5,000 (0)	—	10 (5.6)
\$5,000 through \$11,999 (0)	—	12 (6.8)
\$12,000 through \$15,999 (0)	—	6 (3.4)
\$16,000 through \$24,999 (0)	—	23 (13.0)
\$25,000 through \$34,999 (1)	—	27 (15.5)
\$35,000 through \$49,999 (1)	—	31 (17.5)
\$50,000 through \$74,999 (1)	—	29 (16.4)
\$75,000 through \$99,999 (1)	—	18 (10.2)
\$100,000 and greater (1)	—	15 (8.5)
Don't know (0)	—	3 (1.7)
<b>Highest degree of education</b>		
High school diploma or equivalency (GED) (0)	—	40 (22.6)
Associate degree (junior college) (1)	—	30 (16.9)
Bachelor's degree (1)	—	81 (45.8)

Note. \* = nonbinary/gender queer, transgender, etc., and preferred not to respond.

\*\* = Jewish Eastern European, Native American, Middle Eastern and preferred not to respond. \*\*\* = preferred not to respond. Table continues on next page.

specifically on intersectional consciousness, updating the questions to better reflect the literature on intersectionality produced by its original founders such as Collins (1989) and Crenshaw (1991). Higher scores indicated higher IA (i.e., more awareness).

**PWB.** PWB ( $\alpha = .92$ ) was measured with a shortened version of the Scales of PWB, originally developed by Ryff (1989). Ryff's Scales of PWB were first developed and tested in 1989 (Ryff, 1989) and were assessed again by Ryff in 2014. Scores ranged from 1 to 6 where higher scores indicated better PWB.

**Social Desirability.** Social desirability ( $\alpha = .75$ ) was controlled for with the Marlowe-Crowne Social Desirability Scale, originally developed by Crowne and Marlowe (1960). This scale assesses an individual's bias toward their degree of concern with social approval. The scale included 33 statements, and participants indicated if each statement was *true* or *false* as it relates to them personally ( $\alpha = .88$ , Crowne & Marlowe, 1960). Scores ranged from 0 to 33 where higher scores indicated more socially desirable behaviors.

### Procedure

Institutional Review Board approval was received for the current study prior to data collection. Participants accessed the survey via a link retrieved from social media sites or emails. The survey commenced with a consent form. Participants who consented continued through the IA measure, the Scale of PWB, the social desirability control, and the demographics questionnaire. The order of the measures was randomized across participants to control for order effects. After completing the measures, participants were debriefed. The entire study was completed in 10 minutes, on average. All measures are available for public review on the Open Science Framework.

### Results

A series of bivariate correlations were conducted to examine the associations between IA, IP, and PWB (see Table 2). Participants with higher IA tended to have better PWB. However, privilege score was not associated with either PWB or IA. Given that social desirability was associated with higher PWB and lower IA, all further analyses controlled for social desirability: social desirability was added to the following regression model to estimate its effects on, and isolate it from, PWB.

To examine the association between IA, IP, and

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PWB, a regression was conducted with PWB as the outcome and IA, privilege, and their interaction as predictors (see Table 3). Overall, these predictors accounted for a significant amount of variance in PWB,  $F(4, 371) = 13.77$ ,  $p < .001$ , adjusted  $R^2 = .13$ . The regression demonstrated that higher IA predicted higher PWB. Privilege, however, was not associated with PWB. Finally, there was no interaction between IA and privilege, indicating that the positive association between IA and PWB is consistent across all levels of privilege.

Additional regression analyses were run using individual privilege elements (i.e., race, gender, and socioeconomic status) as predictors, rather than the composite privilege variable. In this and all other regressions, results were consistent with the previous model: the positive association between IA and PWB did not vary by demographic factors.

### Discussion

The findings of the current study did not support the interaction hypothesis that individuals with higher privilege scores would have a positive correlation between IA and PWB, nor that individuals with lower privilege scores (greater marginalization) would have no correlation between IA and PWB. Analyses showed that higher IA was associated with greater PWB, regardless of IP.

The findings of the current study and past research demonstrate that IA has a link to variables associated with the unique factors of PWB (Ryff & Keyes, 1995). The regression conducted as part of the current study might have shown that higher IA is associated with higher PWB because IA has the potential to foster positive intergroup attitudes, and awareness of “out-groups,” which may combat the negative consequences of prejudice and thus improve social relationships (Curtin et al., 2015).

Additionally, the current study's results are inconsistent with past studies (Fischer & Good, 2004; Hercus, 1999; Yakushko, 2007), which found that increased IA may be followed by negative emotional reactions, difficulty resolving conflicting views, and strains on relationships. However, this trend might not have been reflected in the current study because, as suggested, undergraduates in a uniquely safe environment that fosters critical thinking, and the development of the mental tools associated with higher IA, may provide individuals with the structure for grasping and engaging with a world complicated by prejudice and discrimination and avoiding the negative effects identified in other studies (Fischer & Good, 2004).

**TABLE 1, CONTINUED**

#### Frequencies and Percentages of Demographic Variables for Study 1 and Study 2

Demographics (Privilege Code)	Study 1 N (%)	Study 2 N (%)
Highest degree of education		
Master's degree (1)	—	19 (10.7)
Doctorate (1)	—	1 (0.6)
Professional (MD, JD, DDS, etc.) (1)	—	0 (0)
None of the above (less than high school) (0)	—	0 (0)
Other (0)	—	3 (1.7)
Total	379	174

Note. \* = nonbinary/gender queer, transgender, etc., and preferred not to respond.  
 \*\* = Jewish Eastern European, Native American, Middle Eastern and preferred not to respond.  
 \*\*\* = preferred not to respond.

**TABLE 2**

#### Correlations Between IA, IP, Social Desirability, and PWB for Study 1

Measure	M (SD)	1	2	3
1. PWB	4.27 (0.58)	—		
2. IA	5.48 (0.57)	.16**	—	
3. IP	1.19 (0.75)	.08	-.08	—
4. Social desirability	14.58 (4.94)	.29**	-.11*	.88

Note. N = 379. IA = intersectional awareness. IP = identity privilege. PWB = psychological well-being.

\*\* Correlation is significant at the 0.01 level

\* Correlation is significant at the 0.05 level

**TABLE 3**

#### Full Regression Analysis Predicting PWB From IA, IP, and the Factors of CC; Egalitarianism and Critical Action, Controlling for Social Desirability

Variable	Study 1		Study 2	
	$\beta$	p	$\beta$	p
IA	.19	.001	.15	.11
IP	.06	.20	.22	.002
Social desirability	.32	.001	.31	.00
IP*IA	-.06	.22	.02	.80
CC egalitarianism	—	—	.10	.27
CC critical action	—	—	.07	.46
Egalitarianism*IA	—	—	.20	.06
Critical Action*IA	—	—	.09	.49
Egalitarianism*Critical Action	—	—	.22	.04
Egalitarianism*Critical Action*IA	—	—	.002	.99

Note. IA = intersectional awareness. IP = identity privilege. PWB = psychological well-being. CC = critical consciousness. Study 1: N = 379. Study 2: N = 174

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Further, the current study did not support the interaction hypothesis. This hypothesis was based on Bowman's (2009) findings, which suggested that facilitated engagement with the concepts of IA may not be beneficial to people of color who may more regularly and more explicitly bear the negative effects of these phenomena compared to White people. However, the current study found that the association between IA and PWB was the same for those who have less IP as it was for those who have more IP. It is possible that the current study did not identify this interaction because IA is accessible for both privileged and marginalized identities and does not influence the association between IA and PWB (Curtin et al., 2015). Another possibility as to why the current study did not identify this interaction is because the measures used did not adequately determine privilege. IP was calculated based on the information gathered from the few demographic questions which were limited and generalizing.

The demographic questions also ignored important nuances between identity groups, in favor of calculating IP. Specifically, the population of the current study was predominantly White women of middle socioeconomic status. This lack of sample diversity most likely minimized the true trends within other identity groups. More attention should be paid to the way specific identities are or are not related to the association between IA and PWB by including more specific demographic questions.

It may also be useful to focus specifically on how the knowledge which accompanies greater IA interacts with a person's feelings toward that knowledge. It is possible that this knowledge alone, without any accompanying feelings of agency or ability to affect change, may lead an individual to feel helpless and overwhelmed. However, if an individual feels empowered to act and that they can benefit themselves or their community, it is possible that they would experience feelings of empowerment, connection, and improved PWB (Bartholomew et al., 2018; Curtin et al., 2015; Diemer et al., 2014; Downing & Roush, 1985).

Thus, one potentially useful concept is critical consciousness (CC), the extent to which individuals can acknowledge and reflect critically on social inequalities and systems of marginalization, understand the need for justice, and build the capacity to pursue social action and activism (Diemer et al., 2014; Freire, 1973; Godfrey et al., 2019). Specifically, the elements of CC highlight the

differences between being a part of activist groups and communities and feeling agency and capacity for activism. Several studies have found that these elements of CC are associated with different PWB outcomes (Bartholomew et al., 2018; Diemer et al., 2014; Diemer et al., 2016; Downing & Roush, 1985; Godfrey et al., 2019), and demonstrated that the unique factors of CC have potential implications for IA, and that the intersection of IA and CC can have considerable impacts on PWB for people with a variety of identities.

## Study 2: The Role of Critical Consciousness (CC)

Study 1 aimed to provide insight into the association between IA and PWB, and findings showed a positive correlation between IA and PWB that was consistent across a range of IP. Study 2 aimed to clarify the association between IA and PWB by including the role of CC, and its factors, in this association.

CC is composed of unique factors which interact in significant ways: critical reflection (perceived inequality) measures the "critical analysis of socioeconomic, racial/ethnic, and gendered constraints on educational and occupational opportunity," critical reflection (egalitarianism) reflects the "endorsement of societal equality, all groups of people treated as equals within society," and critical action indicates the "participation in social and political activities to change perceived inequalities" (Diemer et al., 2014). Egalitarianism (CC-Eg) and critical action (CC-CA) are of particular interest to the current study because, together, they offer insight into the question of not just how people feel about social injustices and hierarchies, but how much agency they feel to pursue action in the face of inequalities.

Godfrey et al. (2019) investigated how the factors of CC impacted socioemotional and academic PWB for racially diverse youth. They found that youth with both high levels of CC-Eg and CC-CA had worse socioemotional outcomes and academic PWB compared to other groups with lower levels of CC-Eg and CC-CA. Godfrey et al. (2019) theorized that this trend was caused by youths' new engagement with complex systems of inequality (elements of IA) yet few opportunities to build and exercise agency. Although these youth were engaging with elements of IA, those who lacked the opportunities to act on their knowledge of injustice were more likely to feel overwhelmed and powerless than youth who have yet to engage with these topics (Godfrey



et al., 2019).

However, for those with the opportunity to act in response to their knowledge of injustice and social hierarchies, CC-CA has been shown to protect against negative mental health outcomes. A study by Zimmerman et al. (1999) examined the effects of sociopolitical control, a variable incredibly similar to CC-CA, on the mental health of urban, Black young men. They found that participants with greater beliefs in their own abilities and competencies in relation to social and political systems (elements of IA) were more likely to be protected from the negative feelings of helplessness (Zimmerman et al., 1999). Participants in the Zimmerman et al. (1999) study were slightly older than those in the study by Godfrey et al. (2019), and possibly had more opportunities to exercise agency. Paying close attention to the effects and role of CC-Eg and CC-CA on the correlation between IA and PWB will help to inform the understanding of CC as a whole and advance the body of research on the association between IA and PWB.

Based on the findings from past research and the results of Study 1, two main hypotheses were created: (H1) a two-way interaction between IA and CC-CA would predict PWB such that, among participants with high CC-CA, IA would correlate positively with PWB, whereas among participants with low CC-CA, IA would correlate negatively. For (H2) this association would be further qualified by a three-way interaction with CC-Eg: wherein the previously described two-way interaction between CC-CA and IA would only hold among participants with low CC-Eg; among participants with high CC-Eg, high CC-CA would not be associated with a positive correlation between IA and PWB, but low CC-CA would be associated with an especially negative correlation between IA and PWB (Diemer et al., 2014; Godfrey et al., 2019).

Additionally, the current study aimed to build on past research and Study 1 and included more demographic and identity questions in order to provide a more detailed image of the effect of identity. Given that little research has examined the role of specific identities in the association between IA and PWB, these analyses were exploratory and no a priori hypotheses were developed.

## Method

### Participants

Participants were recruited through the MTurk Crowdsourcing marketplace and were compensated \$1.25. To be included in the study, participants

needed to be at least 18 years old and able to read English. No participants were excluded. See Table 1 for demographic variables' frequencies, percentages, and privilege codes.

### Measures

**Demographics.** Participants ( $N = 174$ , ages 22–72,  $M_{age} = 37.31$ ,  $SD = 10.75$ ) were asked to complete a short questionnaire intending to collect demographic data. Participants answered questions about their gender identity, age, racial/ethnic identity, sexual orientation, and level of education and household income for themselves and their family, if financially dependent.

