Society is changing. Can psychological science?
Published 6 times per year by the Association for Psychological Science, the Observer educates and informs the Association on matters affecting the research, academic, and applied disciplines of psychology; promotes the scientific values of APS Members; reports and comments on issues of international interest to the psychological scientist community; and provides a vehicle for the dissemination of information on APS.

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The way the peer-review process has been handled in psychological science is ‘frustratingly ironic, given that it is psychologists themselves who have convincingly demonstrated that people continue to show biases even when they believe that they are being fair and unbiased!’

—ROB GOLDSTONE, "TURNING THE PAGE," PAGE 43
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“I realized that I would be miserable in art as a career and I had no desire to do any formal training in it. My career in psychology was blossoming then, too, and I felt it would provide a career that was creative but somewhat more manageable.”

—GEORGE BONANNO, “INSIDE THE VIRTUAL PSYCHOLOGIST’S STUDIO,” PAGE 52
As APS’s newly appointed executive director, I have been focused on new beginnings—new information, new partnerships, new ideas, and new perspectives on persistent problems. Interestingly, my thoughts have coincided with the end to what nearly everyone around the world will look back at as a remarkably long and stressful year. As we continue to work to resolve the myriad challenges that surfaced in 2020, we must also recognize that life has changed. How we do business, learn, collaborate, communicate, and interact has changed. Our organizations must also change. Successful and sustainable institutions must embody innovation, flexibility, inclusivity, and resilience.

One of the many ways that APS is embracing change is highlighted in this issue of the Observer. This year, the Observer becomes a bimonthly print publication featuring important new content that will provide APS members with even more cutting-edge information needed to advance your careers and shape the future of psychological science and society.

Our changes do not stop with the Observer. In 2021, APS will launch a strategic planning process that will empower the organization to better serve members, catalyze new scientific advances, and further promote the application of psychological science for the public benefit. This process will be iterative, transparent, and inclusive. We will look internally to identify how we can more efficiently serve the APS community. We will listen to you for information about how we can better serve your needs. We will listen to other scientific fields and the public to identify ways that we can ensure that psychological expertise contributes to new scientific discoveries and solutions for problems of concern to people and governments around the world.

APS members will have many ways to participate in the development of our strategic plan. We will host a series of interactive discussions throughout the year. These programs will provide an opportunity for you to discuss new ideas and to explore the frontiers of psychological science with APS. You will also be asked to respond to surveys and to provide comments on draft documents.

While we work to develop our strategic plan, APS will continue to provide innovative ways to help our members share their science with each other, with policymakers, and with the public. One of these new programs is our podcast series, Under the Cortex (psychologicalscience.org/news/podcast-news). Another important opportunity for sharing your science and expanding your professional network is the 2021 APS Virtual Convention, May 26-27, 2021. You can learn more, submit your abstract, and register at psychologicalscience.org/convention.

I look forward to meeting you soon—whether virtually, through one of our online discussions or events, or in person.

Robert E. Gropp
Executive Director
rgropp@psychologicalscience.org
In a recent episode of Under the Cortex, social psychologist APS Fellow James Jones (University of Delaware) explores the nature of systemic bias in our workplaces and legal systems across cultures. Listen at psychologicalscience.org/James-Jones-Inequality.

Under the Cortex:
A Psychologist’s View of Racism and Inequality

Members in the Media
Visit psychologicalscience.org/mitm-archive to view media coverage of our members’ research and to learn more about how they are sharing psychological science with the public.

APS Student and Early-Career Webinar Series
This free series focuses on networking, peer review, online research, and more. View on-demand recordings of all five webinars in this series, and read the summaries, at psychologicalscience.org/webinars.

Government Research, Funding, and Policy Webinars
Learn about APS webinars, read summaries of past events, and register for upcoming webinars at psychologicalscience.org/government-relations-webinars.

APS Commitment to Diversity, Equity, and Inclusion
Read more on APS grants, public policy work, and other programming at psychologicalscience.org/diversity-equity-inclusion.
Universal Design for Inclusive Science
Psychological scientist Nazanin M. Heydarian highlights some resources that can enhance accessibility and inclusion in lab experiments for participants with disabilities. Read at psychologicalscience.org/observer/universal-design.

Research Topic: Vaccination
Psychological science suggests that behavioral "nudges" that aim to alter individuals' actions rather than their attitudes are essential to promoting vaccination against COVID-19 and other vaccine-preventable diseases. View the collection at psychologicalscience.org/topics/vaccination.

Student Notebook: Contributing to a More Diverse Field
Students have an important role to play in creating more inclusive institutions. Read at psychologicalscience.org/observer/diverse-psychological-science.

Mahzarin Banaji and the Implicit Revolution
APS Past President and William James Fellow Mahzarin Banaji pioneered research in implicit social cognition. In this symposium, a panel of Banaji’s students and collaborators discuss how these unconscious attitudes influence perception, learning, and behavior. Watch at psychologicalscience.org/observer/implicit-revolution.

Back Page: The Chronicles of a ‘Me-Searcher’
Sarah Gaither shares how her experiences as a biracial individual have informed her psychological research on identity. Read at psychologicalscience.org/observer/me-searcher-chronicles.
I n the eyes of the beholder

Let me start with the photograph on the next page. It shows a Japanese macaque on a little island in Japan called Koshima Island. She is washing her sweet potato and eating it. The potato washing, first documented in 1954 by a Japanese research team led by Kinji Imanishi (see Hirata et al., 2008, for this history), is now credited as one of the first indications that nonhuman animals have cultural and social (as opposed to genetic) modes of transmitting behaviors (de Waal, 1999).

When this phenomenon was first observed on Koshima Island, a cultural rift arose among scientists. Upon their original discovery, Japanese primatologists saw a macaque community connected by kinship ties (Hirata et al., 2008). Once one of the members washed a potato, the behavior spread through those social ties. Looking at the same scene, however, Western researchers saw something entirely different. They saw each animal receive a series of reinforcements from its environment—reinforcements that enabled the monkey to acquire the behavior. The behavior, in other words, was a matter of individual learning. Recounting this history, Frans de Waal (2003) provided a lucid account of how many Western scholars fiercely opposed and even ridiculed the Japanese primatologists for their anthropomorphism.

It took several decades for the field to recognize that “animal culture” exists (Whiten et al., 1999). It was also not until relatively recently that the field began to acknowledge the significance of kinship ties in animal communities (de Waal, 2003). Were the Western scholars entrenched in their individualistic cultural tradition? This tradition may obscure the role of the social and, as a result, may have primed the researchers to interpret the monkeys’ behavior in a
certain way (i.e., as a response to doses of reinforcement). For their part, the Japanese primatologists also got stuck in their cultural lens. They knew kinship ties are significant, a priori, from their culture. But that focus on the social may have diverted their attention from individual mechanisms.

It is beside the point to ask which side won the debate. In all likelihood, the ultimate truth encompasses multiple small truths from both sides. Only by integrating insights from both camps can one hope to achieve the most comprehensive view of the behavior. This is precisely what de Waal concluded:

To gain a full picture requires scientists with all kinds of backgrounds, who together take on a task equivalent to comparing the images in a range of fun-house mirrors. Somewhere in that heavily distorted information resides the truth. (de Waal, 2003, p. 298)

If this point applies to monkeys, it may well be even more applicable in analyzing human behaviors. Looking at the same behavior, people can see different things because they cannot free themselves from their cultural lens. Ethnocentrism results from this. Even if no ethnocentric biases are involved, such disagreement is problematic because the goal of science is to arrive at a single scientific description of the truth. The best possible solution to this dilemma is to bring in as many of de Waal’s “fun-house mirrors” as possible and seek the big truth by extrapolating from the observations these mirrors would give you. Better science would require ethnic or racial, cultural, gender, socioeconomic, and political diversity among the scientists. My December column on systemic racism discussed this point on the issue of race in particular.

Psychological diversity
De Waal’s point above is important. However, we can push it a step further.

The perspectives researchers bring to their research are shaped by their cultural and ethnic traditions. In human psychology, researchers typically share cultural and ethnic traditions with their research participants. Because of this, it is very difficult for them to recognize culture as a factor guiding and shaping the participants’ behaviors. Over the last few decades, however, a growing body of evidence has shown that culture, broadly conceived, is an active component of how people think, feel, and act.

Consider cognitive dissonance as an example. Dissonance involves a cognitive conflict and negative feelings associated with it. Imagine you experience dissonance after telling a lie to somebody. What do you feel? There are two possibilities. First, you might be angry at yourself or feel guilty for the unethical act you committed. This way of feeling is in line with the original formulation of dissonance theory (Festinger, 1957). The best evidence for it is that dissonance is most robust when the choice to act unethically (by telling a lie, in this example) is made in private (Cooper & Fazio, 1984). Hidden behind this feeling of dissonance is a cultural belief that behavior is driven and guided by the internal attributes of the self. Dissonance occurs when those internal attributes (say, honesty or integrity) are called into question.

Second, however, you might feel afraid that the unethical act could become public, which would produce intense shame. I suspect that this way of feeling is less common in Western contexts. However, my colleagues and I concluded that it probably is the best description of how Japanese and other East Asians feel under such circumstances. The best evidence for it is that dissonance is stronger for these individuals when the choice to act unethically is made in public (Kitayama et al., 2004). Hidden behind this second feeling of dissonance is...
The time now would seem ripe for us, as a field, to look for a new framework or paradigm. The documented diversity lends itself to intellectual innovations.
This passage makes it clear that Bruner intended the cognitive revolution as the beginning of studying meaning-making. He was frustrated that this prospect was averted when the emphasis shifted quickly to information processing instead. To understand his frustration, however, we must be clear about what meaning-making is and how it is different from information processing.

Bruner believed, and I agree, that the process of meaning-making is fundamentally social, interpersonal, and above all, cultural. To illustrate, here is an exercise: List all behaviors and events that you think represent “freedom.” The list you generate is part of what you mean by “freedom” (see Uchida & Kitayama, 2009, for a similar method). Note that behaviors and events are real stuff “out there” in your culture—things people actually do. And to know the meaning of freedom is to have access to these instances of freedom. These instances may, of course, be abstracted to form a prototype of freedom. Remember a classic study by Posner and Keele (1968), who elegantly showed the abstraction of prototypes from dot patterns. But the important point is that the meaning of freedom is based on behaviors and events that exist in your culture as instances of this concept. In other words, the meaning of freedom is defined by a loosely bound range of public behaviors and events your culture labels as instances of freedom. Once you’ve got the meaning, you may then act freely or feel oppressed or constrained by your government’s tyranny.

You may even want to “escape from freedom” (Fromm, 1941). All the behaviors motivated by the meaning of freedom are then brought back into the behavioral pool associated with freedom in your community, updating this meaning as a collectively shared asset and resource.

Bruner was disappointed because, for him, the collective dynamic of meaning-making was the inspiration for the revolution. It was the revolution’s spirit. However, most subsequent researchers ignored this spirit. Instead, they studied how people process information. For example, they studied how people process words, including the word “freedom,” by rapidly showing those words to experimental participants. The researchers barely paid any attention to how the meaning of freedom was produced and maintained in society at large. Surely even fewer recognized that meaning production and information processing were “profoundly different matters” (Bruner, 1990, p.4).

Where do the public patterns of behaviors and events that anchor our meanings come from? Well, they come from history and cultural traditions. Different cultural traditions are organized by divergent sets of scripts, conventions, rituals, and the like. In all likelihood, many of them reflect long-term ecologies and the social institutions these ecologies have supported (Talhelm et al., 2014). And as the recent Black Lives Matter movement made apparent, this process also depends greatly on power and status differences across groups. (Again, I refer readers to my December column.) Once people are born into a cultural tradition, they are socialized and “trained” to act in the cultural milieu defined by these scripts, conventions, and rituals. In the process, their brains are rewired and reorganized to act properly and effectively in the cultural milieu (Kitayama & Salvador, 2017). There then emerges a set of spontaneous psychological tendencies suitable for acting in the milieu. When they operate, they reproduce many of the same scripts, conventions, or rituals. In other words, human agency emerges through engagement in historically constructed cultural milieus while reproducing these milieus over time. This agency both incorporates and reproduces the meaning Bruner intended to study when he joined forces with his colleagues to initiate the cognitive revolution. The effort stalled, but I believe that the time is ripe to return to the revolution’s original spirit and bring it back to the future.

In short, many millions of years of evolution have equipped humans with biological component systems preparing them to participate in cultural practices. That cultural participation then modifies these systems as each person produces and reproduces the community’s practices and the meanings anchored in such practices. Thus, the human mind and social and cultural processes are mutually constitutive (Markus & Kitayama, 2010). And this explains why different perspectives evident in varying cultural, ethnic, racial, and other numerous traditions (e.g., de Waal’s “fun-house mirrors”) are not just a matter of seeing and interpreting any given behavior after the fact. More fundamentally, these perspectives are an integral part of the process involved in the production of psychological diversity.

In conclusion
Let me reiterate: The psychological diversity that has been documented cries out for a new paradigm to replace the dominant metaphor for the mind. To further uncover this diversity, however, we need both diverse samples and
a diverse group of scientists. Therefore, inclusion and diversity are critical to keeping the field intellectually vibrant. We also need them to improve our science’s validity, quality, and ultimately translatability. These considerations, to me, amount to another strong case for inclusion and diversity in psychological science.