**CC.** CC was measured by the CC Scale, developed by Diemer et al. (2014). Participants responded to 14 questions within two subsections, which were randomized. Five questions corresponded to CC-Eg (e.g., all groups should be given an equal chance in life;  $\alpha = .76$ ) and nine to CC-CA (e.g., participated in a civil rights group or organization;  $\alpha = .87$ ). The current study found that the CC-Eg scale had good internal reliability ( $\alpha = .88$ ). For the CC-Eg subscale, mean scores ranged from 1–6, and higher scores reflected greater dissatisfaction with current social structures. For the CC-CA subscale, mean scores ranged from 1–5 and higher scores reflected greater feelings of agency and activism. The current study found that the CC-CA scale had good internal reliability ( $\alpha = .89$ ). The third subscale, Critical Reflection—Perceived Inequality, was excluded because it includes similar questions as the IA measure by Curtin et al. (2015), yet the IA measure assesses perception and understanding of intersecting inequalities more broadly.

**IP.** As in Study 1, a total “privilege score” was calculated based on the method of category assignments used by Blankenship et al. (2017). Questions regarding the level of education and household income for participants and their families were included to gain more accurate information on participants' socioeconomic status, expanding the original questions about socioeconomic status from the method by Blankenship et al. (2017). For the level of education, all forms of higher education (i.e., above a high school diploma or equivalency) were coded as privileged due to the findings that those with higher education degrees continue to “earn more and have lower rates of unemployment compared with workers who have less education” (Torpey, 2021). For annual household income, \$25,000 and up was coded as privileged based on the average regional minimum wage across the

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U.S. (\$11.80 per hour; Smith, 2019) and determining that those who make more than this income bracket hold more financial privilege, on average. Participants' privileged social identities were tallied, producing a total "score" of privilege. Scores ranged from 0 (*least privileged*) to 5 (*most privileged*, comparatively). This information was to track the effect of distinct group identities on the association between IA and PWB and to calculate and assign "privilege scores" (see Table 1).

**IA, PWB, Social Desirability.** The current study used the same scales as Study 1: The IA measure, Ryff's Scales of PWB, and the Social Desirability Scale.

### Procedure

Institutional Review Board approval was received for the current study prior to data collection. Participants accessed the survey via a link retrieved from the MTurk Crowdsourcing marketplace. MTurk has been found to be a reliable participant recruitment method, producing samples that are as reliable as community and internet recruitment methods, and are representative of the U.S. population (Shin et al., 2018). Participants who consented continued through the IA measure, the Scale of PWB, the CC Scale, the social desirability control, and the demographics questionnaire. The order of measures was randomized across participants. After completing the measures, participants were debriefed. The entire study was completed in 13 minutes, on average. All measures are available for public review on the Open Science Framework.

### Results

To examine the associations between all study variables, a series of bivariate correlations were conducted, including IA, critical reflection (egalitarianism; CC-Eg), critical action (CC-CA), IP, social desirability, and PWB (see Table 4). No significant correlation was found between IA and PWB. However, IA was positively associated with CC-Eg, and negatively associated with IP. Further, CC-Eg was also negatively associated with IP. Because social desirability was correlated with PWB, all further analyses controlled for social desirability.

Before testing the key study hypothesis, differences in PWB based on gender, sexual orientation, race, income, and education were tested with univariate ANOVA tests. The analysis included a variable that separated race into several groups: Asian (including Asian, Asian American, and/or Pacific Islander), Black (including Black and African

American), White, and a group for all additional racial identities (combined Hispanic or Latino, Indigenous, multiracial and "other"). See Table 5 for the complete ANOVA results. A main effect of race was found, suggesting that PWB differed significantly by racial identity: participants who identified themselves as Black or African American ( $M = 4.27$ ,  $SD = 0.14$ ) reported the highest PWB, followed by participants who identified themselves as White ( $M = 4.24$ ,  $SD = 0.10$ ), then other racial identities ( $M = 4.13$ ,  $SD = 0.20$ ), and Asian, Asian American and/or Pacific Islander ( $M = 3.85$ ,  $SD = 0.14$ ) reported the lowest levels of PWB.

To examine the effects of IA, CC-Eg, CC-CA, and IP on PWB, a linear regression was conducted with PWB as the outcome and IA, CC-Eg, CC-CA, and their interaction variables as simultaneous predictors (all variables were centered at the sample mean). In addition, IP and its interaction with IA were also included (see Table 3). Overall, these predictors accounted for a significant amount of variance in PWB,  $F(10, 162) = 4.87$ ,  $p < .001$ , adjusted  $R^2 = .23$ . Although the linear regression did not demonstrate that IA significantly predicted PWB, it did reveal a marginal interaction between IA and CC-Eg and a significant interaction between CC-Eg and CC-CA (see Table 3).

The interactions between IA and CC-Eg, and CC-CA and CC-Eg, were followed up by using simple slope analysis (Aiken & West, 1991). Given the pattern of both of these interactions, it was appropriate to examine the correlations between IA and PWB and between CC-CA and PWB as functions of CC-Eg: to examine if there was a difference in participants' association between IA and PWB depending on if they had reported high or low CC-Eg. A total of eight new variables were computed. Two new versions of the CC-Eg variable were created for these analyses, centering one at the maximum CC-Eg score and centering the other at the minimum CC-Eg score. In turn, these recentered CC-Eg variables were used to compute all relevant interaction terms.

Linear regressions were then rerun with each of these recentered variables in turn. Although these associations were not individually significant, the difference between them was significant, as identified by the significance of the interaction variable. In other words, higher IA was only associated with better PWB if participants also had high levels of CC-Eg (see Figure 1.a). Similarly, higher CC-CA, or greater agency and participation in action to produce social change (Diemer et al., 2014), was

only associated with better PWB if participants also had high levels of CC-Eg (see Figure 1.b). Overall, individuals with high CC-Eg who reported the highest levels of IA and CC-CA also reported the best levels of PWB, respectively.

In the initial regression, although participants' general IP was significant as a main effect ( $\alpha = .22$ ,  $p = .002$ ), its interaction with IA was not ( $\alpha = .02$ ,  $p = .80$ ). Thus, a series of linear regressions were conducted to identify if the above-mentioned identity groups independently interact with IA to predict PWB. Interaction variables were created with IA and each identity group. These variables, in addition to the independent identity group variables, acted as the predictor variables, and PWB was the outcome variable for each regression. For gender, sexual orientation, income, and education, the interaction terms were not significant ( $\alpha$ s ranged from  $-.05$  to  $.12$ ,  $p$ s ranged from  $.12$  to  $.63$ ). For race, however, the interaction between Black and African American identity and IA was significant ( $\alpha = .17$ ,  $p = .05$ ).

## General Discussion

Together, Study 1 and Study 2 contributed to the development of knowledge on IA and PWB in the United States. Study 1 analyzed varying levels of IP in the association between IA and PWB, and Study 2 examined two factors of CC, CC-Eg, and CC-CA to determine how the acceptance or rejection of current social systems, and feelings of agency, contribute to the association between IA and PWB.

## Importance of Egalitarianism

The current studies contributed to the past mix of findings, supplying support for both sides of the argument that IA does and does not improve PWB. Several studies have demonstrated that higher IA can result in increased negative emotions such as anger, poor self-esteem, emotional exhaustion, guilt, powerlessness, and burn out and that these emotional experiences can negatively impact social interactions, relationships, and ultimately PWB (Fischer & Good, 2004; Hercus, 1999; Yakushko, 2009). In the context of the current studies, low CC-Eg and low CC-CA explain how higher IA may result in negative emotional experiences and worse PWB.

However, many studies (including Study 1) have identified a positive correlation between IA and PWB. Studies which have identified this positive correlation have highlighted that increased IA is often related to improved perspectives on diversity,

TABLE 4

### Correlations Between IA, IP, Social Desirability, PWB, and the Factors of CC; Egalitarianism and Critical Action, for Study 2

Measure	<i>M (SD)</i>	1	2	3	4	5
1. PWB	4.14 (0.72)	—				
2. IA	4.77 (0.86)	.07	—			
3. IP	3.39 (1.08)	.14	-.16*	—		
4. Social desirability	14.73 (6.86)	.29**	-.05	-.02	—	
5. Egalitarianism	5.00 (1.12)	.04	.57**	-.26**	-.01	—
4. Critical action	1.49 (0.66)	-.01	.02	.05	.006	-.05

Note. IA = intersectional awareness; IP = identity privilege; PWB = psychological well-being; CC = critical consciousness. *N* = 174.

\* Correlation is significant at the .05 level

\*\* Correlation is significant at the .01 level

TABLE 5

### Univariate Analyses of Variance in Psychological Well-Being

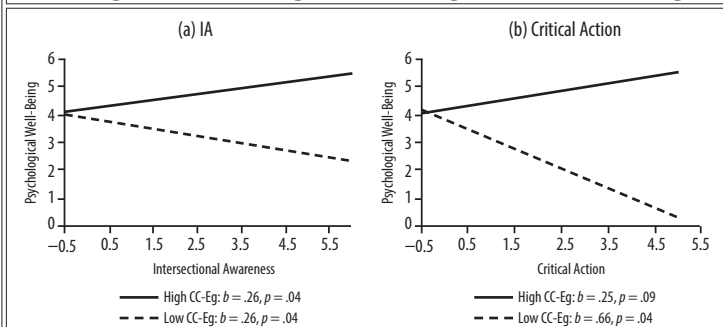
Measure	<i>df</i>	<i>F</i>	$\eta^2$	<i>p</i>
Gender	1,164	0.03	.00	.87
Sexual orientation	1,164	0.00	.00	.98
Race	3,164	2.83	.05	.04*
Income	1,164	0.84	.01	.36
Education	1,164	1.15	.01	.29

Note. *N* = 174.

\* $p < .050$ .

FIGURE 1

### Linear Regressions Results Demonstrating the Associations Between IA and PWB (a), and Critical Action (CC-CA) and PWB (b) Among Those With High and Low Egalitarianism (CC-Eg)



Note. IA = intersectional awareness; IP = identity privilege; PWB = psychological well-being; CC = critical consciousness. Figure 1.a identifies that IA is associated with better PWB for participants with high levels of CC-Eg and is significantly different from participants with low levels of CC-Eg. Figure 1.b identifies that CC-CA is associated with better PWB for participants with high levels of CC-Eg and is significantly different from participants with low levels of CC-Eg. In both cases, although the individual lines failed to reach significance, the interaction variables did reveal a marginal interaction between IA and CC-Eg and a significant interaction between CC-Eg and CC-CA.

ability to grapple and involve oneself with social inequalities, increased feelings of independence and self-sufficiency, and improved group cohesiveness (Curtin et al., 2015; Fischer & Good, 2004; Greenwood, 2008; Yakushko, 2007). In the context of the current studies, these findings are likely the result of high IA in conjunction with greater CC-Eg, as well as greater CC-CA.

### The Role of Identity

The current studies propose that most individuals and groups may be affected by IA in similar ways, with an exception to Black and African American people who may experience unique outcomes. Neither Study 1 nor Study 2 detected any significant differences in the association between IA and PWB for most privilege and identity groups. This suggests that, for most, greater IA is associated with more positive mental health outcomes, regardless of privilege or identity: an increased awareness of interdependent social systems and hierarchies may result in improved autonomy, self-sufficiency, value of personal development and group relationships (Greenwood, 2008; Yakushko, 2007), all of which are key elements of a healthy PWB.

Although Study 1 and Study 2 found that IA affected most identity groups similarly, Study 2 found that a higher IA was especially associated with better PWB for Black and African American participants. This finding is similar to a study by Bartholomew et al. (2018), which found that Black and African American women, who have a specific set of experiences and trauma associated with their gender and racial identity in the United States, benefited in unique ways from improving their ability to understand interdependent social hierarchies. Bartholomew et al. (2018) analyzed Black Lives Matter's healing justice toolkit and compared it to Pablo Freire's concept of CC and found that the reflection and action components of CC, practiced through mindfulness and discussion activities, helped women in Black Lives Matter navigate their trauma within a sociopolitical context and work toward healing for themselves and their communities. Specifically, by being in community and moving through the healing justice toolkit, and ostensibly the components of CC, Black Lives Matter members expanded their understanding of societal issues and gained a basis to historically and temporarily contextualize Black women's health and PWB (2018). The findings by Bartholomew et al. (2018) suggests that perhaps increased critique and active healing in the face of intersecting social

hierarchies and injustices promotes well-being in Black women especially, and that more work needs to be done to uncover other unique experiences for different identity groups.

### Implications

The results of Study 1 and Study 2 provide new insight and clarification into the association between IA and PWB and highlight implications for multiple aspects of theory and practice. Past research has produced mixed results in determining the association between IA and PWB, and the current studies suggest that identity groups, CC-Eg and CC-CA may play important roles in predicting this association. Those who wish to develop mental health care interventions on the basis of IA must consider these factors in order to develop the most comprehensive and effective interventions. In an effort to provide people of every race, gender, sexual orientation, income, or education with the best (mental) health care, it is critical that researchers and care providers know how these processes affect individuals and groups differently.

If there is even a chance that people experience the relationship between IA, CC, and PWB differently, as suggested in Study 2, then future studies must strive to understand these differences, or else risk providing inadequate interventions or care by assuming homogeneity. The findings of the current studies suggest that, for mental health interventions to produce PWB benefits, participants must first identify or establish egalitarian values or else risk worse PWB outcomes.

The finding that egalitarianism plays a role in the association between IA and PWB, and that this trend is present among specific populations, may be of particular interest to universities and college students. Similar to past research, the current studies (Curtin et al., 2015; Greenwood, 2008) identified that young adults, college students, and activists were more likely to have a positive association between IA and PWB, likely due to their higher levels of CC-Eg (Muheljc & Drace, 2018).

This finding should be leveraged by college students and universities for developing their own mental health interventions on campuses: because college students are more likely to hold egalitarian values, they may be more likely to respond positively to interventions based in raising IA. This in turn could have benefits for university communities and would warrant administration investment. Additionally, the findings of the current studies may encourage university faculty and administrators



to integrate IA and CC-Eg into curriculum and programming on campus as an indirect route to boosting students' PWB. Overall, college students and universities may want to examine the findings of the current studies and investigate how they might support their individual efforts to boost the PWB of their communities.

In addition to mental health interventions, the findings of the current studies have implications for universities and the general public, and how specific context may or may not prevent Black and African American people from benefiting from IA. Study 2 identified that Black and African American participants reported an increased IA to be associated with greater PWB. This finding matched a study by Bartholomew et al. (2018), which found that Black women within the Black Lives Matter Movement (BLM) successfully confronted trauma associated with racism through increasing their awareness and understanding of oppressive systems. This finding suggests that Black and African American people, who have experienced, and continue to experience, unique forms of racial violence and oppression in the United States, benefit from improving their ability to understand interdependent social hierarchies. However, the study by Bartholomew et al. (2018) and the current studies are in opposition to a study by Bowman (2009), which found that White students had a positive relationship between IA and PWB whereas people of color had no significant association. Bowman's (2009) finding suggests that White students, who may be learning about interdependent hierarchies for the first time, benefit more from this increased awareness than their Black and African American peers who may be more aware due to everyday and lifelong experiences with injustice.

This difference suggests that there may be differences in the way Black and African American college students are able to engage with these topics versus Black and African American people in the general public. Perhaps, on the one hand, Black and African American people in the general public may be more likely to be engaged with communities centered on providing support and uplifting each other. Black and African American students, on the other hand, may be engaging with these topics primarily in classroom settings where there may be a mix of experiences and opinions. A mix of experiences and opinions may result in a learning environment that is more exclusive and make Black and African American students aware of social hierarchies and injustices in ways that are

more detrimental than beneficial to their mental health. University communities may want to learn from organizations for Black and African American people in the general public, and increase efforts to facilitate inclusive and respectful classrooms, in order to make the association between IA and mental PWB more accessible to Black and African American students.

The results of Study 1 and Study 2 may also have significant implications for current and future social justice movements. Activists, allies, and organizers alike should note how IA and the factors of CC interact to influence PWB. Specifically, the association between CC-Eg, CC-CA, and PWB may be useful to those who engage with social justice movements, used as a guide for participation while maintaining a healthy PWB. Study 2 identified that, for participants with high CC-Eg, CC-CA was positively associated with PWB; for those who believed in equality for all groups, greater agency, and participation in social and political actions (Diemer et al., 2014) was associated with better PWB. Activists and organizers should use this finding to support their members and allies by constructing programming, education and events around increasing egalitarianism and agency, and encouraging engagement with actions and events. The mental health of activists and allies is critical for the momentum and longevity of a social justice movement.

### Limitations and Future Research

Although these findings on the relationship between IA and PWB are important, it is also necessary to note some important limitations and recommendations for future research. First, these studies were conducted in the United States, and the definitions of the factors included are culturally specific. Additionally, it is important to consider the meaning of PWB, and the implicit assumptions maintained by the current definition and the psychology community. Although the current studies referred to PWB as fairly universal, it is highly likely that many participants or groups would define it differently for themselves. To best quantify and track mental health changes, methods need to account for differences associated with group membership and definitions. Understanding differences in definitions will also improve researchers' ability to fully measure and explain differences in the relationship between IA and PWB.

Second, the measures and procedures used in Study 1 and Study 2 could be refined to better understand and isolate trends, especially as they

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relate to IP and groups. The results of Study 1 and Study 2 suggested that most groups, regardless of IP or identity, were affected similarly by IA. This finding may lead healthcare providers to take a “one-size-fits-all” approach toward administering IA interventions with the goal of improving PWB. However, future research should approach this finding that most groups are similarly affected by IA with caution due to weaknesses in the methodology. Social and cultural definitions of identity, group membership, and privilege are difficult to quantify due to their evolving and subjective nature. The current studies used the method by Blankenship et al. (2017) to quantify privilege, yet this method focused on “total” privilege and neglected important factors that contribute to privilege, such as specific race, gender, or class group identity. Study 2 attempted to account for differences by race, gender, sexual orientation, education, and income, but the question of the differences in privilege associated with these different identity groups remains.

Additionally, Study 1 was constrained by its lack of detailed demographic questions, especially as they related to socioeconomic status. Socioeconomic status varies greatly in the United States and can be connected to multiple other aspects of life (Pulsifer et al., 2019), and Study 1 drew from a population of college students who are more likely to come from families with greater socioeconomic status (U.S. Department of Education, 2015). Although Study 2 included more demographic questions on factors related to socioeconomic status, this method provides only a shallow analysis of such a complex factor and phenomena. The current studies’ failings in detecting different aspects of privilege and lack of socioeconomic variety may explain why neither study found a significant interaction between IA, identity group, or privilege and PWB. To truly determine if or how the association between IA and PWB is affected by identity, future studies should dive deeper into individual aspects of unique identity groups, such as race, gender, class, ability, etc., and develop better methods for quantifying, and assessing the effects of, social IP.

Third, although the current study examined the association between IA and PWB, it is important to consider that this association may be driven by PWB, as suggested by the Broaden and Build Theory of Positive Psychology by Fredrickson (2004). This theory suggests that individuals’ emotions lead to complementary actions or feelings that may be narrow or broad depending on the emotion.

In other words, it may be the individual’s PWB that impacts their engagement with elements of IA. In the context of this theory, the findings of the current studies may suggest that participants reported high levels of IA because they also reported higher PWB, rather than the inverse. The existence of this theory suggests that there is still more to learn about the relationship between, and the cycle of, PWB and engagement with IA.

Fourth, the current studies only assessed participants’ association between IA and PWB at one point in time. Future studies should examine how these processes change over time and with cognitive and social development. A longitudinal model will help determine how interventions and workshops may impact their intended audience. More research must be conducted to develop effective and age-appropriate interventions so that everyone can gain the most PWB benefits.

Finally, future research could analyze potential benefits of grounding an intervention method or space in a shared identity or experience. In other words, interventions may be most effective if they can raise IA and CC-Eg in a space that specifically acknowledges and values a specific group identity or experience and builds agency to take action. It is critical that interventions are developed in a way that empowers rather than discourages and highlights faults in the system rather than within the individual or specific groups. This way, any trends identified may more accurately represent the experiences of the group and population, and will place those experiences, and the people, back at the center of the research. More holistic research methods may help clarify the association between IA and PWB for individual identity groups and lead to more informed and comprehensive mental healthcare interventions. The progress of future studies and interventions, and their effectiveness, is necessary for developing advanced and intersectional mental health care.

## Conclusions

Although the current studies did not focus on social justice or community action, further research on themes associated with intersectionality and PWB may be especially beneficial for those who wish to make social change. PWB is important for everyone and influences the ways and the extent to which people feel comfortable and confident engaging with the world. And as the world continues to diversify and globalize, it is critical to understand how such changes will impact everyone’s mental health and PWB.

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## Angry, Frustrated, and Silent: Women's Responses to Microaggressions Within the Discipline That Coined Microaggressions

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**ABSTRACT.** The number of women entering the field of psychology has steadily increased to nearly 75% over the past decade (APA, 2019). During this time, the number of women in psychology who identify as racial and/or ethnic group member has also increased (APA, 2019). The discipline of psychology prides itself on inclusivity and has worked to increase the retention of members with varying cultural and gender identities (APA n.d.b., & APA, n.d.c.). Shifts in composition, however, have not been reflected among higher ranking professionals within the field (e.g., faculty, supervisors; Office of Program Consultation and Accreditation, 2015). This disparity warranted a qualitative investigation on the experiences, emotions, and reactions to microaggressions for women emerging in psychology ( $n = 264$ ). Although psychology-related professionals aspire to be more inclusive and maintain an explicit orientation to social change, microaggressions have a large purview from which no field is excluded. Findings from women's narrative responses revealed 4 types of microaggressions, 11 elicited emotion themes, and 6 types of reactions to microaggressions. Results highlight how women manage their emotions and reactions to microaggressions in institutional environments while considering individual and collective stigma consciousness. Monitoring and documenting the social conditions of this field can increase support and allyship, which facilitates retention for women pursuing and earning doctoral degrees in psychology.

**Keywords:** microaggressions, women, psychology, graduate education, support for change

**ABSTRACTO.** El número de mujeres que ingresan al campo de la psicología ha aumentado de manera constante hasta casi un 75% durante la última década (APA, 2019). Durante este tiempo también ha aumentado el número de mujeres en el campo de la psicología que se identifican como miembros de un grupo racial y/o étnico (APA, 2019). La disciplina se enorgullece de la inclusión y ha trabajado para aumentar la retención de miembros con diferentes identidades culturales y de género (APA s.f.b., & APA, s.f.c.). Sin embargo, los cambios en los números y en la composición no se han reflejado entre los profesionales de mayor rango dentro del campo (por ejemplo, profesores y/o supervisors; Oficina de Consulta y Acreditación

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de Programas, 2015). Esta disparidad ameritó una investigación cualitativa sobre las experiencias, emociones, y reacciones a las microagresiones de las mujeres emergentes en el campo de la psicología ( $n = 264$ ). Si bien la psicología aspira a ser más inclusiva y mantiene una orientación explícita al cambio social, las microagresiones tienen un ámbito amplio del que no se excluye ningún campo. Los hallazgos de las respuestas narrativas de las mujeres revelaron 4 tipos de microagresiones, 11 temas emocionales provocados por otros(as) y 6 tipos de reacciones a las microagresiones. Los resultados destacan cómo las mujeres manejan sus emociones y reacciones a las microagresiones en entornos institucionales, considerando la conciencia del estigma individual y colectivo. Monitorear y documentar las condiciones sociales de este campo puede aumentar el apoyo y la alianza, lo que facilita la retención de las mujeres que buscan y obtienen un doctorado en psicología.

**Palabra clave:** microagresiones, mujeres, psicología, educación de posgrado, apoyo al cambio

Women who historically pursued careers in psychology faced countless barriers, including restrictive gender roles, the denial of opportunities to advance within the field, as well as pressure to decide between one's career or one's family (Scarborough & Furumoto, 1987). Although women have made significant contributions to the field of psychology since the late 1800s, they have historically been overlooked and ignored in psychology's past (Scarborough & Furumoto, 1987). Sex-based discrimination and harassment are now prohibited by federal law (Civil Rights Act, 1964), and yet women in higher education and other work environments are still likely to experience various and subtler forms of discrimination and harassment, often referred to as microaggressions (Barthelemy et al., 2016).

Demonstrated throughout interactions, microaggressions reflect environmental, organizational, and individual notions about the abilities and behaviors of groups of people (Sue et al., 2007). Differences in power contribute to microaggressions and reveal information about the space in which a person is functioning (Almond, 2017). Often unintentional, yet packed with the ability to elicit disconnection, microaggressions come in the form of environmental cues, insults, assaults, and invalidations (Sue, 2010). Given the changing composition of emerging psychologists, the purpose of the present investigation was to identify the nature of microaggressions that women doctoral students and early career professionals experience in their school and work settings.

### Conceptualizing Microaggressions

The term "microaggression" was first introduced by Harvard psychiatrist Chester Pierce (1970), who referred to it as subtle racial putdowns that degrade physical health over a lifetime. Pierce's work reflected how persistent and underresearched microaggressions were in the United States, until Sue et al. (2007) popularized the topic over three decades later. Although originally developed within the context of race, in recent years, microaggression research has extended to identities such as sexual orientation, age, and gender (Barthelemy et al., 2016). Harmful stereotypes, assumptions, and attitudes about women and those with other marginalized cultural identities continue to persist in society, making all women potential targets of ongoing microaggressions. The reach of microaggressions extends to many identities, and they are likely experienced by any woman, but especially those who may not be cisgender, heterosexual, White, and Christian.

Intersectional microaggressions more aptly apply to people's lived experiences. Scholars have noted that misinterpretations can occur when viewing microaggressions within a singular category (Lewis et al., 2013; Nadal et al., 2015). Crenshaw's (2018) work on intersectionality expanded our understanding of a person's experience beyond categorizations that are mutually exclusive. The individual experiencing the microaggression is impacted as a whole, rather than reduced to the aspect of their identity under scrutiny by a person or organization. An intentional comment or

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unintentional insult can amplify other identities and remind a person that power and privilege are unequally distributed for many reasons (i.e., gender, disability, occupational hierarchy). Suppose that one woman is assumed by another not to belong in her environment (e.g., a young Black woman is assumed to be a student, not faculty, when in her own office on campus by another faculty member). This microaggression incorporates gender, age, rank, and race. A whole person experiences frustration, not their unique identities (e.g., mother, Black, woman).

Sue described the phenomenon of microaggression as a taxonomy with four distinct types. Microinsults were defined as messages that insult, demean, snub, and/or convey rudeness. Microinvalidations represented experiences in which a person felt excluded or instances that negated a person's experience of reality. Microassaults were defined as attacks that hurt, such as avoidance or name-calling and were more likely to be conscious. Lastly, environmental microaggressions conveyed any of the aforementioned messages as the result of a system or structure, rather than carried out by an individual.

### Microaggressions Among Postgraduate Students

Institutional settings, colleges, and universities consist of hierarchies that can work to reinforce microaggressions. Privilege, for example, is granted with a doctoral degree, and a lack of privilege relates to having a lesser or no degree (Young et al., 2015). An example of a hierarchical microaggression from the research of Young and colleagues (2015) was an individual being surprised about the intelligence of another with a lesser educational degree. These types of microaggressions impact the climate of an institution, as well as the experiences of the students in that setting.