References


What is Systemic About Systemic Racism?

Presidential Column, by Shinobu Kitayama (December 2020)

I just wanted to thank and congratulate you on that superb piece on systemic racism in the APS Observer. It was such a wonderfully descriptive portrayal of a construct that we too often use in public discourse without describing or defining it in ways that the average person might be more likely to understand if we used examples like the ones you presented. Too often, I think, we academics import constructs into public conversations the turn people off when we could turn them on, and that inadvertently create distance rather than identification or empathy. That was one of the best descriptions of what systemic racism is that I have ever read. I'll be citing from it liberally not just in teaching undergrads but in teaching political leaders how to speak with voters in ways that foster understanding rather than defensiveness.

Thanks again. I learned a lot from it.
—Drew Westen, professor of psychology at Emory University

Rethinking Psychology’s Attitudes About “Me Search”

Student Notebook, by Andrew Devendorf (November 2020)

Important points, though discouraging to be reminded of the flaws in science/academia that make self-relevant research stigmatized. As well as (or instead of) asking if self-relevant research clouds objectivity, might we not wonder how much self-irrelevant research (i.e., on topics you don’t have lived experience of) also clouds objectivity? Presuming your own experience to be the default/neutral/normal is likely far more harmful (both to members of disadvantaged groups and to scientific understanding) than self-relevant research. Better yet, let’s stop pretending individuals can be objective and start thinking a bit more deeply about how scientific progress requires multiple perspectives.

—Dom Weinberg, PhD candidate at Utrecht University, the Netherlands

Back to the Future: Why APS Stands the Test of Time

Presidential Column, by Sarah Brookhart (November 2020)

What a wonderful retrospective on APS.

Back in 1987 many of us were in the large APA convention meeting where APA Science Director Alan Kraut announced he would be part of a bold new science organization. History was made that day when APS launched in 1988 and has not looked back.

—Harold Takooshian, professor of psychology and urban studies at Fordham University

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Broken Physics: A Conjunction-Fallacy Effect in Intuitive Physical Reasoning
Dawoon Choi, Laura J. Batterink, Alexis K. Black, Ken A. Paller, and Janet F. Werker

Individuals appear to be prone to the conjunction fallacy—rating a conjunction of specific events as more likely to occur than only one of the events, despite this being a logical impossibility—when reasoning about physics. Participants viewed videos of physical scenarios and judged the probabilities that single and combined events would occur. Regardless of the type of scenario or phrasing, participants rated the combined events as more likely than the single events. These findings indicate that intuitive physical reasoning can be affected by a fallacy thought to affect only other types of cognitive activities.

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PSYCHOLOGICAL SCIENCE
Personality Changes Predict Early Career Outcomes: Discovery and Replication in 12-Year Longitudinal Studies
Kevin A. Hoff, Sif Einarsson, Chu Chu, Daniel A. Briley, and James Rounds

Personality changes from adolescence to adulthood appear to impact early career outcomes. Hoff and colleagues measured personality traits over 12 years (ages 17 to 29 years) in Icelandic youth and found that participants reported higher career satisfaction when they experienced growth in emotional stability, conscientiousness, or extraversion. Participants also reported higher income when they experienced growth of emotional stability and higher job satisfaction when they experienced growth in extra-

https://journals.sagepub.com/doi/full/10.1177/0956797620957998

Prosocial Influence and Opportunistic Conformity in Adolescents and Young Adults
Gabriele Chierchia, Blanca Piera Pi-Sunyer, and Sarah-Jayne Blakemore

Social influence can be both a vulnerability and an opportunity to boost prosocial behaviors. Participants between 11 and 35 years old received 50 tokens (with real monetary value) and decided how many, if any, they wished to donate to different charities. After making their decisions, participants were informed of others’ decisions and allowed to revise their donations. Older participants were least likely to revise their donations after learning about others’ donations. Contrary to previous research findings, adults were as likely to conform to selfish others and to prosocial others, just like adolescents.

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Early Effects of the COVID-19 Pandemic on Relationship Satisfaction and Attributions
Hannah C. Williamson

Rather than deteriorating relationship satisfaction, the forced close proximity brought by the COVID-19 pandemic appears to have made individuals more forgiving of their partners’ behaviors. Individuals in romantic relationships provided data about their relationships before the...
onset of the pandemic and during its early stages. Overall relationship satisfaction did not change, but individuals became less blaming of their partners’ negative behaviors by attributing them less to their partners’ characteristics. Couples who initially reported less conflict and better coping strategies were likely to see improvements in relationship satisfaction, whereas those with negative functioning were likely to see decreases in satisfaction.

The Altered Course of Learning: How Alcohol Outcome Expectancies Are Shaped by First Drinking Experiences

Hayley Treloar Padovano, Tim Janssen, Alexander Sokolovsky, and Kristina M. Jackson

How do first drinking experiences change a person’s expectations about the outcomes of drinking alcohol? Treloar Padovano and colleagues surveyed more than 1,000 youths from early to mid-adolescence. Across time, participants identified their expectations about drinking (e.g., have fun, act stupid) and their drinking milestones (i.e., first sip, first full drink, and first heavy-drinking experience). Positive expectancies tended to increase and negative expectancies tended to decrease over adolescence, but these trajectories were altered by the reported drinking milestones, which made positive expectations more concrete and invalidated negative expectancies.

Hypnotic suggestion can transform a difficult visual task into an easy one, this research suggests. Participants observed moving occluded shapes (e.g., diamonds, triangles) and indicated the direction of their motion. Participants were more accurate if they scored high on a scale of hypnotic suggestibility and received the hypnotic suggestion that they would be able to perceive non-existent shapes occluding the moving shapes, compared to participants who scored low in hypnotic suggestibility or did not receive a suggestion. These results indicate that hypnotic suggestion can add perceptual information to facilitate performance in a visual task.

The Factor Structure of Social Cognition in Schizophrenia: A Focus on Replication With Confirmatory Factor Analysis and Machine Learning

Philipp Riedel, William P. Horan, Junghee Lee, Gerhard S. Hellemann, and Michael F. Green

Social cognition (the processes needed to use information for adaptive social interactions) might help to explain heterogeneity in functional outcomes in schizophrenia and develop interventions to improve functional recovery. Thus, Riedel and colleagues aimed to clarify the factor structure of social cognition in schizophrenia, using confirmatory factor analysis and machine learning. Results validated a three-factor model for social cognition—low-level (e.g., emotion recognition), high-level (e.g., empathy), and attributional bias factor (e.g., tendency to over attribute hostile intentions to others). Each of these factors showed different patterns of correlation with clinical symptoms, nonsocial cognition, and functional outcomes.

Anxiety Modulates Preference for Immediate Rewards Among Trait-Impulsive Individuals: A Hierarchical Bayesian Analysis


Haines and colleagues tested three groups of participants with different levels of substance use (indicating different levels of impulsivity) on a task that measured impulsive decision-making. The authors also analyzed participants’ trait impulsivity (strong preference for immediate over delayed rewards and difficulty inhibiting their behaviors) and state anxiety (i.e., momentary anxiety, contrasting with constant anxiety as a stable trait). Individuals with high trait impulsivity and experiencing high state anxiety appeared to make more optimal, future-oriented, and nonimpulsive decisions than when they were experiencing lower anxiety. Thus, among impulsive individuals, anxiety can diminish a preference for immediate rewards.

Derationalizing Delusions

Vaughan Bell, Nichola Raihani, and Sam Wilkinson

Bell and colleagues argue that models of delusions should not solely focus on impairments to domain-general reasoning but should also account for processes involved in affiliation, group perception, and relationship management. The researchers suggest that models of delusions that include alterations to these social processes can account for the fact that delusions are socially themed, show reduced sensitivity to social context, and can be induced through adaptive social cognitive processes that also contribute to social integration. Bell and colleagues further suggest that the role of dopamine in both delusions and social organization supports these models.
CURRENT DIRECTIONS IN PSYCHOLOGICAL SCIENCE

What Your Nose Knows: Affective, Cognitive, and Behavioral Responses to the Scent of Another Person
Marlise K. Hofer, Frances S. Chen, and Mark Schaller

People associate body odors with different types of information, such as personal characteristics or emotional states. Hofer and colleagues review recent research on responses to strangers’ body odors (e.g., the scent of a sick person leads perceivers to judge them as less “likable”; the scent of a fearful person increases the perceiver’s anxiety) and new research about the consequences of loved ones’ scents (e.g., a loved one’s body odor reduces stress and enhances sleep). Hofer and colleagues suggest that future research should explore how people acquire the knowledge they use to make odor-based inferences.

When Ignoring Negative Feedback Is Functional: Presenting a Model of Motivated Feedback Disengagement
Felix Grundmann, Susanne Scheibe, and Kai Epstude

Sometimes people ignore negative feedback to feel good (i.e., hedonic-goal attainment), Grundmann and colleagues argue. They propose that the negative affect induced by negative feedback might make people more motivated to feel good (i.e., pursue a hedonic goal) than to improve their performance (i.e., pursue an improvement goal). Thus, after forming the intention to regulate their emotions, feedback recipients implement an emotion-regulation strategy that can include engagement (reappraisal and feedback focus) or disengagement (distraction and feedback removal). These strategies will impact feedback results differently.

Why Facts Are Not Enough: Understanding and Managing the Motivated Rejection of Science
Matthew J. Hornsey

The public in general can deny the validity of scientific findings (e.g., climate change, vaccination). Hornsey suggests that motivated reasoning might explain why it is so difficult to change science-skeptical attitudes—that is, if people are motivated to hold a belief, they selectively interpret evidence that reinforces their belief. He proposes that scientific communication might be more effective if it relies on understanding six reasons and motivations for science-skepticism: ideologies, vested interests, conspiracist worldviews, fears and phobias, personal-identity expression, and social-identity needs.

Drinking Together and Drinking Alone: A Social-Contextual Framework for Examining Risk for Alcohol Use Disorder
Kasey G. Creswell

Creswell proposes a framework for examining the risk for alcohol use disorder (AUD) that focuses on the importance of the context in which drinking occurs. The author reviews research comparing antecedents and consequences of social and solitary drinking in adolescents and young adults. Creswell shows that social drinking appears to be linked to enhancing positive emotions and social experiences, whereas solitary drinking appears to be linked to coping with negative emotions. This social-contextual account of AUD might allow clinicians to better understand why individuals drink and help to identify the best approach for clinical interventions.

Contact Tracing: A Memory Task With Consequences for Public Health
Maryanne Garry, Lorraine Hope, Rachel Zajac, Ayesha J. Verrall, and Jamie M. Robertson

Contact tracing—the process through which public health officials identify people who contacted someone infected with a virus or other hazard—is among the most powerful weapons against COVID-19. Contact tracing’s efficacy depends on the quality of information that infected people may provide; thus, it might be affected by the same challenges that affect witnesses and investigative interviewing. Garry and colleagues identify these challenges (e.g., imprecision, memory mistakes, omissions) and possible approaches to address them (e.g., use of questions and instructions that promote detail and accuracy, development of good rapport).

Asymmetries in Mutual Understanding: People With Low Status, Power, and Self-Esteem Understand Better Than They Are Understood
Sanaz Talatifar, Michael D. Bubrimester, Özlem Ayduk, and William B. Swann, Jr.

People who perceive themselves as having low status, even when they do not, understand others better than they are understood. Talatifar and colleagues...
show that people with low self-esteem as well as people with low status or power tend to understand those with high self-esteem, status, and power—but this understanding is not reciprocal. Several studies indicate that providing the latter group with information about people with low self-esteem, status, and power and increasing that group’s motivation to understand those with lower status might reduce these asymmetries in mutual understanding.

https://journals.sagepub.com/doi/full/10.1177/1745691620958003

A Developmental-Science Perspective on Social Inequality
Laura Elenbaas, Michael T. Rizzo, and Melanie Killen

What do we know about children’s and adolescents’ awareness, beliefs, and behavior regarding social inequalities? Elenbaas and colleagues use a social reasoning developmental (SRD) model to describe when, in our development, we become aware of social inequalities, how children and adolescents generate explanations for those inequalities, and how that reasoning informs what they think should be done to address inequality. Research indicates that children’s concerns for fairness emerge early and allow them to identify and try to correct inequality. Elenbaas and colleagues suggest that continued investigation in this area may help to foster a more just society.

Current Directions in Psychological Science
https://journals.sagepub.com/doi/full/10.1177/0963721420964147

Your Coefficient Alpha Is Probably Wrong, but Which Coefficient Omega Is Right? A Tutorial on Using R to Obtain Better Reliability Estimates
David B. Flora

In this tutorial, Flora describes alternative forms of the coefficient omega—an alternative to the coefficient alpha, for conveying reliability estimates—and provides guidelines for choosing the appropriate omega estimates. He shows several examples and demonstrates how to perform omega calculations using R. The different forms of coefficient omega are reliability estimates calculated from models that represent associations between a test’s items and the construct the test is intended to measure. This coefficient appears to reflect reliability better than alpha coefficients, which depend on restricted and unrealistic psychometric models.