The effects of microaggressions are cumulative, with many small events leading to a larger impact, for example, choosing to leave a specific discipline or field as a graduate student (Barthelemy et al., 2016). Women enrolled in physics and astronomy programs reported gender microaggressions and discrimination in the form of restricted access to equipment, sexual objectification, and the disregard of women's ideas. Despite astronomy having more women represented in the program than physics, microaggressions were equally pervasive (Barthelemy et al., 2016).

Proctor and Truscott (2012) reported that microaggressions from White peers and faculty were

among the reasons African American students left their school psychology postgraduate programs. Proctor and colleagues (2017) later found that Black school psychology postgraduate students reported statistically more microaggressions than other multiethnic students, regardless of setting (i.e., academic vs. clinical).

A long-term implication of microaggressions for women in academia, particularly those of color, is exhaustion. Maintaining space within historically White institutions can equate to continuous efforts to destabilize stereotypes about their very essence: A Black woman with strength and resilience. The pressure to demonstrate strength and resilience in the face of microaggressions is paradoxical. Corbin et al. (2018) described this exhaustive dilemma as self-policing, where an effective response is associated with a cultural stereotype of Black women and leads to racial battle fatigue. A system in which women engage with the very image used to control them in order to be heard leaves little space for honest emotional expression (Corbin et al., 2018). Although Sue and colleagues (2019) identified microinterventions to achieve visibility (e.g., educate the microaggressor and utilize external resources), strategies for integrating emotions to initiate change remain long overdue.

Microaggressive experiences, the emotions that arise, and subsequent reactions need to be named to help generate solutions, rather than polarize those involved (Almond, 2017). Imposter syndrome, for example, describes the belief that one lacks the competence, regardless of merit, to occupy professional and prestigious spaces (Clance & Imes, 1978). On the Psychology Today website, Hendriksen (2017) listed ways to combat imposter syndrome, the first step being to normalize the associated feelings. Much like racial battle fatigue and self-policing, imposter syndrome can be self-perpetuating (e.g., women in medical school might soften their edges to not appear overly ambitious), but this equates to misperceptions about their competence (Mullangi & Jagsi, 2019). The disease is inequality and imposter syndrome, much like microaggressions, is a symptom; both require increased representation and systemic change (Mullangi & Jagsi, 2019).

### The Changing Composition of Psychology

Actions to increase discourse and diversity in higher education persist in the United States. The American Psychological Association's Education Directorate reported in 2019 that the enrollment of women in psychology graduate programs has

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steadily increased to 73% in the last ten years. An update to the 1995 APA Task Force Report on the Changing Gender Composition of Psychology denoted the sociopolitical forces that contribute to an increase of women entering psychology (APA, Committee on Women in Psychology, 2017). These include legislation pertaining to workforce discrimination, disabilities, and medical leave as well as the nation's persistent need for mental health services in relation to war and violence. The rate of enrollment growth has been even more pronounced over the last 10 years for some students of color: Asian/Pacific Islander students by 19%, Hispanic students by 57%, and African American/Black students by 77% (APA, 2019). Although the overall 63% increase among ethnic and racial minorities earning a postgraduate degree seems promising, 69% of all doctoral degrees are awarded to White women, and this had decreased among Native American students by 42% (APA, 2019).

The composition of psychology professionals has diversified at the organizational level. From 2014–2019, five out of six APA presidents have been women and/or people of color (APA, n.d.a). Within APA, the Office of Ethnic Minority Affairs issues guidelines, policy statements, and resolutions on relevant topical issues, including the recruitment, retention, and training of students of color (APA, n.d.b). The APA's Committee on Women in Psychology also plays an advisory role, helping to create programming and resources (e.g., task force reports) to ensure that women and people of color thrive within the discipline (APA, n.d.c).

Although there has been growth in representation for psychology graduate students with diverse cultural identities (e.g., gender, class, sexual identity, race, ethnicity), and even some in terms of organizational leadership, there has been a lag in diverse growth and representation for faculty members and supervisors. Most faculty within health service psychology (i.e., clinical, counseling, school psychology) identify as White (79.3%), and nearly half identify as male (46.1%; Office of Program Consultation and Accreditation, 2015). Conversations around the changing composition of psychology ought to be mobilized through publicity and citations in peer-reviewed literature (APA, Committee on Women in Psychology, 2017). Studying the changing gender and racial composition of the discipline, as well as related intersected identities, is necessary to understanding how people, training, and education are impacted (APA, Committee on Women in Psychology, 2017).

## **The Present Study**

Despite psychology becoming more inclusive and conscious of its changing composition, microaggressions have a large purview from which no field is excluded. Disparities in representation between graduate students, early career professionals, and their superiors makes the very discipline that coined microaggressions susceptible to their occurrence. Those who experience microaggressions may also perpetuate them (Almond, 2017), meaning women within psychology can perpetuate microaggressions among one another. Microaggressions reinforce feelings of inadequacy in educational settings (Young et al., 2015) and can occur on the premise of religion (Haque et al., 2018), race (Lewis et al., 2013), sexual orientation (McCabe et al., 2013), gender (Barthelemy et al., 2016), and multiracial identities (Nadal et al., 2011). Microaggressions wear away at cognitive resources and bear individual, as well as organizational effects over time.

Microaggression theory delineates a taxonomy of microaggressions, both interpersonal and environmental, with damaging mental and physical effects, capable of being captured with objective measures (Sue, 2010). Because microaggressions are a form of stress, the present study was informed by resource conservation theory, which acknowledges that responses to stress are equally shaped by environmental and individual factors (Hobfoll, 1989). Also grounded in social and feminist psychology, the present study asserted that social structures perpetuate uneven distribution of power and privilege by gender, race, and other intersecting identities (hooks, 2000). Finally, to integrate these theories into our analysis, we applied feminist research methods. Our line of inquiry was inductive and amplified the voices of women to balance the power dynamic between researcher and participant (Harnois, 2013). This qualitative investigation used a coding reliability approach to thematic analysis (Braun et al., 2018) to identify and describe the intersectional microaggressive experiences, emotions, and reactions of women across the United States who were (a) enrolled (full-time) in psychology PhD programs or (b) within 10 years of completing their PhD in psychology (i.e., early career professional).

## **Methods**

### **Participants**

Participants ( $N = 264$ ) were self-identified women and completed the open-ended questions in the

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**TABLE 1**
**Participants Areas of Expertise**

Frequency (n)	
Applied social and health psychology (ASHP)	3
Behavioral science (Experimental psychology)	2
Clinical neuropsychology	2
Clinical psychology (including 1 PhD specified)	68
Clinical psychology (PsyD) including neuro and forensic	11
Clinical psychology with health emphasis	1
Clinical - school combined	1
Cognitive and brain sciences	3
Combined counseling and school psychology	2
Counseling psychology (unspecified degree)	21
Counseling psychology (PsyD specifically)	3
Developmental/lifespan	6
Educational psychology	3
Health psychology	3
International psychology	2
Media psychology	1
Neuropsychology	1
Industrial/organizational psychology (I/O)	6
Quantitative	1
School psychology	3
Social psychology	3
<b>Total</b>	<b>146</b>

**TABLE 2**
**Participant Racial and Ethnic Background**

Race/Ethnicity	Frequency (n)
African American	2
American Indian	1
Asian	4
Asian (specified: Chinese)	2
Biracial: Asian and White	2
Biracial: Caucasian and African American	1
Biracial: Caucasian and Asian	1
Biracial: Caucasian and Black	1
Biracial: Caucasian and Filipino	1
Biracial: Caucasian and Indian American	1
Biracial: Caucasian and Mexican	1
Biracial: Caucasian and Native American	3
Biracial: Hispanic and White	2
Black	5
Black American	2

Note. Table continues on next page.

survey. They represented 146 doctoral students (55.3%) and 118 early career women (44.7%) in 43 states and 19 disciplines within psychology (see Table 1). Most participants self-identified as White ( $n = 118$ ; 44.7%; see Table 2 for full race/ethnicity demographics) or European American ( $n = 57$ ; 21.6%), spoke English as a first/primary language ( $n = 248$ ; 93.9%) and identified as heterosexual ( $n = 194$ ; 73.5%). Of those in the LGBTQ+ community, 37% ( $n = 26$ ) reported to be out in the workplace and/or at school and 47% ( $n = 33$ ) reported to be out “for some people and in some situations.” Respondents with children represented 16% of our sample ( $n = 43$ ). Six respondents (2.3%) were international students, and 10 respondents (3.8%) were citizens of countries outside of the United States. Early career professionals identified their work environments as academic teaching ( $n = 21$ ; 8.0%), academic research ( $n = 7$ ; 2.7%), academic counseling ( $n = 14$ ; 5.3%), clinical private ( $n = 13$ ; 4.9%), clinical public ( $n = 28$ ; 10.6%), and clinical government ( $n = 18$ ; 6.8%) settings (see Table 3).

**Procedure**

To recruit participants, members of the research team identified primary contacts for all student and early career professional divisions of the American Psychological Association. After institutional review board approval (#2016-0918) was given, the team contacted student and early career professional representatives of these divisions between November 2016 and May 2017. Recipients were invited to share the survey information and hyperlink to colleagues in their social networks who may also be interested in participating. Prior to beginning participation, all recipients received informed consent information regarding risks and benefits, as well as the voluntary and anonymous nature of the survey. Consent was provided by proceeding and completing the survey.

The open-ended questions used in the current investigation were included in a larger survey regarding the workplace experiences of women doctoral students and early career professionals in psychology. Three open-ended questions were used for this study: experiences of microaggressions (i.e.: “Describe one situation [or more] where you may have been subtly discriminated against because of aspects of your identity [such as race, gender, sexual orientation, age, mother-status, disability, religion, and/or any combination of these]”), emotions associated with such microaggressions (i.e.: “How did you feel after the event?”), and reactions to

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the microaggressions (i.e., “How did you react in this situation?”). All questions used a short essay format, in which participants could respond to their desired length.

### Coding and Interpretation

#### *Microaggression Experiences*

The research team members created a coding sheet of predetermined codes (Creswell & Creswell, 2018) that included definitions of each microaggression type (i.e., microinsult, microinvalidation, microassault, and environmental) informed by Sue’s (2010) literature (see Appendix). The coding sheet also included examples of microaggressions from previous research studies (Barthelemy et al., 2016; Haque et al., 2018; Lewis et al., 2013; McCabe et al., 2013; Nadal et al., 2011; Young et al., 2015). This sheet was used to code responses to the question: “Describe one situation (or more) where you may have been subtly discriminated against because of aspects of your identity (such as race, gender, sexual orientation, age, mother-status, disability, religion, and/or any combination of these).”

Achieving consensus is an evolving process and moves beyond relying on statistical calculations alone (Syed & Nelson, 2015). To increase reliability, the current research team independently familiarized themselves with the data and coded responses for the four microaggression types, using the predetermined coding system (Creswell & Creswell, 2018). They used debate-and-defer methods for inconsistencies to reach a consensus on the data. In other words, a primary coder, with expertise in microaggression research, finalized all coding for this variable on the entire data set. This process was preferred to reliability statistic calculations. Fleiss’ kappa can be suitable for data coded by four raters, but as the number of categories increases, the statistic drops significantly (Landis & Koch, 1977). Additionally, during the debate and defer process, the team agreed to code responses with more than one theme when appropriate (e.g., long responses), and this would not have emerged from an interrater reliability statistic. Furthermore, interrater agreement in previous qualitative microaggression research was found to be either fair to moderate (Young et al., 2015), or not calculated at all (Barthelemy et al., 2016; Lewis et al., 2013; Nadal et al., 2015).

#### *Open Coding for Emotions and Reactions*

After reading all qualitative responses to the question, “How did you feel after the event,” each

researcher independently identified themes for emotions that emerged from the data. That process was repeated a final time to identify themes for reactions (i.e., responses to “How did you react in this situation?”). The researchers conferred

**TABLE 2, CONTINUED.**

<b>Participant Racial and Ethnic Background</b>	
Race/Ethnicity	Frequency (n)
Black European African	1
Black/African American	1
Black/Caribbean American	1
Caucasian	57
Chinese and Japanese	1
European American	2
Filipino	1
Hispanic	3
Hispanic, Caucasian	1
Hispanic/Latina	1
Hispanic/Mexican	1
Indian-American	1
Jewish	1
Korean	1
Latina	1
Latina (specified: Mexican)	5
Latina/Asian	1
Latino	1
Mexican American	1
Mexican American and White	1
Middle Eastern	1
Mixed race - European/South Asian	1
Native American/White	1
South Asian	3
South Asian (specified: Indian)	1
White	118
White (Non Hispanic)	9
White (Non Latino)	1
White American	2
White and Indian-Asian	1
White, American Indian	1
White/Ashkenazi Jewish	1
White/Caucasian	3
White/European American	5
White/Jewish	2
White/Middle Eastern	1
White/Norwegian+Euro-mix	1

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to discuss their lists of themes for each variable. Original wording was retained and used to name each theme, which was integrated into two lists after arriving at a consensus. Using the coding sheet, comprised of the 11 categories of emotions, and another with the seven types of reactions, each researcher independently coded the responses for a second time. Following this method of coding, the team met again to confirm the suitability of the themes. Researchers agreed to allow responses to be coded across categories/types and primary coders, each with a background in counseling, finalized coding for the emotions and reaction variables.

## Results

### Microaggression Experiences

A total of 282 unique microaggressions were described by 261 participants (see Table 4). Of those, microinsults were the most prevalent type, described by 69.3% of women in the sample. Microinsults included responses such as, “[I] was told by my professor that he was ‘injecting me with empowerment’ after I expressed that I felt unsure of myself in a new role.” Another participant described the following situation around her sexual

orientation: “When planning on being authentically me at the office, there were some who wanted to have a committee meeting, without consulting me, to give their input about how I should come out and present myself in the office.” Other such instances included identities such as motherhood: “A faculty mentor used my motherhood status as a scapegoat for unfinished work (e.g., papers were not written/submitted) when in fact they have been holding up projects for months.” Another woman stated that others “made assumptions about future goals, such as having children/trying to get pregnant. For example, ‘You must be thinking about having children soon.’” Examples about race included, “There are very few Asian American women in my place of work, and I have been mistaken for another person numerous times (even though she actually no longer works in the department).” Concerning gender, one woman stated, “I am not allowed to use my male client’s first names or shake their hands while other male staff can.”

Microinvalidations were reported by 35.2% of women and included responses such as:

A gay male colleague misunderstood my request not to be included in addressing female people as “ladies” as a feminist complaint about the use of the word ladies. Despite me correcting him, he continued to bring up that I “don’t like the term ladies” rather than what I had explained that this just doesn’t fit for me—I don’t identify as a “lady”.

One participant stated:

I expressed that I was dealing with a personal stressor impacting my job of having car trouble, which has a very large impact on my life due to my socioeconomic status. My supervisor, who is of a higher SES, dismissed my problem as insignificant, stating something along the lines of, “Well that’s nothing...”

Another participant described:

I have chronic pain in my legs, and I will often shake them in order to reduce the discomfort. This is often interpreted as anxiety in my therapeutic work and pointed out as indicating something negative in my work or affect that I am not able to handle appropriately.

TABLE 3

### Participant Work Setting

Workplace setting	Frequency (n)
<b>Academic—counseling</b>	<b>14</b>
Academic—hybrid (four-year liberal arts college)	1
Academic—research and teaching	3
<b>Academic—researcher</b>	<b>7</b>
Academic—teacher, supervisor, administrator, researcher	1
<b>Academic—teaching</b>	<b>21</b>
Academic medical center/children’s hospital	1
Clinical—academic medical center	2
Clinical—community agency	1
<b>Clinical—government</b>	<b>18</b>
<b>Clinical—private</b>	<b>13</b>
<b>Clinical—public</b>	<b>28</b>
College counseling and private practice	1
Government—clinical researcher	2
Not employed	1
Post-doc school of medicine	1
Post-doc with academic/research and clinical/medical school obligations	1
Researcher/psychometrician in testing department at textbook company	1

Note. Bold = choices, nonbold = other (specified) category

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One participant reported:

While in graduate school I told a professor I would have to miss a class twice in a semester due to a religious holiday. He basically told me that I had to make a decision between committing to the class or missing [class] based on my religion.

Microassaults were reported by 9.2% of participants in the sample. One woman described her experience by stating:

I had a clinical supervisor find out that I identify as an atheist and he had a very strong, negative reaction...and would sometimes text my cell phone on random occasions. An example of this was a (seemingly) joking text around Easter: "Happy Easter, oh wait, you're a heathen!"

Another participant shared:

The next day after the 2016 Presidential Election, I had a coworker scream to my face "Trump 2016." I am the only person of color in my office. Nobody asked if I was okay and nobody said anything to the White man who screamed that to my face.

One participant noted:

One of my female professors in my academic program was openly hostile in her interactions with me, even during class discussions. This treatment was so evident, my classmates noticed, and it became an on-going "joke" among all of us in my cohort.

Environmental microaggressions were described by 6.9% of the participants in this sample. This included situations such as being, "excluded from the group/social activities that are planned at times or in venues that prevent me from attending (e.g., during religious holidays/Sabbath, revolving exclusively around alcohol) without any efforts to schedule at other mutually acceptable times." Another participant shared, "Our department is made up of older, White men who are mentoring younger, ethnically diverse women. While attention to diversity is a stated goal of my program, I believe there are many unaddressed underlying assumptions and biases." One participant simply stated there to be, "massive gender-based salary discrepancies." Lastly, 3.4%

of women reported not having any experiences of microaggression.

### Emotions Related to Microaggressions

Eleven themes were identified among 257 women when asked how they felt following a

**TABLE 4**

#### Types of Microaggressions Reported

Type	n (% of women)	Definition	Participant Responses
Microinsult	206 (69.3)	Behaviors and/or statements conveying rudeness, insensitivity, or are demeaning to a person's identity	<p>"Faculty have asked if I need help with difficult students because I may be more likely to be taken advantage of as a small female instructor."</p> <p>"Boss made a joke that implied I should not get pregnant while working for him."</p> <p>"I was asked to attend a [presentation] in which women were told they needed to apply for more awards and this is why more men are getting awards in our graduate school."</p> <p>"On my internship I was the only intern of color. It was assumed by the director of the clinic that I spoke Spanish despite the fact that I do not."</p> <p>"[I was] told by a colleague he didn't understand why a gay pride flag was needed."</p>
Microinvalidation	85 (35.2)	Verbal comments and/or behaviors that exclude, negate, or nullify a person's experiences or reality	<p>"Not sure if this counts... [I] was talking about a time where someone tried to inappropriately touch me and was asked some pretty insensitive questions about it. Most of the topic was related to Trump's comments about 'grabbing women by the pussy' ...as someone who has had this happen to her, it's infuriating when these comments were made light of or brushed off as guy-talk."</p> <p>"I have been asked if I got pregnant on purpose and why I would choose to get pregnant in graduate school by a peer..."</p> <p>"I am chair of a subcommittee with two senior male colleagues. They have repeatedly made decisions without me and failed to respond to my email communications."</p>
Microassault	67 (9.2)	Explicit verbal and/or nonverbal attacks that hurt, such as avoidance, name calling	<p>"I was given a review after my first year and it leaned heavily negative. My children were identified as 'liabilities,' and I was accused of 'barely passing,' then told my humor is appreciated. At the end of the review, it stated that it was a pleasure to have me in the program."</p> <p>"I used to have a boss who would give my male colleague credit for my work."</p> <p>"When I first found out I was pregnant and had to tell our academic dean, he made some remark about how 'most faculty plan ahead for pregnancy and bank classes!'"</p>
Environmental microaggression	13 (6.9)	Any of the three types above, <u>except</u> manifested in systems or structures	<p>"Expectations to have material and financial resources for dress codes, supplies, electronics, etc. Expectations to dress/look a certain way or have nicer clothing/handbags as a woman."</p> <p>"Nothing overt, just generally seeing most major roles (e.g., chair) being held by men."</p> <p>"Assuming everyone is available to participate in work-related activities in the evening."</p>

TABLE 5			
Themes for Reactions to Microaggressions			
Reaction Theme	n (% of women)	Examples	Participant Responses
Silenced	109 (42.9)	Ignored, remain silent, do nothing, brush it off, shut down, demoralized, swallowing pride	<p>"I didn't say anything, although in hindsight, I wish I had."</p> <p>"After consultation with my woman supervisor, we decided the best thing for me to do was to get through the semester with the least amount of distress as possible. This meant keeping quiet about things that bothered me that I normally would bring up in supervision. And this is because speaking up did not prove to be an effective problem-solving strategy."</p> <p>"Not much that can be done as it is coming from leadership and I'd like to keep my job. They do not see that they are doing this or acknowledge it could be possible."</p>
Addressed	91 (35.8)	Reported to supervisor or Human Resources	<p>"Spoke with my disability director and replied professionally to the professor. I explained and reiterated in my responses that I am a responsible student who does not take advantage of the system, and makes efforts to communicate when I have issues."</p> <p>"I confidentially spoke with a Human Resources representative to ask how I might be able to protect myself should the comments turn to actions that imperiled my job contract."</p> <p>"I told the white man: 'I am not saying that you cannot say that, but I am going to ask you to not say it around me. It is very triggering for me.' The white man apologized and said 'it was a joke.' NO. I refuse to stay silent."</p>
Emotions	63 (24.8)	Anger, hurt, ashamed, guilty	<p>"I was hurt and felt ashamed of not only coming out, but also my sexual orientation in general."</p> <p>"I was devastated."</p> <p>"It made me extremely sad and angry on an emotional level."</p>
Social support	33 (12.9)	Seek support from personal or professional network	<p>"Although these events may have made me angry or discouraged, typically I would seek out other female doctoral students to vent."</p> <p>"As this is hard to effectively observe and describe without belittling a male colleague, I have not addressed this in professional settings, rather I have discussed this privately with other female professionals."</p> <p>"I stayed connected with my training director, who has been wonderfully supportive during this process, and she helped me navigate the office politics."</p>
Conformed	27 (10.6)	Complied, smiled, changed behavior to meet demands	<p>"I always just change my behavior so it fits the needs of the men."</p> <p>"Took out more loans to afford wardrobe."</p> <p>"I was forced to swallow my pride and apologize for the situation (even though I felt that I had done nothing wrong) and promise that I would never act that way in the future."</p>
Passive response	24 (9.4)	Feigned appreciation, laughed it off, used humor, passive aggression	<p>"I feigned appreciation that she had thought of my 'different needs.'"</p> <p>"I laughed because I don't like to make other people feel uncomfortable; however, internally my blood was boiling."</p> <p>"I usually respond passive-aggressively when these situations occur with supervisors. I often do not respond verbally, but do give facial expressions and other nonverbal cues to show my distaste."</p>
Not Applicable	9 (3.5)		

microaggressive experience. The emotions reported were labeled using direct quotes from participants, and alongside these themes are the responses coded by the research team as belonging to each said category. The most common theme pertained to "anger and frustration" (47%), which included descriptions of feeling "pissed," "irritated," "bothered," "annoyed," "agitated," and "disgruntled." "Disappointment and sadness" (42%) was the second theme; participants who endorsed this theme reported feeling "hurt," "discouraged," "disheartened," and "hopeless."

The next five themes were endorsed by approximately 1 in 10 participants. "Disrespected and excluded" (12%) included feelings of being "othered," "alienated," or "tokenized." "Discomfort or fear" were endorsed by 12% of participants, who used words ranging from "uncomfortable" and "weird" to "anxious" and "horrified." "Powerless" (11%) was the fifth theme, and included responses such as "invisible," "overlooked," "dismissed," and "silenced." Several respondents also endorsed feelings of "empowerment" (11%), which were typically associated with interactions following the microaggression. Such feelings included "vindication," "gratitude," "happiness," "validation," "support," and "determination." Feelings of "distrust and uncertainty" were reported by 10% of participants, who often noted feelings of "apprehension," "hesitant" to work with the microaggressors in the future, or changes in motivation. Less common themes included "indifference" (7%; "I am used to this feeling"), "embarrassment" (6%; "humiliated," "ashamed"), "shock" (4%; "stunned" and "surprised"), and "exhaustion" (2%; "tired" and "exasperated").

### Reactions to Microaggressions

A total of 254 women reported their reactions to the microaggressions (see Table 5). The most commonly identified reaction, or theme analyzed, to microaggressions was being "silenced," disclosed by 42.9% of participants, which included women who said they ignored the microaggression, brushed it off, or remained silent. More than one-third of participants (35.8%) reported that they "addressed" the microaggression, whether formally (e.g., Human Resources, HR) or with the microaggressor directly. The third theme pertained to "emotions," which were reported by 24.8% of participants. Such emotions included anger, hurt, shame, and guilt.

In addition to the themes noted above, 12.9% of participants processed the interaction with others



to obtain “social support” from peers or supervisors. Some participants (10.6%) reported that they “conformed” their behavior to meet demands, whereas 9.4% indicated that they provided a “passive” response such as feigned appreciation, passive-aggression, or a humorous comment. Lastly, 3.5% of women noted “not applicable” reactions due to self-report of not having experienced microaggressions.

## Discussion

The purpose of this investigation was to highlight the microaggressive experiences of women emerging in professional psychology, specifically doctoral students and early career professionals, and call for collective action from within the discipline. Women endorsed experiencing various types of microaggressions based on their gender identity, race, ethnicity, religion, motherhood status, sexual orientation, and ability status. More than two-thirds of participants described experiences of microinsults, typically appearing as rude and/or insensitive comments regarding cultural and/or gender identity. The high frequency of insults may speak to how stereotypes about some groups of people are embedded or normalized. For example, in previous research, LGBTQ+ based microaggressions were perceived far less frequently among school psychologists than among students, even when defined and operationalized identically in the same setting (McCabe et al., 2013). The ubiquity of heteronormative attitudes, as well as anti-Muslim attitudes and gender stereotypes among psychologists, has been documented. Haque and colleagues (2018) noted the pervasiveness of Muslim stereotypes; when clinicians interact with Muslim clients, they can assume monolithic experiences and come across as rude, insensitive, and invalidating. Like reports of women being ignored in other postgraduate programs and disciplines (Barthelemy et al., 2016), one-third of women in the present study described similar experiences of microinvalidation in the form of being overlooked.

Nearly half of the women (47%) in the study reported frustration, irritation, annoyance, and anger in the face of microaggressive experiences. As Gilligan (1982) noted, anger is both personal and political, and is an appropriate reaction with valid feelings in response to these situations. Anger is an adaptive response in which participants recognize the context of the situation. Feelings of disappointment, hurt, sadness, discouragement, and defeat were also frequently reported by participants. These emotions may signify disappointment in the

organization and the environment; participants likely know things should be different (e.g., stigma consciousness) and expect more within the field that coined microaggressions.