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Measurement Schmeasurement: Questionable Measurement Practices and How to Avoid Them
Jessica Kay Flake and Eiko I. Fried

Flake and Fried define questionable measurement practices that jeopardize the validity of measures and study results. They also offer practical actions to avoid these practices, arguing for the transparency of measurement decisions. Reporting the following information may help to ensure transparency about measurement practices: construct definition and its theoretical/empirical support; justification for the measure selection; existing validity evidence; measure and administration procedure; response coding and transformation; detailed score calculation; all psychometric analyses; detailed descriptions of measurement modifications; and creation of any new measures and their detailed description and justification.

https://journals.sagepub.com/doi/full/10.1177/2515245920952393
Scientists studying the complex relationship between aging and memory have found that in a controlled experiment, people can remember the details about past events with a surprising 94% accuracy, even accounting for age. These results, published in the journal Psychological Science, suggest that the stories we tell about past events are accurate, although details tend to fade with time.

“These results are surprising to many, given the general pessimism about memory accuracy among scientists and the prevalent idea that memory for one-time events is not to be trusted,” said Nicholas Diamond, the study’s lead researcher, a former graduate student at Baycrest’s Rotman Research Institute (RRI) and currently a postdoctoral researcher at the University of Pennsylvania.

About 400 academics, including memory scientists, surveyed as part of this study estimated memory accuracy to be around 40% at best, expecting this score to be even lower for older participants or when greater amounts of time had elapsed since the events.

“This study shows us that memory accuracy is actually quite good under normal circumstances, and it remains stable as we age,” said APS Fellow Brian Levine, a senior scientist at RRI and a professor of psychology and neurology at the University of Toronto and co-author on the study. “These results will be helpful for understanding memory in healthy aging.”

For their study, the researchers created an immersive, scientifically controlled event for their participants: a 30-minute audio-guided tour of art and other items displayed at Baycrest. Two days later, participants were asked to tell the researcher everything they could remember about the tour. The responses were recorded and then verified against the facts.

The researchers also tested Baycrest employees on their recall of a standardized, scripted procedure that they had experienced 1 month to 3 years prior. This allowed the researchers to examine the effect of delay between the event and memory recall, while the standardized nature of the procedure made it possible to verify accuracy.

Using standardized, verifiable events to test memory is an innovative approach, the researchers said, as scientists typically use artificial laboratory stimuli, such as random word lists, rather than real-life experiences, or they test participants’ memory for personal past experiences, which cannot be verified.

The results showed that participants’ accuracy was high in both cases, though, as expected, the number of details they remembered decreased with age and time. At best, they recalled about 25% of their experience.

“This suggests that we forget the majority of details from everyday events, but the details we do recall correspond to the reality of the past,” Diamond said.

References


See the Aging Research Topic at psychologicalscience.org/topics/aging
DESPITE STRONGER VETTING AND SAMPLING, CERTAIN PSYCHOLOGICAL RESEARCH RESULTS ELUDE REPLICATION

The “gold standard” for all scientific research—from physics and biology to psychology and medicine—is the ability to replicate experimental results. If studies do not hold up under new investigation, then the discrepancies must be accounted for or the original conclusions may be called into question.

In a surprising and, to many, disquieting discovery, the 2015 “Reproducibility Project: Psychology” found that out of 100 published psychology studies, only 40% could be successfully reproduced. These results sparked debate about the credibility of psychological research and prompted global interest in finding the reasons behind the lack of reproducibility.

Some researchers proposed that this lack of reproducible results was possibly a consequence of inadequate sample size and the replicators’ failure to adhere to designing the replication studies.

A new collection of 11 articles published in APS’s journal Advances in Methods and Practices in Psychological Science (AMPPS), however, found that a dramatic increase in sample size and prior expert peer review of replication designs did not increase replicability of the original findings.

The new replication project, a multiteam effort known as Many Labs 5, examined a specific subset of studies from the original replication attempts. The Many Labs 5 project selected 10 out of 11 findings that were “not endorsed” by the original authors. These were studies in which the original authors had expressed reservations about the replication methodology that the original replication team did not completely address.

The replication teams submitted proposed study protocols for formal peer review and revised the protocols accordingly before conducting their studies. These efforts allowed for a direct comparison of whether the expert feedback improved replicability of the original findings.

“We tested whether revising the replication protocols based on expert reviews could improve replicability of the findings, and we found that it had no meaningful impact on these findings,” said Charlie Ebersole, lead author of the project and postdoctoral associate at the University of Virginia. “Overall, the effects generated by the original replications were very similar to those generated by our revised protocols. Looking at all of these replications, our evidence suggests that the original studies may have exaggerated the existence or size of the findings.”

“These results do not suggest that expertise is irrelevant. It could be that this particular selection of studies was unlikely to improve matter what expert feedback was provided,” said Hans IJzerman, coauthor and associate professor at Université Grenoble Alpes, France. “It will be interesting to conduct follow-up research on findings that are known to be replicable but have complex methodologies to help assess the role of expertise in achieving replicable results.”

Future research may yet identify conditions that improve the replicability of these findings. “For now, the cumulative evidence suggests that the effects are weaker than the original research suggested or not yet established as a reliable finding,” concluded Erica Baranski, coauthor and postdoctoral researcher at the University of Houston.

See the full article with references at psychologicalscience.org/observer/eluding-replication.
RECENT RESEARCH: OBSERVATIONS

HIRED, FIRED, OR STOPPED BY POLICE: THE DISCRIMINATORY STEW OF INTERSECTIONALITY AND STEREOTYPES

The intersecting roles of gender and race combine in unique ways to feed into simple stereotypes that can contribute to complex patterns of discrimination. A key factor, according to a study published recently in *Psychological Science*, involves threshold models of behavior, in which a certain threshold for “evidence” (called a “critical value”) is used to make a decision and thus can be used to predict certain behavioral outcomes.

“We suggest that complex (i.e., multiplicative) patterns of discrimination can in principle result from simple (i.e., additive) stereotypes that combine with simple decision rules—for example, ‘if someone has a threat level of X or higher, that person will be stopped by police,’” wrote Neil Hester (McGill University), Keith Payne (University of North Carolina at Chapel Hill), Jazmin Brown-Iannuzzi (University of Virginia), and APS Fellow Kurt Gray (University of North Carolina at Chapel Hill).

The authors draw on classic work describing how decision criteria and population distributions combine to explain behavioral outcomes. They note that threshold models explain why, for example, two people can have similar levels of perceived competence, yet one is promoted and the other is not. The models also explain how two people with very different levels of the same trait can experience the same outcome.

In three statistical simulations, the authors showed how simple stereotypes can explain gender, race, and age influence promotions and police stops.

• **Gender disparities along the corporate ladder.** A 2019 survey of more than 1.8 million corporate employees found that 65% of White men were promoted to manager, director, executive, or a higher position, compared to 43% of Black women. The authors hypothesized that five variables could predict those outcomes: an overall gender difference for perceived competence, an overall race difference for perceived competence, and separate critical values for promotion to manager, director, and executive.

• **Race-by-gender disparities in New York Police Department (NYPD) stops.** Seven years of NYPD stop-and-frisk data showed that 78.4% of stops involved Black men despite only 36% of the New York City population being Black. The authors hypothesized that three variables could account for whether someone was stopped: a main effect of race, a main effect of gender, and a critical value for the level of perceived threat at which the average police officer stops an individual.

• **Race-by-age disparities in NYPD police stops.** The same NYPD stop-and-frisk data also showed that over 7 years, police stopped 5.6 Black 20-year-olds for every White 20-year-old and 10.9 Black 12-year-olds for every White 12-year-old. The authors hypothesized that the following values could predict whether someone was stopped: a main effect of race on perceived threat, main effects of age on perceived threat (increasingly large effects as age increases, with separate age effects estimated for ages 12 through 20), and a single critical value at which someone is perceived as threatening enough by the average police officer to be stopped.

See the full article with reference list at psychologicalscience.org/observer/intersectional-stereotypes.
Trust is a balancing act, especially for children. If they withhold it, they risk missing out on valuable relationships, but trusting the wrong person can have devastating consequences. Research in Psychological Science suggests that preschoolers may still be learning to consider information accuracy—such as whether someone knows the name of their parent—when judging the trustworthiness of adults. Instead, they rely, among other factors, on a wariness of men.

Psychological scientists Qinggong Li (Zhejiang Normal University, China) and colleagues examined how children reason about the trustworthiness of strangers by observing the behavior of 240 Chinese 3- to 5-year-olds at a local preschool.

With a parent’s permission, each child was brought out to the schoolyard to play and read books with a female experimenter. The experimenter then made an excuse to leave and asked the child not to leave the playground until she got back. During this time, the child was approached by an unfamiliar male or female experimenter who introduced herself as a teacher from the preschool. This second experimenter asked the child to accompany them to another part of the school to receive a gift. In their request, the experimenter included three pieces of personal information about the child: their mother’s name, their class number, and their teacher’s surname.

For half of the children, the second experimenter provided inaccurate information and apologized for making a mistake if the child corrected them—the apology was intended to obscure whether the experimenter was intentionally lying or had simply misremembered those facts, Li and colleagues noted.

When the second experimenter was female, 3- and 4-year-olds left the playground 80% of the time when her information was accurate and 73% of the time when it was inaccurate. Among 4- and 5-year-olds, children’s trust dropped to 77% when the experimenter’s information was accurate and 44% when it was inaccurate.

Regardless of their age, children hesitated longer before leaving the playground when the female experimenter provided inaccurate information.

“Children in both age groups were sensitive to the accuracy of the confederate’s information, but only the children in the 5-to-6-year-old group were able to use this information to resist being lured away by the confederate,” Li and colleagues explained.

These rates differed significantly, however, when the second experimenter was male. About half of the children refused to leave with the male experimenter regardless of whether the information he provided was accurate. Those who eventually left with him also hesitated for roughly the same amount of time regardless of his information accuracy.

“Gender may be a primary concern for preschool children, one that overrides concerns about information accuracy,” Li and colleagues wrote. “Given reports that abduction is more frequently perpetrated by males than females, having an overall bias to distrust male strangers might be an adaptive strategy.”

Future research is needed to investigate how children might be taught to better incorporate information accuracy into their judgements of trustworthiness, the researchers continued, and to uncover the extent to which other factors, such as gift giving, obedience, and familiarity, may influence children’s willingness to trust and obey strangers.

Although young children in China and Western countries have been found to show similar levels of selective trust, there may also be cultural variability in the extent to which different factors inform that trust, Li and colleagues wrote. Previous work has suggested that Chinese children may be more likely than Western children to suspect people of having ulterior motives and to think before acting, which may make them less vulnerable to being lured away by strangers, the researchers explained. A greater emphasis on obedience and respect in Chinese culture, however, may make children less likely to resist requests from adults.

“Understanding children’s vulnerabilities to abduction has important implications for parents, educators, and child protection workers as they seek to develop evidence-based educational programs to ‘street-proof’ children so as to ensure their safety,” Li and colleagues concluded.

Additional work is also needed, the researchers noted, on how to teach children to protect themselves from strangers without contributing to feelings of generalized distrust or depriving children of the opportunity to interact with well-meaning adults in their communities.

Reference
Explore the science behind the ways we think, behave, and learn about the world around us.

Introducing *Under the Cortex*, the podcast of the Association for Psychological Science.

Subscribe on Apple Podcasts. Follow on Podbean.com to be notified of new content.

[psychologicalscience.org/news](http://psychologicalscience.org/news)
The new year puts a bookend to a challenging and divisive 2020. As the world awaits further study on and deployment of COVID-19 vaccines, other key developments in science and policy are on the horizon. Here are three, identified by APS’s government relations team, of relevance to psychological scientists around the world.

A new presidential administration in Washington, DC
U.S. President-elect Joe Biden takes office on January 20. Advocates jockeying for seats at the table with the Biden transition team hope their views will be heard and their perspectives recognized. APS, too, is already at work at engaging with the new administration. In November, hearing that Biden had established a new COVID-19 advisory board, APS President Shinobu Kitayama wrote to the board urging that a psychological scientist be added. In December, APS Executive Director Robert Gropp echoed this message in a second letter. (Read more at psychologicalscience.org/covid-advisory-board.)

Biden has indicated his strong desire to strengthen international partnerships and engagements, many of which are connected to the application of science. The new administration will also be challenged to reconsider various immigration policies, many of which have implications for students from other countries studying in the United States.

As the Biden administration begins in earnest, APS will keep a close eye on developments of interest and will update you on new policies that affect the research process. We’ll also look for opportunities to maximize the important role that psychological science plays in improving the lives of people around the world.

Momentum in behavioral science at the U.S. National Institutes of Health
Exciting developments are afoot at the National Institutes of Health (NIH)—one of the largest funders of psychological science worldwide. In February 2020, APS met with members of the U.S. Congress to talk about the importance of the scientific study of behavior and the need for NIH to do more to support our field. We were delighted when the U.S. House of Representatives echoed this in its appropriations report, calling for a special advisory panel of behavioral scientists and others to recommend how NIH can better make use of behavioral science to benefit health. (Read more at psychologicalscience.org/US-house-budget.) Psychological scientists are also contributing to an ongoing NIH working group that seeks to identify promising developments in behavioral science.

Relatedly, the U.S. National Academy of Sciences has initiated a study of ontology in behavioral science. The goal is to examine the benefits that a shared classification or language system for behavioral science might play in advancing our fields. APS, NIH, and other groups are cosponsors of this initiative. Keep an eye out for public workshops open to anyone in the world in the coming months.