When asked how women reacted to their experiences of microaggressions, 43% of women indicated that they remained silent. This response may be adaptive in situations with power differentials, particularly for women at the beginning of their professional development journey. Women in this study may have engaged in self-policing (Corbin et al., 2018), perhaps in part due to gender role expectations or in avoiding a negative stereotype regarding their cultural identity. Their silence in these situations may also reflect energy conservation for those in graduate school or early stages of their career, as one woman reported “after consultation with my woman supervisor, we decided the best thing for me to do was to get through the semester with the least amount of distress as possible.” Silence may have also been unintentional and an automatic response to the power differentials at play, as some women expressed regret after remaining silent: “I didn’t say anything, although in hindsight, I wish I had.”

One-third of women spoke up, the majority of which (80.4%) directly confronted the microaggressor, while the remainder (19.6%) spoke to allies, such as a supervisor or an HR representative. Some women described nuanced behaviors dependent on the relationship that they had with the microaggressor. As one participant stated, “I usually respond passive-aggressively when these situations occur with supervisors...When similar situations occur with peers, I will often draw attention to the situation in the most respectful way possible.” Many noted that they took steps to be “polite” or “gentle” while taking on the burden of educating supervisors, faculty, or peers, while others expressed not knowing how or not feeling safe enough to address it. Women also sought support from other women and peers (12.9%) who were able to understand or validate their experiences. This finding echoes the women from research by Lewis et al. (2013), who emphasized the importance of coping with social networks and having a life outside of school.

## Strengths and Limitations

### *Strengths*

Strengths and limitations should be taken into consideration before framing findings within the larger body of literature. The research team was comprised of four women: a doctoral student and

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three early career professionals, with expertise in health, social, counseling, and sport psychology, as well as representation within academic and practitioner work environments. Identities represented within the research team included: Black, woman, mother, LGBTQ+, immigrant, Latina, and White. This well-rounded representation allowed for considerations from numerous viewpoints to inform the research process.

The current study was conceptualized with an intersectional feminist lens and guided by the Feminist Code of Ethics (Rave & Larsen, 1995), APA Multicultural Guidelines (2017), and feminist qualitative methods. An active stance against oppression (Rave & Larsen, 1995) was combined with methods that contextualized experiences (APA, 2017) and kept marginalization at the center of analysis (hooks, 2000). The research team challenged the conditions of a discipline that values social justice and interpreted individual responses as sociopolitical revelations. The methods process was more dynamic than it was linear, which served as a strength to the study; rather than taking a subsample of the qualitative data, as some may suggest, all data was used in order to have all voices represented.

Another strength included the number of participants gathered and the representation across disciplines. This sample and our findings illuminate the regularity that microaggressions occur within a field that champions diversity and inclusion. The sample is also representative of the field, thus highlighting not only the generalizability of findings, but also a greater systemic issue regarding diversity within.

### **Limitations**

Even our best attempts of recognizing intersectionality revealed our privileges and biases. We failed to invite participants to address their socioeconomic status; however, some participants did provide such examples within their responses. As Brim (2018) noted, the studies that formulate a particular theory are often from institutions with ample material and structural resources, but are inadequate in terms of serving underrepresented students. Although graduate students share the privilege of being in higher education, their variability in resources as well as institutional tier were not captured.

### **Implications for Change**

A person's role within an organizational hierarchy contributes to their appraisal of a situation as microaggressive. It also shapes their response and

allocation of resources required to cope and to thrive (Hobfoll, 1989; Lazarus & Folkman, 1984). Although cognitive capital is needed to convert emotions and responses into larger social change, its availability, or lack thereof, reflects the deficits of a system, rather than an individual. It is up to each person to determine which response is best for them at any given time. For example, it could be explained that women in our study sought validation from others because microaggressions work to invalidate an individual. It could also be explained that women were silent in the face of microaggressions in an environment lacking representation.

As researchers, it was paramount for the team to interpret the data within the context of empowerment. The research team thoughtfully consulted previous research to avoid reinforcing the narrative that legitimate emotions and dissonance are deficits. In keeping with this approach, data about women's reactions were interpreted as resilient and strategic resource conservation. By reframing what are often experienced as negative emotions, individuals can mitigate their distress and frustration within a work environment (Wolf et al., 2016). Attributes like passion, wanting to change the status-quo, and being socially conscious are all desirable, but are often accompanied by negative emotions.

Although representation of marginalized groups among faculty and supervisors within psychology graduate education has yet to reach parity, creating supportive and inclusive learning and working environments remains critical for assuring progress as a discipline. Lack of representation within a field, combined with stigma consciousness, reduces feelings of trust and belonging, particularly for Black women (Pietri et al., 2018); but increased representation and allyship help to resolve those issues. Stigma consciousness among students and faculty is a tool that can work to identify, address, and potentially decrease microaggressions. Although it remains unclear whether an organization's increased consciousness around discrimination is protective of microaggressions (Proctor et al., 2017), we do know that elements of academia produce its own type of hierarchical microaggressions (Lewis et al., 2013). We encourage researchers to use our findings to test social psychology theories pertaining to prejudice, stereotyping, and discrimination to understand the nuances of microaggressions.

Transtheoretical model theorists (Prochaska & DiClemente, 1982) noted that, as a person or organization changes, self-efficacy increases. Much like stigma consciousness, self-efficacy is a tool

for initiating change and was evident in our data, specifically within the reactions to microaggression. Many women confronted their microaggressor, while others reported it; both suggest an efficacious approach, especially given hierarchical and resource restraints presented to graduate students and early career professionals. Responses indicated processes of both self-evaluation and environmental re-evaluation, which relate to a readiness for change (Prochaska & DiClemente, 1982). As one participant stated:

I do not believe that my colleagues have pursued the appropriate training to address matters of diversity in a thoughtful, articulate, or productive manner. I feel alone and unsupported in my advocacy efforts. I am in the process of searching for a new job.

Another expressed, “after processing this, I now feel more empowered to speak up and against people who want to invalidate my identity. I simply won’t put up with that anymore.” By connecting these responses to the transtheoretical model, researchers can articulate the adaptive nature of women’s responses as readiness for change.

### **Future Directions for Psychology**

Much like the women in the research of Corbin and colleagues (2018), women in the present study engaged with the culturally constructed stereotype of a woman when reacting to a microaggression, one that has historically been used to control. For many women in our study, silence, politeness, and being gentle were reactions to microaggression. Anger and frustration arose but were not always expressed (i.e., self-policing). Many responses were affiliative, social, and demonstrated the pursuit of allyship, much like the women in the research of Lewis and colleagues (2013). Some women pursued justice using the resources available to them, as suggested in the microaggression literature (Sue, 2019); whereas others were regretful for their silence and maintenance of the very stereotypes they were trying to dismantle (Corbin et al., 2018).

Perhaps the ultimate service to our discipline is being performed by women of color serving as both role models and allies, without guidance or compensation. These women have created supportive networks using their most precious resource: themselves (Lewis et al., 2013). To ask that they also lead the charge on investigating “how to cope” is another instance that warrants anger

within an organizational culture that discourages its expression. Inclusion and diversity dialogue needs to prevent racial battle fatigue and include those at the top of the hierarchy (i.e., faculty members, supervisors) as they are more underrepresented at their level than are graduate students. But when a structure maintains barriers for women and people of color, it is discouraging and its dismantlement is exhausting (Smith et al., 2006).

Organizational change must move beyond knowledge acquisition, and toward the incorporation of skills. Those in power need to give more than “lip service” as agents of social justice (Koch et al., 2018). Cultural humility incorporates a lifelong commitment to self-evaluation and critique and incorporates an interpersonal stance that is other-oriented, rather than self-focused (Hook et al., 2013; Tervalon & Murray-García, 1998). Ahmed (2012) expressed, “[there is a] gap between symbolic commitments to diversity and the experience of those who embody diversity” (p. 256). In other words, to embed equity within an institution, we must place it within the organizational flow. Individuals need to view their profession as welcoming and responsive to their needs (Proctor et al., 2017). The future of psychology calls for the cultural adoption and complete support of authentic emotional expression in the education and work settings of emerging psychologists.

### **Conclusion**

Ultimately, this research affirms the microaggressive experiences of women emerging in psychology and brings to light their emotions and reactions: an area of research that has been underexplored yet is rich with possibility. Within the very profession that coined microaggressions, women are navigating organizational hierarchies and receive training that is uninformed by their personal experiences or adequate representation. Our research challenges organizational structures within psychology to closely examine whether graduate students and early career professionals feel embraced by the field. Psychology has lagged in the production of self-reflective research and dialogue, omitting the bidirectional nature of microaggressions that are experienced and perpetuated. These instances cannot be ignored, and solutions require organizational efforts that support the autonomy and emotional expression of its members. Humility needs to be continuously emphasized and practiced within the education, training, and work environments of psychologists.

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**APPENDIX**

**Microinsults:** Behaviors and/or statements conveying rudeness, insensitivity, or demeaning to a person's identity. Represent subtle snubs, frequently unknown to the perpetrator, but clearly convey a hidden insulting message to the recipient.

- "What are you?" "You speak well/Your English is good."
- "Older people can't use cell phones."
- "Doesn't your hijab bother you in the summer when it's hot?"
- Ignoring/refusing requests for pronoun use with transperson "He's a he not a she."
- Showing signs of discomfort by avoiding eye contact, handshakes, or warm/open body language for one group of people, but not for others. Being less receptive or dismissive to comments expressed by members of minority groups.

**Microassaults:** Explicit verbal and/or non-verbal attacks that hurt, such as avoidance, name calling, or purposeful discriminatory actions. Most likely to be conscious and deliberate.

- "Those people are all terrorists."
- Terms like "grumpy, old geezer, kiddo, or baby."
- Using phrases like "dyke or faggot."
- "Go back to your country."
- Excluding people from group functions or displaying clear preference for some people while ignoring/avoiding others (e.g., serving others first, responding to questions for one group but not for an other).

**Microinvalidations:** Verbal comments and/or behaviors that exclude, negate, or nullify a person's experiences or reality.

- Denial of personal biases (transphobia, sexism).
- "Racism is a thing of the past."
- "We are all human beings."
- "Don't be so oversensitive" or "Don't take it so personally."
- "Mothering/parenting doesn't have to take away from your career/work."
- "Police are just doing their jobs and people are being too sensitive about brutality."

**Environmental Microaggressions:** Any of the three types above, except manifested in systems or structures.

Ways in which an organization, college, institution, or workplace is set-up that allows communicates messages of difference. Think of microaggressions or complaints about processes and systems that impact different identity groups. (e.g., NOT having lactation room/designated area for nursing mothers.)

# The Effects of Genre and Reading Difficulty on Narrative Transportation: The Mediating Role of Affect

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**ABSTRACT.** Stories offer a refuge from people's mundane troubles and commitments by immersing them in intricate fictional worlds. Narrative transportation, i.e., the feeling of being "lost" in the world of a story, has been found to be an important measure of involvement with narratives (Green & Brock, 2000). Numerous studies have examined the impact of literary fiction on readers' theory of mind, but the relationship between genre and narrative transportation remains relatively unexplored. Black and Barnes (2015a) proposed that exposure to literary fiction produces higher narrative transportation than exposure to nonfiction texts. The present investigation sought to replicate this finding while (a) measuring baseline trait empathy, (b) addressing a confound of genre and reading difficulty noted in prior work, and (c) assessing the mediating role of affect on the relationship between genre and narrative transportation. Empathy was positively correlated with narrative transportation,  $r = .39$ ,  $p < .001$ . Narrative transportation was higher for participants who read challenging fiction and nonfiction than for participants who read easy fiction,  $F(2, 891) = 5.79$ ,  $p = .003$ ,  $\eta_p^2 = .013$ . Positive affect, but not negative affect, mediated the effect of challenging versus easy text conditions on narrative transportation,  $b = -.16$ ,  $se = .04$  (95% CI  $[-.25, -.08]$ ). These findings suggest that narrative transportation may not be dependent on story genre, but rather on a given text's difficulty level and the positive emotions experienced while reading.

**Keywords:** empathy, literary fiction, narrative transportation, theory of mind, personality trait



Open Data badge earned for transparent research practices. Data are available at [https://osf.io/98buw/?view\\_only=05a4e91805a449c0a2251e212f6c5c85](https://osf.io/98buw/?view_only=05a4e91805a449c0a2251e212f6c5c85).

Literature invites humans to escape from reality and venture into the fantastic. Ancient and modern thinkers have repeatedly commented on the spiritually cathartic role of storytelling (Aristotle, 330 BCE/1970; Nussbaum, 1995; Oatley, 1999), and a body of empirical literature has emerged to underline emotions as a cardinal component of exposure to fiction (Mar et al., 2011; Miall & Kuiken, 2002). From a scientific viewpoint, the longstanding tradition of

reading books has been linked with a wide array of advantages in social skills (Kaiser & Quandt, 2016; Mar et al., 2006) and scholastic outcomes (Clark & Rumbold, 2006; Mol & Bus, 2011). For the present work, we sought to further scientific understanding of the mechanisms that draw readers into a text, building on studies that link reading fiction to increased empathy (e.g., Kidd & Castano, 2013). We embraced Kidd and Castano's (2013) definition of literary fiction texts as pieces of literature that

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have earned literary prizes and possibly attained classic status.