Calls for robust science funding in the European Union
Science advocates are concerned about worrisome cuts to the budget for Horizon Europe, which provides funding for the European Research Council (ERC), one of the largest supporters of research published in APS’s journals. Although the Horizon Europe budget remains tens of billions of euros behind the community’s hopes, advocates were successful in negotiating an addition of 4 billion euros to the budget. Now there are calls that this amount go toward the component of Horizon Europe that supports “Excellent Science”—which includes ERC and other research infrastructures.

Stay tuned to psychologicalscience.org/policy for updates on how these developments are affecting psychological science and funding for basic research in Europe. In the meantime, APS will continue to highlight open calls for ERC opportunities relevant to psychological scientists.

By Andy DeSoto, APS Director of Government Relations
GOVERNMENT RELATIONS: NOTES FROM A FELLOW

FROM ACADEMIA TO GOVERNMENT: A WHOLE NEW WORLD
By Heather Kappes

Heather Kappes has a PhD in social psychology from New York University and is an assistant professor of marketing at the London School of Economics and Political Science. During the 2020-2021 academic year, Heather is serving as a fellow at the Office of Evaluation Sciences, part of the U.S. General Services Administration, as well as a visiting behavioral insights scholar at APS. She can be reached on Twitter (@heatherkappes) or by email at h.kappes@lse.ac.uk.

In the year ahead, I’ll be providing regular updates about my 1-year fellowship with the Office of Evaluation Sciences (OES, part of the U.S. government’s General Services Administration). My experience won’t be universal, but I’m hopeful that it will help explain some of the differences between psychological science in academia and in a government behavioral team.

When I was offered the OES fellowship, I expected to move from London, England, to Washington, DC, to join the OES team. Instead, because of the COVID-19 pandemic, August 2020 found me at home in London, setting up a government-issued laptop and phone for hours and hours of virtual meetings.

One of the first things I learned in the virtual orientation was that OES has a very specific project process. In contrast to my projects in grad school, where processes were invented on the fly or borrowed ad hoc from senior lab members, or in my day job as an assistant professor, where I rarely document processes as methodically as my future self might wish, OES projects are tracked with a series of documents that follow a prespecified, detailed format. Moving forward with a project requires passing through a series of “gates,” many of which entail formal review from other team members. The goal is to make sure project designs are sound and findings are reliable. Unlike a typical experiment on Amazon Mechanical Turk or other online platforms, big experiments in government can’t be easily repeated if a mistake is made.

Following OES processes has pushed me several steps forward in this capacity; they make you do all the things that, deep inside, you know you should do but sometimes skip to save time. Many different people work on each project, as fellows and academic affiliates rotate on and off the team. For that reason, work needs to be documented in enough detail that a new person can pick up where the last left off. Fortunately, in my previous work, I had already made strides in advance planning and computational reproducibility, including providing usable code for my analyses, thanks to preregistrations and using the Open Science Framework.

The whole “team” thing was another new idea to get used to. Like most psychologists, I often work on projects with colleagues. To make a gross generalization, students and junior faculty tend to do more of the nitty-gritty work, and senior colleagues generally help with conceptualizing and writing. In contrast, the teams at OES are very flat, and several people do things in parallel. The work is truly collaborative.
on a big scale, though not as big and dispersed as something like the Open Science Collaboration or Psychological Science Accelerator.

Another key element of the OES “team” structure is interdisciplinarity. I joined with an incoming group of six fellows. One is a PhD student in economics, one is a PhD student in political science, and two are junior faculty with public administration/political science backgrounds. Another is a user experience designer who previously worked in the federal government, and then there’s me, a social psychologist by training who has spent the last 8 years as an assistant professor of marketing. So far, we’ve avoided the delays and frustration that often characterize the early stages of interdisciplinary work, and we’ve reaped the strengths of diverse knowledge. For instance, when working on ideas for tracking and improving the use of evidence in government, I contributed research from psychology on belief updating. The economist, in turn, introduced work on the impacts of experiments and evidence on policymakers. And one of the public administration faculty pointed us to a big body of work in that field. The project that results from combining these three different streams of work—most of which I wouldn’t have known about without my teammates—will be stronger for it.

After just a month at OES, I had already absorbed several things that I want to take with me after I leave. Most of the office’s projects take a long time to get off the ground and involve working with one or more collaborators from other federal agencies. An OES goal is “not to be the bottleneck” in moving these projects forward, so emails are answered quickly, all meetings are preceded with agendas and followed by clear “next steps,” and documents are drafted online during meetings. In addition to the project process and interdisciplinary team structure, I plan to bring a bit of that focus back to academia with me.

Read this article online at psychologicalscience.org/observer/fellow-notes-jan-feb21.

CALL FOR NOMINATIONS:
APS PRESIDENT AND BOARD

The APS Election Committee seeks nominations for President and for two at-large seats on the Board of Directors. The election will take place in April 2021.

QUALIFICATIONS
Candidates must be Members of APS. Nominees should be distinguished psychological scientists committed to the goals of APS and interested in contributing their time, expertise, and leadership to the organization.

DEADLINE FOR NOMINATIONS
February 15, 2021

NOMINATE CANDIDATES BY E-MAIL
aps@psychologicalscience.org
Include the nominee’s name and institutional affiliation.
Postdoctoral fellow Virginia Salo and her mentor, APS Fellow Kathryn Humphreys, share insights on this early-career award.

I am lucky that I found a postdoc mentor, Kathryn Humphreys, whose interests closely align with mine and who also encourages me to pursue my own research interests. Working with Kate and my co-mentor, Amy Needham, we developed a series of two studies building off data-collection efforts in each of their labs to examine the links between motor skill development in infants, parents’ perceptions of their infants’ developing skills, and parents’ behavior. The underlying hypothesis is that parents interpret infant motor skills as correlated with social-cognitive skills, and parents’ perceptions of infant social-cognitive abilities can influence the way they interact with their child. In my first study, I am examining the effect of an infant object-apprehension intervention not only on infants’ motor skills but also on parents’ perceptions of their infant, and whether individual differences in parents’ perceptions mediate the relation between early motor experience and later skills. In my second study, I am examining the relation between parents’ perceptions of their infant and their parenting behavior.

My graduate work focused on infant social cognition—specifically, how infants learn from communicative interactions with their caregivers. My dissertation involved an intervention to encourage parents to use pointing gestures more often with their infant, and during the intervention sessions many parents expressed surprise to learn that their infant was ready to learn from, respond to, and even start producing pointing gestures. This made me wonder whether the way parents think about their child’s capabilities might influence their interactions and inspired me to shift to studying the parents’ perspective during my postdoctoral training.

GOVERNMENT RELATIONS: INSIDE GRANTS

U.S. NATIONAL INSTITUTES OF HEALTH F32 POSTDOCTORAL FELLOWSHIP

Postdoctoral fellow Virginia Salo and her mentor, APS Fellow Kathryn Humphreys, share insights on this early-career award.

External grant funding can provide an essential source of support to psychological science, helping researchers to tackle bigger questions, recruit more participants, purchase key infrastructure, facilitate student training, and more. In APS’s “Inside Grants” column, you’ll hear about the emerging research these grants are supporting.

The U.S. National Institutes of Health (NIH) provides opportunities for promising researchers to continue their training and develop their research skills via postdoctoral fellowship awards. One such fellowship award is the Ruth L. Kirschstein Postdoctoral Individual National Research Service Award, often called an “F32” for its code under NIH’s research-funding categorization system. A recent awardee is Virginia Salo, a psychological scientist who works primarily under the direction and mentorship of APS Fellow and Janet Taylor Spence Award recipient Kathryn Humphreys, a prior recipient of an F32 herself.

Salo is a postdoctoral fellow in the Department of Psychology and Human Development at Vanderbilt University. She has worked with Humphreys since October 2018. Salo was awarded an F32 through the National Institute of Child Health and Human Development for a project titled “Infant Motor Experience and Caregiver Perceptions of Infant Intentionality: Examining Transactional Processes of Development.”

Working with a faculty mentor is an integral part of the NIH F32 postdoctoral fellowship. Humphreys is an assistant professor in the Department of Psychology and Human Development at Vanderbilt University, where she directs the Stress and Early Adversity Lab. Her training is in infant mental health and clinical psychology, and her program of research is broadly focused on understanding the influence of, and improving, children’s early experiences. Salo is co-mentored by APS Fellow Amy Needham, also a professor at Vanderbilt.

Virginia Salo

What were you researching before you received your grant, and where is your work going now?

My graduate work focused on infant social cognition—specifically, how infants learn from communicative interactions with their caregivers. My dissertation involved an intervention to encourage parents to use pointing gestures more often with their infant, and during the intervention sessions many parents expressed surprise to learn that their infant was ready to learn from, respond to, and even start producing pointing gestures. This made me wonder whether the way parents think about their child’s capabilities might influence their interactions and inspired me to shift to studying the parents’ perspective during my postdoctoral training.

How has government funding supported your research efforts?

Since the F32 directly supports my stipend, the greatest benefit of receiving this grant has been time. A postdoc is often a really packed period where you are learning new research and professional skills, wrapping up (or continuing) old research projects started in graduate school, and also immediately going on the job market. With the F32, I’ve been able to focus more time on the research and professional
GOVERNMENT RELATIONS: INSIDE GRANTS

What was the F32 application process like?
The application process for an F32 entails basically the same amount of work as an R03 or R21 grant [popular NIH research grants] plus requiring a proposed training plan. If you are unfamiliar with the many different documents that go into an NIH grant, it can seem overwhelming at first. Thankfully, I had written an F31 [predoctoral fellowship] proposal in graduate school and, while it was not funded, that experience helped prepare me and set my expectations for writing the F32.

After my initial submission, my application was not discussed—essentially meaning it didn’t make the top 50% of all the applications that round—so I was honestly a bit shocked to have it funded on the second round. I think the key was being very responsive to each point of feedback I received from the reviewers, who thankfully provided constructive comments.

What advice do you have for researchers planning for NIH grants?
First, particularly for those thinking about applying for either an F31 or F32, it is easy to give all your attention to the research proposal, but it is important to treat the research and the training proposal as two equal and complementary pieces of the grant. Make sure that your training goals clearly build off of your past experiences and fill key holes which will best prepare you for your next career phase, and that your proposed research project clearly will provide those training experiences. Second, aim for a clean and feasible project with clearly defined benchmarks and products.

Kathryn Humphreys
How did your own F32 inform your support for Virginia Salo as a postdoctoral fellow?
When I submitted my own F32 proposal, it felt like if it was not funded, my academic career could have ended. I had no backup plan, and I was devastated when my first submission had received a score outside of the fundable range (the resubmission was funded). Thus, with Virginia’s postdoctoral plans, it was important for me to know I had funding set aside to support her should her proposal not be selected. In addition, I learned to think of the first submission as more of a trial run to give a chance to be responsive to reviewers. With Virginia’s initial submission, the main concern reviewers had was about me (specifically my status as a junior faculty member). We set out to remedy this by adding an experienced co-mentor, Amy Needham, to her team, and this allowed Virginia to be involved in projects in both labs and gain additional support.

What advice would you offer to potential postdoctoral fellows and mentors?
Applicants seem to have to walk a tightrope—they have to show that they are extremely talented, skilled, and experienced, but also that they are specifically missing exactly the training that would be provided should the proposal be funded. Picking projects that allow you to gain new skills that build from current expertise is important. To mentors, having a plan for funding the trainee regardless of whether the application is successful should be a prerequisite to sponsoring an application, because depending on an F32 to continue one’s career is too precarious.

The NIH F32 postdoctoral fellowship award can provide up to 3 years of support for research training; view the fellowship’s program page to learn more about stipends and contributions to tuition and fees provided to awardees.

Interested in learning more about funding opportunities for psychological scientists? Visit the Funding and Policy page on the APS website (psychologicalscience.org/policy) for updates.

Read this article online at psychologicalscience.org/observer/inside-grants-F32-fellowship.

Grant Information
- Country: United States
- Agency: National Institutes of Health
- Institute: National Institute of Child Health and Human Development
- Grant Mechanism: Ruth L. Kirschstein National Research Service Award (NRSA) Individual Postdoctoral Fellowship (Parent F32)
- Amount: Provides varying stipends, contributions to tuition, and institutional allowances
Join us for a Meeting of the Minds in May 2021!

APS will host a virtual conference with program components from both the APS Annual Convention and the International Convention of Psychological Science (ICPS) combined into an interactive online two-day event featuring:

- A **thought-provoking invited program** with 15 hours of inspiring speakers
- **Flash Talks** (new this year!) where researchers share their work in a series of brief videos
- Opportunities to **network and connect** with other attendees, exhibitors, and sponsors
- A **Virtual Poster Showcase** (VPS) that will remain available to attendees for several months following the live event

Register now for the best rates! Early Registration deadline: April 15
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### Featured Speakers

**Presidential Symposium:**

“Race, Social Class, and Culture: Toward a Theoretical Integration”

- Shinobu Kitayama
  APS President
  University of Michigan, USA

- Hazel Rose Markus
  Stanford University, USA

- Michael Meaney
  The Douglas Research Centre, McGill University, Canada

*Additional speakers to be named soon*

### Fred Kavli Keynote Addresses

Presented by:

- Jennifer L. Eberhardt
  Stanford University, USA

- Robin Dunbar
  University of Oxford, United Kingdom

### Bring the Family Address

Presented by:

- Dan P. McAdams
  Northwestern University, USA

### Submit Your Research

**Submission Deadline: March 1**

Two great ways to share your research: Flash Talks and the Virtual Poster Showcase. Get feedback from attendees and other presenters through an interactive chat.

psychologicalscience.org/convention
Toward a More Inclusive Psychological Science

Psychological scientists have long studied bias, from explicit and implicit attitudes to stereotypes and structural inequality. Now they’re working to apply those findings within the field itself. Read on for an exploration of inequities involving gender, academia, publishing, and more.
AN UNEVEN PLAYING FIELD

Women are more represented in psychological science than ever, but obstacles remain. COVID-19 “is just breaking the back of an already strained system.”

By Leah Thayer, APS staff writer

For an abbreviated progression of women’s representation in psychological science over the last century, consider the experiences of Lillian Moller Gilbreth and Tessa Charlesworth.

Pioneering psychological scientist Gilbreth coauthored several books with her husband and business partner, Frank, until his death in 1924. The couple had 12 children, so it’s possible that between raising them and pursuing her career as an industrial psychologist, inventor, college professor, filmmaker, and author of her own books, she didn’t have time to get particularly rankled by the omission of her name from the coauthored books’ credits.

“Publishers believed that including a woman as an author would hurt the books’ credibility. At the time, Gilbreth was among the few practicing industrial psychologists with a doctorate; her husband hadn’t been to college” (Observer, 2017).

More than 90 years later, Charlesworth was in her first year of graduate school at Harvard when, at a meeting at another university, “a male colleague turned to me, the only woman in the room, and essentially said, ‘You’re only here because I invited you.’”

“I was shocked,” said Charlesworth, now a doctoral student studying attitude and stereotype change, implicit social cognition, and quantitative methods. “These were people who researched attitudes and social biases.” Despite that, in the years since, she has heard explicit expressions of gender bias from researchers in the field.

“They might say to a female scientist, ‘We’re going to add you as an author because we need more female representation in the authorship,’ or ‘We need a female on the panel,’ rather than, ‘We love your work, and we want you to contribute,’” Charlesworth explained.

Is this how progress is supposed to work?

Charlesworth shared these experiences in mid-November 2020—near the end of a year whose few positive developments included the elevation of a number of prominent women in fields once dominated by men. Kamala Harris was elected the first female vice president of the United...
Gender Disparities in Academia Worldwide

- **AUSTRALIA**: Women held 54.7% of lecturer positions, 46.8% of senior lecturer positions, and just 33.9% of positions above senior lecturer (2018).
- **CANADA**: Women made up 55% of positions below assistant professors but only 28% of professors (2018–2019).
- **EUROPEAN UNION**: Women accounted for 41.3% of all academic positions but just 23.7% of senior academic positions (2016).
- **INDIA**: Women held 42.6% of lecturer and assistant professor positions, 36.8% of reader and associate professor positions, and only 27.3% of professor and equivalent faculty positions (2018–2019).
- **JAPAN**: Women represented 52.3% of full-time junior college teachers but just 24.8% of full-time university teachers (2018).
- **UNITED STATES**: Women accounted for 57% of instructors, 52.9% of assistant professors, 46.4% of associate professors, and just 34.3% of full professors (2018).

Source: Catalyst (2020).

States. New Zealand’s Jacinda Ardern, Germany’s Angela Merkel, and Taiwan’s Tsai Ing-wen were among a handful of global leaders to win praise for their handling of the COVID-19 crisis (Goswami, 2020). Record numbers of female CEOs were at the helm at Fortune 500 companies (Fuhrmans, 2020). Even fall’s breakout Netflix hit, The Queen’s Gambit, featured a woman (albeit a fictional one) celebrated for her genius in the male-dominated world of chess.

Women hit new highs within the field of psychological science, too.

“Women make up a large and growing proportion of today’s psychological scientists,” wrote APS Fellow June Gruber (University of Colorado, Boulder), Jane Mendle (Cornell University), Kristen A. Lindquist (University of North Carolina at Chapel Hill), and 56 other women in “The Future of Women in Psychological Science,” a 2020 report in Perspectives on Psychological Science. Women represent 78% of undergraduates and 71% of graduate students in psychology, they noted. In addition, women are “increasingly visible in leadership positions: They head prominent laboratories, departments, and professional societies; play key roles in navigating the direction of psychological science; and are mentoring the next generation of scientists.”

But Gruber and colleagues also noted persistent gender gaps, which are heightened for people of color, people who are lesbian, gay, bisexual, and transgender (LGBT), and people with disabilities. For instance, female associate professors make 92% as much as male associate professors; among full professors, that share falls to 88%. In addition, “women in psychological science who secure tenure-track positions publish less, are cited less, hold fewer grants, [and] are less likely to be represented in the field’s most eminent roles,” Gruber and colleagues wrote. They also cited data suggesting that women remain underrepresented at the more senior levels of their fields, including the rank of full professor.

“One interpretation of this reduction in more senior women scholars is that there is a ‘leaky pipeline’... whereby women leave the field at higher rates than men as they progress to more senior phases of their careers,” Gruber and colleagues wrote. “A second interpretation is that the narrowing of gender differences in early-career phases has not yet had time for those women to reach more senior career phases... A third interpretation is that there are gender differences in factors that relate to career advancement.”

In an episode of APS’s Under the Cortex podcast featuring several “Future of Women” authors, Gruber recalled her own “sobering experiences during my maternity leave and some of the treatment I received from my colleagues at the time. I think many of us had assumed in some ways that psychological science was a model of gender parity, having had incredible female role models during many of our own trainings. Yet these lived experiences that we began to discuss and share among women colleagues revealed what seemed to be really glaring issues and impediments that women were still facing in our own field.”

Bearing the brunt

Gruber and colleagues also found that psychology professors and instructors who are women are more likely to perform lower-status services within their departments and broader scholarly communities, such as committee work and supervision, along with other services like informal mentorship. A clear factor in that discrepancy is the department chair’s gender: Within the social sciences, women’s service more than doubles when their department chair is male.
“The expectation that women are nurturing caregivers who gladly do unpaid tasks in their departments as well as at home—these societal norms clearly trickle down to women’s own beliefs about themselves,” observed Lindquist in the podcast.

As to why women submit fewer papers and receive fewer grants, Lindquist suggested it might be “because their time is spent elsewhere”—that is, performing services—or because they’re either more perfectionistic about those products or they believe that they’re less deserving of them, or they’re less likely to receive them if they apply.

This service load appears to be especially heavy for women of color, who “may be expected to engage in additional service relating to diversity,” Gruber and coauthors wrote. One coauthor, Adrienne Carter-Sowell (Texas A&M University), noted the exacerbating influence of intersecting inequalities during the podcast. “Despite the compounded burdens that are faced by many women scholars of color, the research shows that there’s really little attention to the successes gained or the personal financial health and well-being costs paid by women scholars of color who are persisting and existing in the field,” she said.

Women—especially Black women, who are more likely to be their family’s primary earner and caregiver—have also borne the brunt of job losses due to COVID-19.

Between November 2019 and November 2020, the overall unemployment rate for women in the United States more than doubled, from 3.3% to 6.4%, according to the Bureau of Labor Statistics; some 956,000 women left the workforce in September alone. Over the summer, almost one in three women (32.1%) ages 25 to 44 had left their jobs because of childcare demands, compared to 12.1% of men, according to data from the U.S. Census Bureau and Federal Reserve. But the unemployment rate for Black women is 9.3%, according to Janelle Jones of the Groundwork Collaborative. “That is a crisis,” especially on top of the existing economic disparities facing Black women, Jones said in an episode of NPR’s Marketplace in November. “White women have recovered 61% of the jobs they lost since the recession [began]. Black women have only recovered 34%.”

Within academia specifically, an enormous study of scientific publishing provided evidence that “female academics are taking extended lockdowns on the chin, in terms of their comparative scholarly productivity,” according to an analysis in Inside Higher Education (Flaherty, 2020). The study, based on submitted manuscripts and peer-review activities at Elsevier journals between February 2018 and May 2020, found that female academics across all levels of seniority in the social sciences and economics accepted far fewer peer-review invitations between February and May of 2020 than in the same period in 2019.

“Unfortunately, COVID mimics a life that many of us have been living long before February of 2020,” Carter-Sowell told the Observer in November. “You’re isolated, overworked, juggling more than ever before, dealing with family falling apart for reasons that you can’t control. This is just breaking the back of an already strained system.”

Carter-Sowell speaks from experience. She now serves as the associate head of diversity, equity, and inclusion as well as an associate professor of both psychological and brain sciences and in the interdisciplinary critical studies program at Texas A&M. She is an authority on topics including ostracism and its effects on the psychological, cognitive, and behavioral responses of individuals and groups.

Within her research lab, Carter-Sowell mentors nine people (undergraduate and graduate students, a postdoctoral researcher, and a visiting scholar). She’s also a parent and her family’s main breadwinner. And like many, she doesn’t have “the resources that allow you to write your amazing top-tier-journal papers over the summer because you have to cover expenses 12 months of the year,” she said.

“Have I made it? Did we make it? I mean, I’m excited I got the degrees,” Carter-Sowell said. “But academia never lets you know if you’ve made it.”
That chilly feeling

For all their gains, women are confronted by subtle—and not-so-subtle—reminders of gender disparity in the halls of academia every day.

“A lot of them are really simple—like, does your department have a wall full of every former department chair, and they’re all men?” asked Elizabeth Cole, a professor of women’s studies and psychology at the University of Michigan. “My friends and I call that the ‘stereotype threat wall.’”

She cautioned that in many ways, both explicit and implicit, “how we do the business of the academy serves to send messages about who’s in and out.” These signals might seem innocuous to some people, but “other people might say, ‘this isn’t for me.’”

Extensive research has explored why gender gaps exist in psychological science, from systemic factors (including socialized gendered roles and work-family conflicts) to cultural stereotypes and outright gender bias. These factors start taking root early in life.

In a recent exploration of gender stereotypes in natural language in press at Journal of Experimental Social Psychology, Charlesworth, her advisor, APS Past President Mahzarin Banaji (Harvard University), and coauthors point to “the natural language of human conversations, books, and audiovisual media for both children and adults” as gauges for measuring the implicit presence and potency of group stereotypes. “Take, for example, innocuous child-directed statements such as ‘get Mommy from the kitchen’ or ‘Daddy is still at the office,’” they write. “Such sentences do more than describe the physical locations or roles of mothers and fathers; they also reinforce attributes associated with those roles.”

When she was a child, Charlesworth herself heard few such expressions. Growing up in British Columbia, Canada, “I came from this line of go-getter women,” she said, including “a single mom who was just ready to take on the world. She really believed that I could do anything.” Charlesworth’s grandmother was among the first licensed female architects in British Columbia, and Charlesworth too hoped to be an architect, bolstered by her love for math and classes like calculus and physics.

Her curiosity about psychology and gender bias wasn’t piqued until she took an intro psych class at the all-women’s Barnard College while she was an undergraduate at Columbia University.

“It was absolutely amazing,” she said. “I was surrounded by 100 other women, and the idea of being able to quantitatively and experimentally manipulate behavior or to quantify social structures just blew my mind.”

Then, in a summer internship at the University of British Columbia under the supervision of Andrew Baron and Antonya Gonzalez, she assisted on a study of stereotype threat. Girls 5 and 6 years old were given a simple counting task and were told that it was either a test or a game. When asked about how much they liked math, the girls discounted their skills, “saying things like, ‘Oh, I used to really like counting things on the refrigerator, but now I think I’m better at writing,’” Charlesworth remembered. “You could almost see, even at that age, a kind of tension in their minds.”

Shortly thereafter, she read a paper showing that young children’s in-group preferences (e.g., girls prefer the company of girls; Black children prefer the company of Black children) go away as they get older. In line with the broader culture, kids “start to prefer the dominant, higher-status social groups,” Charlesworth said. “It was so disheartening… I was like, ‘These kids, they’re internalizing this culture of oppression, essentially, at such early ages.’”

The gender biases that we begin to internalize in childhood often deepen in the years that follow. In a 2020 study, Charlesworth and colleagues explored a “gender-brilliance stereotype” across more than 3,000 people in more than 70 countries. The results showed that “people had an implicit association of males with brilliance and women with traits...
like creative, or happy, or even funny,” she said, whether the males were White or Black or whether gender was captured in words or depicted through images.

These kinds of associations, compounded by variables that can include race and socioeconomic status, often play out in the workplace. Carter-Sowell’s research has shown how women and people of color often experience a sense of being “out of the loop” in the workplace, which can negatively affect their recruitment, retention, and promotion in scientific and technical fields. “People seek to maintain a positive and distinct social identity, in comparison to other groups,” Carter-Sowell and colleagues wrote in 2016 in *Frontiers in Psychology* (Zimmerman et al., 2016). “Threats to this identity—such as an increasing number of women in a male-dominated area—can lead to in-group bias… An outcome of this bias is the ‘chilly climate’ for women in academia—the perception of an exclusionary workplace environment. Indeed, women report greater exclusion from informal networks compared to male colleagues.”