In an influential series of experiments, Kidd and Castano (2013) provided evidence that reading a piece of literary fiction yields higher theory of mind performance than reading a piece of nonfiction or popular fiction. These researchers measured theory of mind primarily through recognition tasks that mapped facial expression to affect (feelings), including the “Reading the Mind in the Eyes” Test (RMET; Baron-Cohen et al., 2001). Additional studies have corroborated this finding, showing that multiple forms of literary fiction increase performance on the RMET and related tests (Black & Barnes, 2015a, 2015b; van Kuijk et al., 2018) and boost self-reported empathy (Bal & Veltkamp, 2013; Djikic et al., 2013; Pino & Mazza, 2016). Several other studies, however, have failed to replicate these findings (Panero et al., 2016; Samur et al., 2017), whereas a meta-analysis recently suggested that literary fiction exposure results in statistically significant, albeit small, increases in social cognition (Dodell-Feder & Tamir, 2018).

Insofar as the meta-analysis (Dodell-Feder & Tamir, 2018) proposed that exposure to any piece of literary fiction confers at least some social-cognitive benefits, what mechanisms may underlie a reader’s absorption into a literary work? *Narrative transportation* refers to readers’ subjective experience of feeling “lost” or immersed in a story and, therefore, offers an important index of involvement with a narrative world (Green & Brock, 2000). Narrative transportation has been highlighted for its persuasive potential, but research has yet to indicate the extent to which it is related to genre. Thus far, there has been some evidence that literary fiction results in higher narrative transportation than popular fiction (Kidd & Castano, 2013; van Kuijk et al., 2018). Narrative transportation has also been found to have a moderating role in reading by increasing empathic concern in people assigned to read fiction rather than nonfiction (Bal & Veltkamp, 2013). Importantly, Black and Barnes (2015a) found that exposure to literary fiction produced greater narrative transportation than exposure to nonfiction did. Critically, however, multiple studies examining fiction (e.g., Panero et al., 2016; Pino & Mazza, 2016) have not included narrative transportation scales in their experimental designs, raising the question of whether narrative transportation consistently depends upon genre.

A second open question regards how empathy should be measured. Prior research on the

psychology of fiction (e.g., Black & Barnes, 2015a; Kidd & Castano, 2013; Panero et al., 2016) has focused predominantly on participants’ *state empathy* (i.e., how empathy might be affected momentarily by different text conditions) when *trait empathy* (i.e., empathy as an enduring predisposition) may be at least as important. Extensive work has centered upon the moderating role of enduring personality traits on the impact of fiction exposure—traits such as need for affect (Appel & Richter, 2010), need for cognition (Zwarun & Hall, 2012), and openness to experience (Djikic et al., 2013). Relatively few studies focusing on narrative transportation, however, have operationalized empathy as a stable multidimensional trait that encompasses cognitive and emotional components (Davis, 1983). Examples of studies that have approached empathy as a trait construct include correlational work showing a positive relationship between trait empathy and narrative transportation into films (Hall & Bracken, 2011; Taylor, 2015). Some existing work studying empathy as a function of narrative transportation into written pieces (Bal & Veltkamp, 2013; Johnson, 2012) has not considered key dimensions of empathy (e.g., perspective-taking), whereas other studies utilizing trait empathy scales (Djikic et al., 2013; Pino & Mazza, 2016) have not also approached narrative transportation.

Finally, one of the major criticisms mounted against Kidd and Castano’s (2013) seminal work is that those authors did not match text length or difficulty level across conditions (Panero et al., 2016). By comparing fiction pieces of varying levels of difficulty with consistently hard nonfiction texts, prior studies have created a confound of story genre and reading difficulty (Panero et al., 2016), thereby obscuring whether postreading measures indicate an effect of genre or simply the challenge of a given piece. Understanding the different ways in which genre and reading difficulty impact narrative transportation is important given the potential for those variables to generate different levels of enjoyment, a principal correlate of narrative transportation (Green et al., 2004). Following prior work that has highlighted the emotional aspect of fiction (Mar et al., 2011; Mar & Oatley, 2008; Oatley, 1999) and identified need for affect as a moderator in a narrative’s capacity to persuade readers through narrative transportation (Appel & Richter, 2010), we posited emotionality during reading to be highly related to the characteristics of a piece (i.e., genre, difficulty) and, thus, a key process in eliciting different levels of narrative transportation.

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### The Present Study

We aimed to replicate and extend Black and Barnes' (2015a) finding on narrative transportation, while approaching empathy as a trait construct. We placed major emphasis on how the confound of genre and story difficulty identified by Panero et al. (2016) may influence the impact of different fiction and nonfiction pieces on narrative transportation. In addition, we measured readers' affective reactions after reading and investigated how these reactions influenced their narrative transportation into narrative worlds with different levels of reading challenges. In short, the present study addressed limitations of prior work by (a) operationalizing empathy as a multifaceted trait variable rather than a transient state (Davis, 1983), (b) removing a confound of genre and story difficulty present in prior work (Kidd & Castano, 2013), and (c) assessing the mediating role of affect (i.e., participants' overall mood state; Watson et al., 1988) in narrative transportation.

The first hypothesis was that trait empathy would be positively correlated with narrative transportation (Hall & Bracken, 2011; Taylor, 2015). Second, we predicted that narrative transportation would be higher for participants assigned to read a literary fiction piece than for participants assigned to read a nonfiction piece (Black & Barnes, 2015a); we expected this to be the case regardless of the reading difficulty associated with each text. Third, we anticipated affect to mediate the effects of story genre on narrative transportation, building on literature that has discussed the affective component of narrative transportation (Appel & Richter, 2010; Green et al., 2004; Mar et al., 2011) and the reading experience more broadly (Mar et al., 2011).

## Method

### Participants

A power analysis conducted using G\*Power (Cohen's  $d = .22$ , significance level = .05, power = .80, between-subjects design, one-way ANOVA) indicated a required sample size of 267 participants per cell for the proposed study ( $N_{proposed} = 801$ ) across the three conditions (challenging fiction, easy fiction, nonfiction control). We collected a sample of 1,005 participants through the MTurk Toolkit platform offered by CloudResearch, each of whom were compensated \$2.00 (USD) for participating. The average time to complete the survey was 12.5 minutes. Participants ( $n = 111$ ) were excluded if they did not give at least 60% correct responses to the attention check questions, resulting in a final sample greater than our proposed power analysis suggested ( $N_{final} = 894$ ). Two hundred

eighteen respondents reported prior exposure to their assigned stories, but these responses did not change significance decisions for any tests, so these responses were included in the analyses.

Participants were evenly distributed across the challenging fiction, easy fiction, and nonfiction conditions ( $N_{CF} = 296, N_{EF} = 300, N_{NF} = 298$ ) and did not vary substantially across demographic variables. Ages ranged from 19 to 74 years ( $M = 37.4, SD = 11.5$ ; 57% men, 42% women, <1% nonbinary/preferred not to say). Participants were asked to check all racial categories that applied to them, resulting in a sample that was 75.7% White or European American, 11.0% Black or African American, 0.3% American Indian or Alaska Natives, 4.5% Asian, 0.0% Native Hawaiians or Pacific Islanders, 2.6% Latino/a/x, and 0.3% reported a different race. The remaining 5.6% of the participants reported multiple races or did not report any race. Lastly, participants reported the religious category that applied to them, resulting in a sample that was 17.3% Protestant, 12.9% Roman Catholic, 1.5% Christian Scientist, 0.8% Jewish, 0.8% Muslim, 0.6% An Orthodox Church such as the Greek or Russian Orthodox Church, 0.4% Seventh-Day Adventist, 0.2% Mormon, and 3.6% reported a different religion or preferred not to report their religion. The remaining 61.9% of participants reported that they did not identify with a religious tradition.

### Measures

#### Interpersonal Reactivity Index

The Interpersonal Reactivity Index (IRI) was developed by Davis (1983) to measure participants' levels of trait empathy. The scale contains 28 items that fall into one of four subscales. The cognitive subscales include Perspective-Taking and Fantasy, while the emotional subscales include Empathic Concern and Personal Distress. One example item from this scale is, "I often have tender, concerned feelings for people less fortunate than me." Participants rated these items on a 5-point scale, ranging from 0 (*does not describe me well*) to 4 (*describes me very well*). Davis (1983) reported internal consistency coefficients that ranged from .71 to .77. The Cronbach's alpha for the present study's entire scale was .88.

#### Spot-the-Differences Filler Task

The Spot-the-Differences filler task from All-Star Puzzles (www.allstarpuzzles.com) presented participants with two seemingly identical pictures of kitchen scenes and required them to identify as many differences between the two as possible in 1 min. In the context of this study, this exercise



was intended to mask the exact purpose of the manipulation by introducing a distracting study-irrelevant task and, therefore, lessening the degree to which the completion of the IRI would influence participants' reactions to their assigned narratives.

### **Narratives**

All stories were drawn from Kidd and Castano's (2013) series of studies and were roughly 1,000 words in length. To remove the confound of story genre (fiction, nonfiction) and readability in that work (Panero et al., 2016), we attempted to assess readability. Flesch-Kincaid Grade Level scores were calculated using Microsoft Word on the basis of word length and sentence length. Each narrative selected was equivalent to what students would be expected to read in the grade level (based on the education system in the United States) corresponding with its assigned score. In the challenging fiction condition, participants read an excerpt from *Nothing Living Lives Alone*, by Wendell Berry (p. 13, "ONE WARM spring Saturday afternoon [...] invested in it, and started back"; Flesch-Kincaid Grade Level = 9.0). In the nonfiction control condition, participants read an article from *Smithsonian Magazine* (*Bamboo Steps Up*, by Cathie Gandel; Flesch-Kincaid Grade Level = 10.0). In the easy fiction condition, participants read *The Chameleon*, by Anton Chekhov (Flesch-Kincaid Grade Level = 3.5). Thus, the challenging fiction and nonfiction control stories were pieces of high-school difficulty, while the easy fiction story was at an elementary grade-level.

### **Positive and Negative Affect Schedule**

In keeping with Kidd and Castano's (2013) original design, the Positive and Negative Affect Schedule (PANAS; Watson et al., 1988) was used to assess participants' state affect. They reported their current affective state by rating the degree to which they were feeling each of 10 positive emotions, such as "enthusiastic," and 10 negative emotions, such as "jittery," on a scale from 1 (*very slightly or not at all*) to 5 (*extremely*). Scores on the two 10-item subscales were averaged to compute a Positive Affect score (Cronbach's  $\alpha = .92$ ) and a Negative Affect score (Cronbach's  $\alpha = .95$ ). Watson et al. (1988) reported alpha reliabilities of .89 for Positive Affect and .85 for Negative Affect.

### **Narrative Transportation Scale**

Participants reported their reading experience on the Narrative Transportation Scale (NTS; Green & Brock, 2000). Specifically, they rated a set of 11 general items on a 7-point scale, ranging from 0 (*not at*

*all*) to 6 (*very much*). These items captured multiple facets of participants' reactions to their assigned story worlds, such as emotional engagement, attention, suspense, dissociation, and mental imagery. One example item of this scale is, "I wanted to learn how the narrative ended." Green and Brock (2000) reported a Cronbach's  $\alpha$  of .76. The Cronbach's  $\alpha$  for the scale in the present study was .79.

### **Attention Check Questions**

Participants answered five 2-choice questions that were related to the content of their assigned narratives by way of gauging their level of comprehension.

### **Demographic Questions**

Participants were asked whether they had been exposed to any of the assigned narratives prior to their participation in the study. Participants also answered questions pertaining to their age, gender, race, and religious tradition.

### **Procedure**

All study procedures and materials were approved by Davidson College's Human Subjects Institutional Review Board, and all APA ethical standards were followed. Participants read a consent form which stated that they were participating in a study about "individual responses to scenes and stories" to obscure the research questions and hypotheses. Participants checked a box, confirming that they were at least 18 years old and agreed to participate. They then completed the IRI (Davis, 1983) and the Spot-the-Differences Filler Task. Next, they were randomly assigned to one of the three story conditions (challenging fiction, easy fiction, nonfiction control) and asked to read the corresponding narrative. Participants completed the affect scale (PANAS; Watson et al., 1988) and the transportation scale (NTS; Green & Brock, 2000) after reading the narratives. Finally, there was an assessment of participants' comprehension of their assigned texts, familiarity with each narrative, and a brief demographic questionnaire prior to debriefing.

## **Results**

Table 1 shows significant Pearson correlations across study variables. In line with our prediction, there was a significant positive correlation between aggregate empathy scores on the IRI and narrative transportation scores,  $r = .39$ ,  $p < .001$ . Three of the IRI subscale scores (e.g., fantasy, perspective-taking, and empathic concern) were also independently and positively correlated with narrative transportation scores ( $p < .001$ ), but the

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personal distress subscale was not ( $p = .11$ ). The IRI subscale that correlated most highly with narrative transportation was fantasy,  $r = .40$ ,  $p < .001$ . These results supported the first hypothesis that trait empathy would be correlated with narrative transportation. In addition, there was a significant positive correlation between positive affect and narrative transportation,  $r = .53$ ,  $p < .001$ , whereas there was no correlation between negative affect and narrative transportation ( $p = .081$ ).