Growing up in Virginia’s Tidewater region, Carter-Sowell knew what ostracism felt like long before she had a word for it. At home, she heard messages meant to protect her. “There were neighborhoods we couldn’t live in and pools we could not join and places we did not go. It wasn’t legal to say that you weren’t permitted, but you were aware of where you were excluded.” Then, in school during the 1970s and 1980s, despite a statewide desegregation process that had begun in 1959, she noticed a tracking system that steered White students into more advanced classes, often to the exclusion of equally intelligent Black students like herself. She received far more encouragement at home, but there, expectations often divided along gender lines.

“I came from a very supportive family who valued education, but the males were often embraced for their engineering and math skills in a way that the females were not,” she said.

Even as she excelled academically, Carter-Sowell repeatedly experienced that sense of not quite belonging. She graduated from the University of Virginia (UVA), where, 2 decades earlier, her uncle had received an academic scholarship from the college of engineering but encountered a racial climate so hostile that he dropped out before getting a degree. When she arrived in 1986, she noticed a tracking system that steered White students into more advanced classes, often to the exclusion of equally intelligent Black students like herself.

She received far more encouragement at home, but there, expectations often divided along gender lines.

“Mentorship: The speed pass of academia”

Elizabeth Cole started graduate school in clinical psychology at the University of Michigan, she nearly dropped out, deeply dissatisfied by what at the time was a psychoanalytical approach that “saw people in such individualistic terms,” she said. “It didn’t seem to have any mechanism to think about inequality and how that shapes people’s lives.”

Elizabeth Cole, University of Michigan

One day on the street, she happened to run into Abigail Stewart, her former undergraduate adviser at Boston University, who had also moved to Michigan. Stewart talked Cole into staying and switching to personality psychology, and to this day the two tenured professors remain close.

“I really think my whole career has been possible because of the mentors I’ve had,” Cole said.

Women mentors, from her barrier-breaking mother and grandmother to her later peers and advisors, including Banaji, have also been crucial to Charlesworth’s career.
“That’s been the case throughout my entire trajectory. I’ve seen these women and recognized, ‘Oh, look, there is actually another woman doing quantitative work,’” Charlesworth said, “rather than just saying, ‘Well, no one like me has ever done it before—so why would I think I could do it?’”

For Carter-Sowell, a pivotal mentoring experience occurred when she came to Texas A&M as an assistant professor in 2010. Under a program aimed at diversifying faculty at the university, she and other newly hired women of color had the opportunity to be assigned not just one mentor, but two. One of Carter-Sowell’s mentors was an external scholar, who was in her field but outside Texas A&M; this person gave her a bird’s-eye view of the field at large.

The second was an internal scholar from outside the field and inside the university, who “told me everything I needed to know to be successful at Texas A&M,” she said. That dual-mentorship program “is why I’m here today. It was like going to Disney World with the speed-pass bracelet; you’re getting reliable experts to guide you through your early career.”

**Building a better profession**

Among other practices that can pave a way forward for women in psychological science, Charlesworth and Carter-Sowell proposed two that stand out.

At the individual and department levels, Charlesworth advises taking “a really critical perspective on what we’re doing every day. Think of this as a self-auditing activity,” in terms of the language you use and the behaviors and assumptions you’re making. “Then ratchet that up at the departmental level.” For instance, does your department have its own version of the “stereotype threat wall”?

At the structural or societal level, ask critical questions akin to those raised by the Black Lives Matter and Me Too movements. “Really think about it. What are the ways that gender-based privilege and race-based privilege play out in our society? It’s really only in understanding the beast that we’re tackling that we can actually tackle it,” Charlesworth said.

For her part, Carter-Sowell calls for more unfiltered honesty about the challenges women and marginalized members of the field can expect to confront. Some may lack the advantages many of their peers have, from inside knowledge about institutional processes, to reassurance in being seen and asking for exactly what they want without consequences or added workload, to community support for partners and children not affiliated with the university.

“It’s the assumption that we’re all operating on a level playing field,” Carter-Sowell said. “And it’s just not true.”

She elaborated on these concerns in the “Future of Women” episode of *Under the Cortex*. The more women in the field share the challenges they’ve faced, the better off “we all are… for bringing light to areas that were not part of the conversation and making all of us accountable for being a better profession than we were,” Carter-Sowell said.

**References**


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The University of Louisville Grawemeyer Award in Psychology is given for original and creative ideas: ideas that possess clarity and power and that substantially impact the field of psychology. These ideas help us understand one another and the world around us, and provide insights into the human mind.

The purpose of this annual award is to acknowledge and disseminate outstanding ideas in all areas of psychological science. The award is designed to recognize a specific idea, rather than a lifetime of accomplishment. Nominations are judged on the basis of originality, creativity, scientific merit, and breadth of impact on the discipline.

Nominations Must Include:
- A one-page to two-page letter of nomination, in English, identifying the specific idea being nominated and delineating the reasons why the idea merits the award, based on the criteria above.
- A current mailing address, telephone number, and e-mail address for the nominee.

Send Nominations (by postal mail or email) no later than February 28, 2021 to:
Director, Psychology Grawemeyer Award
Dept. of Psychological and Brain Sciences
University of Louisville
Louisville, KY 40292, U.S.A.

Telephone: 502-852-0430
E-Mail: grawemeyer.psychology@louisville.edu
Website: www.grawemeyer.org/psychology/

The University of Louisville is an equal opportunity institution.
Diversity and inclusion have been on the higher education agenda for decades. Colleges and universities have created offices for diversity, equity, and inclusion (DEI); added diversity statements to their websites; asked faculty applicants to provide diversity statements; and made myriad other efforts to attract faculty and students from a wider range of ethnic, racial, and demographic backgrounds. But although such efforts are laudable, doubts remain about whether they will succeed in improving equity and inclusion for underrepresented individuals or simply continue to benefit groups that have been privileged throughout these institutions’ histories. Researchers who study diversity, have suffered the consequences of less-inclusive universities, or are attempting to create more equitable academic environments have some ideas about which strategies might help to create more diverse, equitable, and inclusive contexts that also benefit members of underrepresented groups.

Doing DEI differently
In their diversity statements, most universities either frame the benefits of diversity from a moral perspective (e.g., increasing fairness and justice) or from an instrumental perspective (e.g., broadening horizons). In her research, APS Fellow and past Board Member Stacey Sinclair (Princeton University) has noted that framing diversity as a moral imperative implies that universities are attempting to correct unfairness, whereas instrumental framings make the benefits of diversity salient to members of more privileged groups. This instrumental view of diversity also tends to emphasize that increased diversity has positive effects on learning outcomes for everyone. However, “instrumental diversity” might provide more benefits for the majority groups than for the underrepresented groups it is meant to benefit.

Sinclair’s findings align with the DEI programming in the Department of Psychology at the University of Wisconsin—
Madison (UW–Madison), which frames increasing diversity as the right thing to do. “That argument can be very meaningful to scholars of color,” explained APS Fellow and Board Member Seth Pollak, the department’s recently appointed associate chair for Equity, Inclusion, and Diversity (EID). “You’re not bringing students and scholars of color to campus just to make a better learning environment for everyone. You’re making sure that you have a diverse program because it’s wrong not to have people of different backgrounds and ethnicities well represented in your program.”

Pollak, a White researcher who studies child development, stepped into this newly created position after a department meeting spurred by the death last May of George Floyd, a Black man in Minneapolis, Minnesota, at the hands of police. His death and others like it sparked conversations within the department about the need to become an anti-racist institution by making changes that could have an immediate impact.

Why appoint a White chair? “We felt like it was really important for the person stepping into this role to represent a majority position, rather than be a member of a marginalized group,” Pollak said. “We felt it was an important way of signaling that these issues of equity, inclusion, and diversity aren’t just of concern to people in marginalized or minority groups, or even just to people who study issues of equity, inclusion, and diversity.” Moreover, he added, there was clearly “a lot of work to be done, and it’s not fair to ask the faculty of color to do it because they didn’t create this problem. White folks have perpetuated this problem, and we felt that it was up to us as a department to solve it.”

In addition to creating this position, the department unanimously passed a resolution to make diversity and equity its number-one goal, orienting all its activities and guiding its decision-making through that lens.

DEI by work group, not committee
Pollak didn’t take the traditional step of forming a committee to tackle diversity at UW–Madison. “I didn’t want to exclude anyone who might have liked to be on the committee but wasn’t asked,” Pollak explained. Most importantly, he added, “I didn’t want to create a situation where everyone in the department felt that making these changes was just the responsibility of the people on a single committee and that everyone else could just go along with their regular life.”

Instead, Pollak created about 20 small work groups aimed at addressing specific issues, ranging from internal departmental communications and curricula to accountability in DEI efforts and connections to off-campus communities. Each work group includes faculty members, department staff, graduate students, undergraduate students, alumni no longer on campus, and an expert in the area from outside the department. Nearly all members of the 141-person department are involved; “everyone is trying to address racial equity problems,” he said.

At the outset, the work groups were asked to come up with two or three recommendations, at least one of which could be implemented immediately, while the others could be more long term. “I think we need both,” Pollak said. “If everything is aspirational and in the future, we’re not doing anything now. And if we’re just grabbing low-hanging fruit and making only small immediate changes, we don’t really have a guide or a plan for what to do going forward.”

As of this writing, in early December, the work groups are still developing their recommendations. After collecting them, the department plans to vote collectively on what to target first. However, these are not said-and-done solutions, according to Pollak; the process requires continual feedback and adjustment.

The details of UW–Madison’s approach may be unique, but there is nothing unique in the department’s culture that makes the initiative applicable there. On the contrary, “almost any department could take some version of it and think about what would work in their department,” said Pollak. Moreover, “some of these things are not crazy expensive things to do.” He acknowledged that others in fact are move expensive; “for example, our university just gave the department permission to hire a number of scholars of color, and between salaries and start up costs, that is millions of dollars, but they are certainly worth the economic cost.”

Addressing the “minority tax”
UW–Madison’s psychology department is also taking on an issue seldom discussed within university settings: the “minority tax,” or the burden of extra responsibilities placed on underrepresented faculty in the name of diversity. Pollak and his team are scrutinizing the department’s merit system and salary review process to better account for this additional workload.

“We have never officially factored in that members of underrepresented groups have extra work to do,” Pollak explained. “These colleagues are asked to be official and unofficial mentors to other students of color. They’re often asked to be sounding boards by their White colleagues about issues of racial equity. And we want to make sure that we value and
Work groups at the University of Wisconsin–Madison and their mission.

Work groups are part of the diversity, equality, and inclusion efforts within the Psychology Department at UW-Madison. Each group includes faculty members, department staff, graduate students, undergraduate students, alumni no longer on campus, and an expert in the area from outside the department. The groups aim to address specific issues by coming up with two or three recommendations, including at least one that can be implemented immediately.

**INTERNAL DEPARTMENT COMMUNICATION**
How can we improve the quality of our conversations about race and racial issues in our department meetings, brownbags, colloquia, classes, and lab meetings?

**IMPROVING FACULTY DIVERSITY**
What steps can we take to increase the desirability of our department to BIPOC [black, Indigenous and people of color] scholars, recruit these top faculty candidates, and then best retain and support them?

**IMPROVING UNDERGRADUATE ACCESS**
What can we do as a department to improve the racial diversity of our undergraduate enrollment in our classes and major? How can we better welcome and attract BIPOC students to become involved in our labs?

**IMPROVING PUBLIC MESSAGING**
How can we best signal to campus administration, undergrads, potential graduate school applicants, potential faculty candidates, and the Madison community our engagement with equity and diversity issues?

**UNDERGRADUATE COMMUNITY BUILDING**
How can our department strengthen our efforts to build a robust undergraduate community and network for our BIPOC students?

**IMPROVING GRADUATE STUDENT DIVERSITY**
How can our department strengthen our efforts to build and support a robust graduate student community of BIPOC students?

**DIVERSITY MESSAGING IN THE DEPARTMENT**
How our department can become more thoughtful about our internal diversity? messaging?

**GRADUATE CURRICULUM ISSUES**
How can our department become more thoughtful about issues of inclusion and diversity in our graduate teaching, including scholarship about race/ethnicity as well as research of BIPOC scholars?

**UNDERGRADUATE CURRICULUM ISSUES**
How can our department become more thoughtful about issues of inclusion and diversity in our undergraduate teaching, including scholarship about race/ethnicity as well as research of BIPOC scholars?

**IMPROVING MENTORING OF STUDENTS**
How can we best educate and support faculty to ensure successful mentoring of underrepresented students?

**IMPROVING CAMPUS PARTNERSHIPS**
How can we better work and partner with other departments across campus to extend, grow, and strengthen the community of BIPOC scholars on campus?

**CONNECTING TO THE MADISON COMMUNITY**
How can our department better connect with communities of color off-campus?

**DIVERSITY EFFORT ACCOUNTABILITY**
How will we know if our racial equity initiatives are succeeding or what needs to be revisited?
What metrics should the department attend to every year?

**ALTERNATIVE GRIEVANCE SYSTEMS**
How can we change from seeing complaints as adversarial threats to valuing them as insights that can spark positive change?
recognize and compensate this work in a formal way.” By doing that, he hopes the department will “end up creating a climate where people feel like they’re flourishing and personally feel valued, recognized, and supported.”