A one-way ANOVA investigating differences in mean narrative transportation scores across the three story conditions revealed a significant main effect of condition on narrative transportation,  $F(2, 891) = 5.79$ ,  $p = .003$ ,  $\eta_p^2 = .013$ . The effect size was small and the achieved power was acceptable ( $1 - \beta = .87$ ). Contrary to our predictions, a Bonferroni post hoc test indicated that participants who read easy fiction reported significantly lower narrative transportation ( $M = 4.03$ ,  $SD = 1.07$ ) than participants who read challenging fiction ( $M = 4.29$ ,

$SD = 0.97$ ,  $p = .008$ ), or nonfiction ( $M = 4.27$ ,  $SD = 1.01$ ,  $p = .013$ ). The mean-difference between challenging fiction and nonfiction readers was nonsignificant ( $p > .99$ ), indicating that narrative transportation did not differ across these groups. In other words, reading challenge level (rather than reading genre) was critical in eliciting narrative transportation.

We performed a second one-way ANOVA to examine potential differences in positive affect scores across the three conditions. Similar to the findings obtained for narrative transportation, this analysis yielded a significant main effect of condition on positive affect,  $F(2, 891) = 12.12$ ,  $p < .001$ ,  $\eta_p^2 = .026$ . The effect size was small, while the achieved power was nearly equal to one ( $1 - \beta > .99$ ). A Bonferroni post hoc test suggested a pattern that mirrored the one shown for narrative transportation, with participants assigned to read easy fiction reporting lower positive affect ( $M = 2.73$ ,  $SD = 0.88$ ) than participants assigned to read challenging fiction ( $M = 3.02$ ,  $SD = 0.93$ ,  $p = .001$ ) and nonfiction ( $M = 3.08$ ,  $SD = 0.94$ ,  $p < .001$ ). Similar to the narrative transportation ANOVA, no significant differences in affect were found between challenging fiction and nonfiction readers,  $p > .99$ . Again, reading challenge level (rather than reading genre) was critical in eliciting positive emotions. A third ANOVA on negative affect showed no effect of condition on negative affect,  $F(2, 891) = 1.03$ ,  $p = .358$ . Given that challenging fiction and nonfiction conditions were consistently different from easy fiction condition on narrative transportation and positive affect measures, the following mediation analyses were completed by comparing the combined challenging text conditions with the easy fiction condition.

To explore the potential mediating effects of affect on the relationship between difficulty level and narrative transportation, we conducted a simple mediation analysis using PROCESS (Model 4, Hayes, 2018). We combined the challenging fiction and nonfiction categories (coded as 0) and compared this grouping to easy fiction (coded as 1). As shown in Figure 1, positive affect was found to mediate the relationship between condition and narrative transportation. The direct effect of condition on narrative transportation was rendered nonsignificant by the mediation,  $b = -.09$ ,  $se = .07$ ,  $p = .215$ , as the confidence intervals included zero (95% CI  $[-.23, .05]$ ). The indirect effect of condition on narrative transportation through positive affect was significant,  $b = -.16$ ,  $se = .04$ . The range of the bootstrapped confidence intervals for this effect

TABLE 1

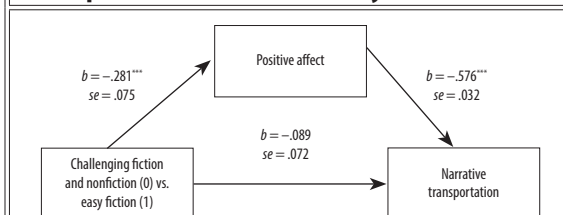
## Correlations for Study Variables

Variable	1	2	3	4	5	6	7	8
1. Interpersonal Reactivity (IR)	–							
2. IR: Fantasy	.74	–						
3. IR: Perspective-Taking	.60	.32	–					
4. IR: Empathic Concern	.77	.44	.53	–				
5. IR: Personal Distress	.45	.16	-.19	ns	–			
6. PANAS Positive Affect	.14	.12	.15	.19	-.07	–		
7. PANAS Negative Affect	ns	ns	-.25	-.25	.33	.14	–	
8. Transportation	.39	.40	.23	.33	ns	.53	ns	–

Note. Items 2 through 5 are subscales of the Interpersonal Reactivity Index (IRI).  
 $p < .05$ .  $p < .001$ .

FIGURE 1

## Regression Coefficients for the Relationship Between Story Condition and Narrative Transportation as Mediated by Positive Affect



Note. The horizontal arrow demonstrates the direct effect of story condition on narrative transportation.  
 $p < .05$ .  $p < .01$ .  $***p < .001$ .

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did not include zero (95% CI [-.25, -.08]), indicating mediation. As such, the story that participants were assigned to read influenced their positive emotions, and these emotions, in turn, impacted their level of narrative transportation. In particular, participants who read the challenging pieces felt more positively than participants who read easy fiction, and this positive emotional response predicted higher narrative transportation. In keeping with the lack of correlation between negative affect and narrative transportation, negative affect was not shown to have a mediating impact on the relationship between text difficulty and narrative transportation (95% CI [-.01, .01]). These findings partially support the third hypothesis that affect would mediate the effect of story condition on narrative transportation.

### Discussion

The present study examined the relationship between trait empathy and self-reported narrative transportation. In addition to this primary aim, we studied the differential impact of story type (challenging fiction, easy fiction, and nonfiction) on narrative transportation, as well as the role of affect in mediating this effect as a function of difficulty level. Trait empathy was positively correlated with narrative transportation, but participants assigned to read easy and challenging fiction did not report higher levels of narrative transportation than those assigned to read nonfiction. Instead, readers of challenging fiction and nonfiction (high difficulty conditions) reported higher narrative transportation than readers of easy fiction. Positive affect mediated the relationship between the challenging versus nonchallenging stories and narrative transportation. This finding indicated that emotional response may vary as a function of reading difficulty and that this variation can subsequently bring about distinct narrative transportation experiences while reading a narrative text.

The correlation detected between trait empathy and narrative transportation supports and extends prior literature that has demonstrated similar results with films (Hall & Bracken, 2011; Taylor, 2015), as well as studies that have examined the relationship between some components of trait empathy and narrative transportation into written pieces (Bal & Veltkamp, 2013; Johnson, 2012). Although these results did not replicate Black and Barnes' (2015a) finding that literary fiction engenders higher narrative transportation than nonfiction, they did provide evidence that positive

affect may be a central factor that undergirds the experience of narrative transportation into particular texts. In addition, by matching narratives on the basis of their respective lengths and reading challenge levels, the present procedure successfully removed a confound present in prior studies comparing fiction narratives of varying complexity with consistently difficult nonfiction texts (Panero et al., 2016).

The mediating role of positive affect on the relationship between reading difficulty and narrative transportation highlights the importance of emotional experience while reading (Mar & Oatley, 2008; Mar et al., 2011; Oatley, 1999). In particular, Green et al. (2004) discussed positive affect as a probable antecedent of enjoyment, a construct crucial to theories arguing that people selectively gravitate toward certain communication messages as a form of mood management (Zillmann, 1988). Consistent with this view, our mediation revealed an association between positive mood and an immersive reading experience. Furthermore, the finding of comparable levels of narrative transportation and positive affect across challenging fiction and nonfiction supports theoretical accounts claiming that nonfictional narratives may serve people's enjoyment needs, just as much as fictional narratives (Green et al., 2004). On the other hand, the findings for easy fiction imply that not all pieces of literary fiction produce levels of positive affect and narrative transportation that surpass those triggered by exposure to a nonfiction text.

### Implications

A key implication of this work is that the readability of a text can exert an important influence on readers' emotional responses and, consequently, on their narrative transportation experiences. By comparing hard nonfiction with both a challenging and an easy fiction piece, we removed the confound of story genre and readability present in the experiments conducted by Kidd and Castano (2013), who compared easy fiction with consistently hard nonfiction (Panero et al., 2016). The primary challenge in the selection of this study's reading materials involved the high degree of variation in story length and difficulty scores present in Kidd and Castano's (2013) stimuli; even one fiction piece that was identified by Panero et al. (2016) as being within the difficulty range of many nonfiction texts (*Nothing Living Lives Alone*) was substantially longer than 1,000 words and needed to be excerpted to be closer to its less challenging counterpart. The

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results showed that even a nonfictional article can provoke a higher degree of immersion into a text than a seemingly less challenging fictional text.

The mediational results provided some support for the much-discussed notion that emotions form an integral part of the reading act (Miall & Kuiken, 2002; Oatley et al., 2018; Oatley & Djikic, 2018) by pointing out the distinct role of positive affect on narrative transportation. The absence of any related effects for negative affect appears to suggest that negative affect is not likely to induce narrative transportation, at least in this initial examination. Yet, this conclusion can hardly be drawn for all cases of media exposure. There are examples of fiction whereby enjoyment—and presumably narrative transportation—seem to be derived from the experience of sad emotions (Mar et al., 2011). There are also ways in which positive and negative feelings can coexist in an individual reader's response to a narrative text. For instance, Koopman's (2016) qualitative work showed that participants assigned to a literary text condition experienced more ambivalent emotions than participants exposed to a less literary version of the same text. Although the present study emphasized a binary categorization of affect, our findings prompt investigation into the role of negative (or mixed) emotions in reading and the extent to which they might even facilitate the experience of narrative transportation.

### Limitations and Future Directions

This study evaluated the effects of a subset of the textual pieces used by Kidd and Castano (2013) to assess the potential confound of story type and reading difficulty that are broadly represented in the extant literature. Although the present investigation was successful in demonstrating the effects of these confounds, the small effect sizes and the narrow range of stories featured create additional questions about the full relationship between baseline empathy, genre, affect, and narrative transportation. The most important limitation of the present study may be that the Flesch-Kincaid Grade Level, our core index for classifying texts as “challenging” or “easy,” is unlikely to offer a global assessment of a text's overall difficulty level. Sentences can be grammatically simple, yet the ideas presented may be complex. Unfortunately, the Flesch-Kincaid Grade Level tool does not capture this fact; the “easy” Chekhov text in the present study may actually be the “hard” text by other measures. Future work should use more holistic measures of reading challenges, which tap into a narrative's conceptual

as well as grammatical aspects of intricacy.

In addition to our concern regarding the operationalization of reading difficulty, it may be important to consider other variables to which narrative transportation is related. Prior research teams have mentioned the relatively unexplored impact of reflective function (Kidd et al., 2016) and the role of the medium (print or electronic) through which a story is accessed (Mangen & Kuiken, 2014). The main theme of a certain story, first- versus third-person narration, the specifics of plot development, and the author's sociocultural background may also be important variables. Additionally, future research may benefit from considering the use of questionnaires that measure attitudes toward various aspects of the reading experience (i.e., insight, imagery vividness; Miall & Kuiken, 1995), specific emotions experienced during reading (Miall & Kuiken, 2002), and narrative absorption (Kuijpers et al., 2014).

### Conclusion

This study demonstrates that narrative transportation is a highly complex psychological experience, which is correlated with individual empathic tendencies and influenced by the positive emotions elicited by a story and its associated reading difficulty level. Narrative transportation was similar for readers of challenging fiction and nonfiction, indicating that reading difficulty may be more important than genre in producing narrative transportation. It may also be the case that nonfiction can be just as transporting as fiction. Given that this study makes only a first step toward approaching the role of reading difficulty in narrative transportation, future research attempts in this area might benefit from alternative operationalization of reading difficulty. Future studies may seek to clarify the factors that differentiate affective reactions to various genres, as well as the specific emotional content of these reactions. An examination of other variables that are related to immersion into a piece can also be vital in acquiring a greater understanding of how readers respond to the multifaceted world of fiction.

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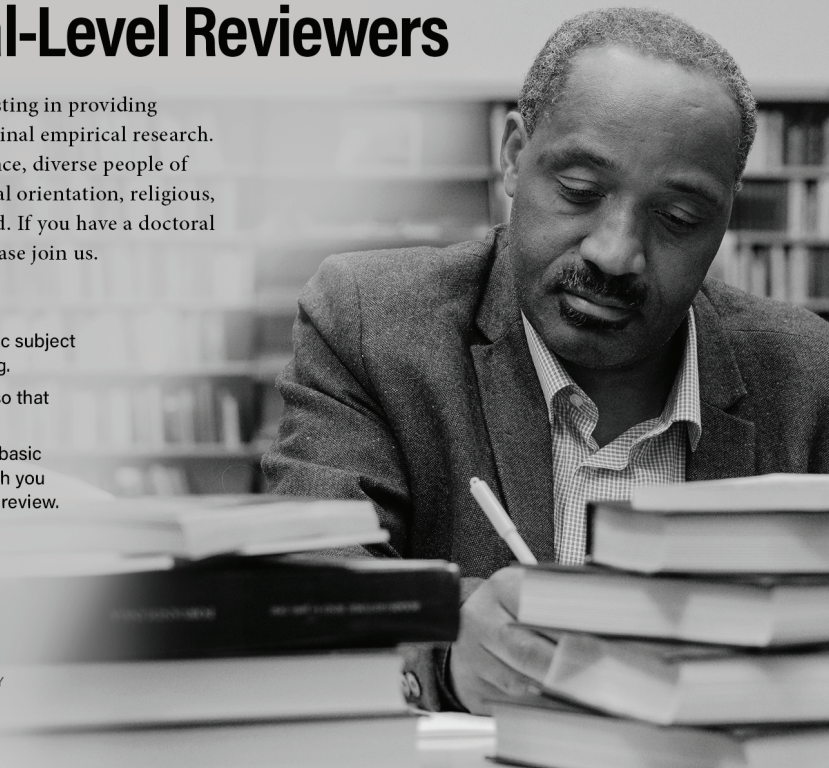
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