A 4-year-old DEI program
The University of Michigan (UM) has a history of significant contributions to equity and diversity. In 1870, it became one of the first universities in the United States to admit women. It appointed Henry Johnson as its first Black administrator in 1972, outlawed discrimination based on sexual orientation in 1993, and mounted a historic defense of race-conscious admission policies before the U.S. Supreme Court in 2003. Most recently, in 2016, UM created and implemented a strategic plan for DEI.

Robert M. Sellers, a professor of psychology and education and the university’s vice provost for equity and inclusion and chief diversity officer, explained how the DEI plan aims to create long-term systemic change.

The plan is actually 51 different plans, Sellers said; every major administrative unit at the school, college, and campus level has its own plan. There is also a university-level plan designed to support these units, scale up their ideas, and address issues that can be tackled only at the central level.

The planning process was designed to be as inclusive as possible. Every member of the student body, faculty, staff, and larger university community had an opportunity to contribute.

“The plans are not simply the president’s plans. Everyone has ownership and everyone has responsibility,” Sellers said.

Community engagement activities were central for the development of the DEI strategic plan. Between January and March 2016, thousands of faculty, staff, and students from across the Ann Arbor campus participated in activities such as focus groups, town halls, online forums, fireside chats, surveys, and feedback bulletin boards.

Implementing such a large-scale plan has posed some challenges, however.

“First, it was difficult to get people to believe that the university was really serious in wanting to change. Second, we were building the airplane as we were flying it—we went from concept to implementation in about 9 months,” Sellers said. “Third, we needed to create the infrastructure to make the plan work.”

This DEI process produced more than 2,500 action items, including the following particularly unique and impactful ideas:

Wolverine Pathways: A year-round free program that partners with families, schools, and communities in Detroit, Southfield, and Ypsilanti, Michigan, to provide learning experiences that will help students succeed in school, college, and careers.

University Diversity and Social Transformation Professorship: Established to acknowledge outstanding senior faculty at UM or to recruit faculty from other institutions on the basis of their significant contributions to DEI.

James S. Jackson Distinguished Career Award for Diversity Scholarship: Named after APS James McKeen Cattell Fellow James S. Jackson and awarded to recognize a senior faculty member at UM who has made important contributions to understanding DEI through research, scholarship, and creative endeavors; who has an outstanding record of teaching and mentoring; and whose work has focused on issues of importance to underrepresented communities.

Sellers believes UM’s DEI plan could be a blueprint for other institutions. With this in mind, the university has provided a toolkit that other institutions can use in their planning process. (See the toolkit at diversity.umich.edu/strategic-plan/dei-strategic-planning-toolkit.)

“The most important thing is that the DEI plan be consistent with the culture and structure of the institution,” Sellers said.

Navigating socioeconomic status in academia
Race and ethnicity might be the most salient areas of inequality in academia, but they are not the only ones. People of lower socioeconomic status (SES), women, people with disabilities, and members of the LGBTQ community are more likely to face career barriers than people from majority groups (Blustein, 2013; Diemer & Ali, 2009).

Students with lower SES are less likely to complete high school—in 2016, for example, 9.7% of 16- to 24-year-olds from low-SES backgrounds had dropped out of high school, compared to 2.6% of their higher-income peers (National Center for Education Statistics, 2017). The path to higher education can be paved with added difficulties. Prospective college students from lower SES backgrounds have less information about college (Brown et al., 2016) and are at risk of accruing greater student loan debt (Houle, 2014).
Nick Rule, a professor of psychology at the University of Toronto, managed to overcome those and other barriers as a low-SES student. Today, Rule leads a research laboratory and has received several prestigious awards for his research on how people process information about others and how it influences their behavior. He believes that sharing his experiences can help people from different backgrounds become more comfortable interacting with one another.

In a 2020 article published in *Perspectives on Psychological Science* (Jaremka et al., 2020), Rule discussed his experiences with impostor syndrome—the feeling that you are pretending to be something you are not—throughout his academic life. “It was very difficult,” he explained. “The anti-elitist attitude was something I always grew up with; my family was not particularly excited about the idea of me going to a university. It was like joining the elite, in their minds. There was this expectation among them, even a hope, that I would fail. And I really went away to college thinking that I wasn’t going to make it.”

Indeed, when he got to Dartmouth, Rule felt that many students were much better prepared for university than he was, given that he had attended what was then one of the worst high schools in the United States. But he benefited from resources such as the university’s Academic Skills Center, where he took classes to gain basic study skills. “They gave advice like ‘always sit in the front row, have a regimen, wake up every day at the same time, take notes in a specific way,’” Rule said. “I went to everything they offered. I felt I needed every advantage I could get because I felt I wasn’t as good or as smart as the other students.”

Rule also recalled the challenges of building social connections at an Ivy League school. His peers’ parents were executives and doctors, and he was often shocked at how carefree they seemed to be.

“One thing that people tend to overlook is that when you come from a background like mine, there’s no margin of error,” Rule said. “I could never afford to make any mistakes—for example, partying and missing class—because the moment I made a mistake it would all be over for me.”

Rule noted that mentorship can also play an important role in helping students from underrepresented backgrounds adjust to higher education. He hadn’t even considered pursuing a PhD until one summer during his undergraduate years, when he got a grant from Dartmouth to do research at the University of California in Santa Barbara. The person he worked with suggested he continue his education there. Back at Dartmouth, Rule told his social psychology professor, APS Fellow Jennifer Richeson, that he was thinking about going to graduate school. And he was stunned when she said he should.

Rule ended up going to graduate school at Tufts University, where his PhD advisor also encouraged him along the way, including providing tips on how to behave in a professional context.

“I was a bit rough around the edges,” he said. “She taught me how to speak and be a professional in a field I didn’t know and didn’t understand. If it hadn’t been for her being explicit about these things and for believing in me and giving me chances, I don’t think I would have been able to get where I am now.”

Being a little more human with each other in this way could help people to have more authentic interactions, Rule proposed. He believes that this is part of what DEI is really about—not just recognizing but celebrating who people are and where they are from.◊

Read this article online at psychologicalscience.org/observer/words-to-action.

References


Psychological scientists have deeply studied bias, exploring explicit and implicit attitudes, stereotypes, just-world beliefs, motivated cognition, and structural inequality. Less thoroughly researched, however, is the impact of these biases and structural inequalities on the scientific process itself.

In a 2020 article published in *Perspectives on Psychological Science*, Steven O. Roberts, Carmelle Bareket-Shavit, Forrest A. Dollins, Peter D. Goldie, and Elizabeth Mortenson (Stanford University) analyzed the role of race in psychological science publications. Examining more than 26,000 empirical articles published between 1974 and 2018 in six top-tier cognitive, developmental, and social psychology journals, they found that “the psychological publication process is no less reflective of racial inequality than most of society.” Neither the quality of the research nor the quantity of researchers of color could explain why many of the most prestigious psychological publications on race have been published by White psychologists.

Among Roberts and colleagues’ specific findings, only 5% of the articles highlighted race in their title or abstract, including:

- fewer than 1% of the cognitive psychology articles (14 of 3,689),
- 8% of the developmental psychology articles (878 of 11,123), and
- 5% of the social psychology articles (619 of 11,568).

In total, the six journals had 60 unique editors in chief between 1974 and 2018. Of these, 83% were White, 5%...
were people of color, and 12% were not identified. Among the articles that highlighted race, 87% were edited by White editors in chief (1,119 of 1,284), including:
- 100% of the cognitive psychology articles (14 of 14),
- 84% of the developmental psychology articles (707 of 837), and
- 92% of the social psychology articles (387 of 433).

Among the 1,745 unique editorial board members coded in the analysis:
- 76% were White,
- 10% were people of color, and
- 14% were unidentified.

Additionally, the race of a journal’s editor in chief (who often invites the journal’s editors) seemed to predict the racial diversity of the editorial board. When editors in chief were White, 6% of editorial board members were people of color; when editors in chief were people of color, that proportion jumped to 17%.

Roberts and colleagues also found that fewer publications highlighting race had been accepted and published by White editors than by editors of color. They offered two possible explanations: “(a) White editors are less concerned or familiar with race, or (b) authors who study race may be more likely to submit their work to editors of color at specialty journals.” On either account, the authors argue that those in control of the publication process are structurally related to what does (and doesn’t) get published.

Roberts and colleagues also analyzed the 1,093 unique first authors in a selection of articles about race. They found that 63% were White and only 23% were people of color. Finally, Roberts and colleagues looked at research participants. Across all of the articles that highlighted race, 42% of participants were White, 48% were people of color, and 10% did not report their race. White participants predominated in publications written by White authors (52% of participants) but not in publications written by authors of color (35% of participants).

Increasing representation in psychological science publishing

Roberts and colleagues recommended that publishers adopt the following explicit and transparent measures to help improve diversity, equity, and inclusion in research and publishing:
- Communicate a top-down commitment to diversity.
- Include diverse individuals across all levels of the publication process (i.e., editors, reviewers, authors, and participants).
- Merit participant diversity in the review process (e.g., create badges for publications that do not concern Western, educated, industrialized, rich, and democratic [WEIRD] samples).
- Release public diversity reports annually.
- Establish a diversity task force.

For authors, they recommended practices that increase transparency regarding the racial distribution of recruited participants, allow for a better understanding of results, and encourage caution in making assumptions about the applicability of results to diverse samples:
- Detail the racial demographics of samples.
- Justify the racial demographics of samples.

An Absence of Race in Journal Articles

Roberts and colleagues analyzed the role of race in 26,000 journal articles (2020). Overall, only 5% of the articles highlighted race in their title or abstract. This percentage was under 1% for cognitive psychology articles, 8% for developmental psychology articles, and 5% for social psychology articles.
• Include constraints on generality statements (i.e., if a sample is homogeneous, discuss the implications for the generalizability of findings).

• Include positionality statements (e.g., explain how the identities of the authors relate to the research topic and to the identity of the participants).

These recommendations should not be limited to race, Roberts and colleagues noted, given that “intersectionality is also vital to a healthy and representative science (e.g., persons representing a wide range of gender, political, religious, and sexuality).”

In addition to adopting the measures proposed by Roberts and colleagues, publishers can take other steps to improve inclusion throughout the peer-review process.

To address reviewers’ biases regarding gender, race, geography, seniority, and institutional affiliation, APS Fellow Rob Goldstone (Indiana University), editor of Current Directions in Psychological Science, suggested in an email to the Observer “actively pushing to make editors and reviewers blind to the identity and affiliation of authors in increasingly many publishing contexts.” For instance, top-tier journals in psychological science usually identify authors to reviewers, but reviewers have the choice of whether to identify themselves. In many other disciplines, however, the peer-review process is double-blind (i.e., reviewers are anonymous and the author’s identity is unknown to the reviewers) or even triple-blind (i.e., reviewers are anonymous and the author’s identity is unknown to both the reviewers and the editor).

The way the peer-review process has been handled in psychological science is “frustratingly ironic,” Goldstone added, “given that it is psychologists themselves who have convincingly demonstrated that people continue to show biases even when they believe that they are being fair and unbiased!”

Another way to increase equity in psychological science publishing is to ensure that editorial teams represent different demographics, geographic locations, cultures, experiences, and expertise. APS Fellow Jennifer Tackett (Northwestern University), recently appointed editor of Clinical Psychological Science, reflected on her efforts to ensure diverse representation while assembling her associate editorial team: “Clinical psychology is an incredibly diverse field, but this diversity has been remarkably absent in the editorial teams leading our top outlets. This results in a highly restricted pipeline influencing which papers are ultimately published and subsequently shape the field in consequential ways. It is long overdue for our top outlets to better reflect the wide diversity existing in the field itself, which will in turn result in greater diversity and intellectual expansion in the papers appearing in our journals.”

Tackett addressed various forms of diversity, including age and institutional diversity. “Clinical psychology, like other areas in psychology, has been long dominated by very senior scholars, often clustering at elite institutions. This, too, results in a stifled and biased academic pipeline, missing the amazing scientific contributions to the publication process that we might find with broader institutional participation and the explicit prioritization of younger scholars.”

Read this article online at psychologicalscience.org/observer/turning-the-page.

Reference

Predominantly White Journal Editors in Chief
Percentage of White and non-White editors in chief for the articles that highlighted race, identified by Roberts and colleagues (2020). Of 1,284 articles, 87% had White editors in chief. This percentage was 100% for cognitive psychology articles, 84% for developmental psychology articles, and 92% for social psychology articles.
When done well, efforts to support equal opportunities for marginalized and underrepresented groups can uplift individuals and lead entire organizations to perform at a higher level. Mounting demand for diversity, equity, and inclusion programming has exploded into an $8 billion industry, as cited in a report published by Ivuoma N. Onyeador and colleagues in *Psychological Science*. But a growing body of research suggests that this kind of diversity training may not be the antidote to bias it is often billed to be.

Through a study of 3,134 physicians in training, Onyeador and colleagues found that there was no relationship between the hours of diversity training non-Black students participated in during their 4 years of medical school and their racial attitudes toward Black people 2 years into residency (Onyeador et al., 2019). In fact, the only factor that was found to reduce White, Asian, Hispanic, and Native American medical students’ explicit and implicit anti-Black bias during their residency was the perceived favorability of their interactions with Black people before and especially during medical school. Students who described their medical school as fostering respect for cultural differences also reported more positive explicit attitudes.

“Although the effects of experimental intervention to reduce implicit bias rarely last beyond 24 hours, long-term personal and educational experiences can have an enduring impact” and could meaningfully impact the
quality of care individuals receive in medical settings, the researchers concluded.

Interventions that target bias directly can help physicians to achieve cultural competency, improving patient outcomes, Onyeador and colleagues noted, but diversity training’s effects on racial bias itself may be limited because of backlash these programs can elicit in unwilling participants. Research suggests that structural changes, by contrast, can help to create more equal social environments and may more effectively promote intergroup harmony over the long term.

Acknowledging attitude resistance

In a 2019 meta-analysis published in the *Journal of Personality and Social Psychology*, Patrick S. Forscher (University of Arkansas) and colleagues examined the effects of 492 studies of implicit bias interventions involving 87,418 participants. Coauthor and APS Fellow Brian Nosek (University of Virginia), along with APS William James Fellow Anthony Greenwald (University of Washington) and APS Past President Mahzarin Banaji (Harvard University), is known for pioneering the use of the Implicit Association Test (IAT) to measure implicit bias—attitudes that exist beneath the level of conscious awareness and can influence the way we perceive and behave toward others.

The team, led by Forscher and Calvin K. Lai (Washington University in St. Louis), found that individuals’ implicit biases were mildly influenced by single-session interventions, such as perspective-taking or completing an IAT designed to alter participants’ associations by tasking them with continuously pairing concepts that affirmed or contradicted their existing attitudes.

Consciously addressing our own biases requires high motivation and thoughtful consideration, conditions that are rarely met when employers require individuals to participate in an intervention.

Outside of the lab, however, these programs had, at best, a minimal impact on participants’ reported explicit beliefs and behaviors, such as their seating distance from a Black or White research student or willingness to vote for an LGBTQ civil rights measure.

An IAT Overview

The Implicit Association Test (IAT) is designed to measure unconscious attitudes and associations. This is done by comparing individuals’ average response times to different conceptual pairings. An IAT designed to measure racial bias, for example, might require an individual to use the same buttons to categorize words and images as Black or good and as White or bad.

The participant’s average response times and error rates for different button pairings are then used to compute a measure of their implicit racial bias. A participant whose average response time for the Black/good pairing was significantly longer than their response time for White/good, for example, could be said to have an implicit preference for White people.

Well intended as they may be, the effectiveness of these measures, often presented as part of larger diversity training programs, may be limited by the way intergroup attitudes are tied to our own social identities, wrote Sohad Murrar (Governors State University) and Markus Brauer (University of Wisconsin–Madison) in *Current Directions in Psychological Science* in 2019.

Consciously addressing our own biases requires high motivation and thoughtful consideration, conditions that are rarely met when employers require individuals to participate in an intervention, Murrar and Brauer explained. When participants’ sense of self-determination is threatened, interventions can trigger high levels of attitude resistance, causing participants to focus on potential counterarguments and feelings of anger instead of the biases the interventions are designed to target.

“The methods indirectly communicate to people that there is something wrong with them and that they need to change, therefore creating reactance,” Murrar and Brauer wrote.

But although attitude resistance can hinder efforts to reduce bias directly, the fact remains that these attitudes can be changed. In a 2019 analysis of 4.4 million tests of implicit and explicit attitudes, Tessa Charlesworth (Harvard University) and Banaji found that Americans’ explicit attitudes in regard to sexual orientation, race, skin tone, age, disability, and body weight all shifted toward neutrality between 2004 and 2016. Additionally, even implicit attitudes regarding sexual orientation, race,
and skin tone have reduced to neutrality, though attitudes on age and disability have not shown the same change.

“Implicit attitudes can be gradually and durably changed at the population level,” Charlesworth and Banaji wrote. The solution appears to lie in tangibly restructuring social environments.

Renovating our social environments

In a related 2019 article in *Psychological Science*, Heidi A. Vuletich (Indiana University Bloomington) and APS Fellow Keith Payne (University of North Carolina at Chapel Hill) revisited a longitudinal study of racial bias to investigate how social environments influence individual attitudes.

The original study, published in 2016 by Lai and colleagues in the *Journal of Experimental Psychology*, followed 4,842 students at 18 U.S. universities as they participated in nine different interventions, including counter-stereotypical experiences, multicultural ideology priming, and evaluative conditioning.

Participants were tested for implicit bias both before and after the intervention and then again several hours to several days later. Together, the data indicated that each intervention prompted an immediate reduction in implicit bias, but not one produced an effect that lasted longer than a few days.

Findings such as these are often interpreted as suggesting that individuals’ implicit biases are highly resistant to change, Vuletich and Payne wrote, but these attitudes may instead be a relatively malleable reaction to persistent structural inequality in our social environments.

Through their reanalysis, Vuletich and Payne found that prominent displays of structural inequality and historic racism on a university’s campus—measured via the presence of Confederate monuments, a lack of racial diversity among full-time faculty, and lower social mobility for low-income students after graduation—were associated with higher average levels of implicit bias across campuses before the racial-bias interventions.

Additionally, in a 2019 study, Payne, Vuletich, and Jazmin L. Brown-Iannuzzi (University of Kentucky) found that American counties that had more enslaved Blacks in 1860 have higher anti-Black implicit bias among White residents today. This effect was mediated by counties’ rates of—poverty and economic mobility among Black residents, supporting the significance of these systemic factors in the long-term transmission of bias, Vuletich and colleagues wrote.

“Historical oppression may be transmitted into contemporary biases through structural inequalities, including disparities in poverty and upward mobility,” they explained. “Given the importance of contextual factors, efforts to reduce unintended discrimination might focus on modifying social environments that cue implicit biases in the minds of individuals.”

These findings reflect the bias-of-crowds model, a spin on the more familiar “wisdom of crowds” idea, Vuletich and Payne wrote in *Psychological Science*. This model holds that whereas individuals’ implicit associations are often sensitive to short-term changes, a population’s aggregate levels of implicit bias tend to be more stable, reflecting persistent inequalities in the social environment.

“Implicit bias is a social phenomenon that passes through individuals like the ‘wave’ passes through fans in a stadium. Rather than a property of individuals, it may more properly be considered a property of social contexts,” explained Vuletich and Payne.

This suggests that removing environmental cues of inequality, such as Confederate monuments, and increasing diversity in an organization’s leadership could help produce sustained changes in bias throughout a community or organization, the researchers concluded.

Similarly, Murrar and Brauer found that media may offer opportunities to communicate more subtle messages about positive intergroup relations without triggering attitude resistance. In one study, for example, participants who watched episodes of a sitcom that portrayed a cast of Muslim Canadians as relatable scored lower on measures of implicit and explicit prejudice both immediately after viewing the show and 4 weeks later relative to participants who watched a sitcom without any minority characters.

That doesn’t mean that implicit bias interventions should become an artifact of psychological science’s past, however, Vuletich and Payne noted. Although affirming egalitarian values may have only a temporary impact on individual bias, these kinds of tactics can still significantly reduce unintended bias in the moments leading up to hiring or admissions decisions, for example, while organizations work to change the larger environment.

“The source of stable implicit bias—and the opportunity for change—is to be found in the places and people around us,” the researchers concluded.

Read this article online at psychologicalscience.org/observer/bias-of-crowds.
Managing Identity Consciousness

Members of diverse teams have been found to process information more deeply, and the wide variety of perspectives on these teams can lead to better and more innovative decision making, wrote APS Fellow Adam D. Galinsky (Columbia University) and colleagues in a 2015 article in *Perspectives in Psychological Science*. In fact, he added, a region’s number of H1-B visa holders—highly skilled foreign workers hired to fill specialized positions at U.S. companies—may predict wage growth above the national average for its U.S.-born workers.

“Empirical evidence reveals that diversity—heterogeneity in race, culture, gender, etcetera—has material benefits for organizations,” explained Galinsky. “However, because diversity can also incite detrimental forms of conflict and resentment, its benefits are not always realized.”

The question of how to manage diversity effectively doesn’t have a simple answer. Taking a “color-blind” approach to racial diversity by encouraging identity blindness, for example, has been found to diminish White employees’ sensitivity to racism, wrote Victoria Plaut (University of California, Berkeley) and colleagues in a 2018 article in *Current Directions in Psychological Science*. Multiculturalism, on the other hand, encourages identity consciousness and can help to reduce prejudice and increase minority employees’ engagement at work by encouraging people to celebrate their differences. But it may also promote stereotypes and provoke increased prejudice in majority employees who feel racially or otherwise threatened.

In other words, either approach could worsen inequality if it is pursued to the exclusion of the other.

“The literature typically pits one model against the other, they are not mutually exclusive, and it is possible to recognize people as group members and as individuals,” Plaut and colleagues continued.

Professors might promote multiculturalism by incorporating more underrepresented researchers into their curricula, for example, while also seeking to reduce bias in the grading process by blinding themselves to students’ identities when grading exams.

“Moreover, if an organization is actually equitable and inclusive in practice, potential negative implications of a given approach may not emerge,” the researchers concluded.

References


UP-AND-COMING VOICES: INCLUSIVITY IN PSYCHOLOGICAL SCIENCE

Poster presentations offer student and early-career researchers an invaluable opportunity to connect with colleagues and present their work to the broader scientific community. With many such events still taking place online, including the upcoming 2021 APS Virtual Convention, this new Observer feature provides early-career psychological scientists who participated in the APS Virtual Poster Showcase with another platform to share their research. This edition of spotlights a selection of research related to inclusivity in the workplace, higher education, and the field of psychology.

An Examination of How Patient Satisfaction Differs as a Function of Sexual Orientation and Gender Identity in an Acute Care Clinical Setting

Isabel K. Benjamin, Craig Rodriguez-Seijas (Rhode Island Hospital), and Mark Zimmerman (Warren Alpert Medical School of Brown University)

What drew you to this research?
Since learning about the minority stress theory for psychopathology, I have been questioning how it manifests within clinical settings. We know that sexual and gender minority (SGM) individuals are at greater risk for, and experience elevated rates of, psychopathology. Yet there is still little information about the relationships between minority stress, psychopathology, and treatment experiences. As a senior in college, I visited an LGBTQ+ inpatient facility where SGM individuals had traveled enormous distances to seek treatment in an affirming environment. I wondered about other treatment facilities that were not specifically designed for this population and whether they were able to provide adequate care to a population with a history of experiencing stigma. At my current position as a research assistant at Rhode Island Hospital’s adult partial program, I interact with a lot of patients, many of whom are SGM individuals. I realized this would be the perfect place to explore whether our SGM patients were as satisfied with their treatment as their cisgender heterosexual counterparts.

What did the research reveal that you didn’t already know?
Our results indicated that overall, SGM patients were no less satisfied than cisgender heterosexual patients. Although there were some small but meaningful differences in satisfaction with various group therapies, the majority of our patients were “very” or “extremely” satisfied. We have worked hard in our program to ensure it is an affirming environment for SGM individuals, and it was encouraging to see that our efforts to provide competent care do not exclude a vulnerable population. Still, extant measures of
treatment satisfaction are severely limited in many ways. For instance, they do not currently evaluate satisfaction as a function of identity or minority status. Therefore, we cannot say for certain how or if our SGM patients’ treatment experience was influenced by their SGM status. This highlights important changes needed in the treatment-satisfaction literature to ensure appropriate measurement and assessment.

The Relationship Between Diversity Climate, Skills, and Peer Value and Student Perceptions of Bias

Courtney Nowetner, Jillian Morley, Kimberly Jaussi, Dina Layish, Tom Kelly, and Sara Reiter
(State University of New York at Binghamton)

What drew you to this research?
We have a strong interest in finding ways to support equalizing the playing field for historically disadvantaged groups. Considering the social and political climate that has manifested over the past few years, the necessity of mobilizing our interest was made clearer than ever. When we saw that there was a chance for us to study a data set based on undergraduate business students’ perceptions of how diversity is taught and valued in the classroom, we felt it was an amazing opportunity.

What did the research reveal that you didn’t already know?
Going into this project, our goal was to conduct important research capable of making real change, and we’re confident that that’s what we’ve achieved. Our research has taught us that, although diversity training programs are important, it is also crucial to ensure that peer interactions are positive, as they promote student feelings of comfort. Investigations into diversity are far from complete, however, particularly in the context of education. We strongly encourage other researchers to examine the relationship between peer interactions and perception of diversity climate, and we will continue to do so in our own projects moving forward.

Other Featured Research

A Meta-Analysis of the Instructor Gender and Race Differences on Student Evaluation of Teaching

Danqi Zhu, Heining Cham, and Joy Hariprasad
(Fordham University)
Zhu and colleagues conducted a meta-analysis of studies on how university instructors’ gender and race influence student evaluations of teaching. The researchers found that European American instructors received significantly higher scores than African American, Asian American, and Latinx American instructors, whereas instructor gender had only a trivial impact on scores.

The Associations Between Gender-Based Stereotype Threat, Negative Affect, and Belonging Among PhD Students

Louisa G. Soohoo, Peter M. Ruberton, Jackson O. Harper (The Pennsylvania State University), Geoffrey L. Cohen (Stanford University), Valerie Purdie Greenaway (Columbia University), Joshua M. Smyth, and Jonathan E. Cook (The Pennsylvania State University)
Soohoo and colleagues examined how gender-based stereotype threat influences the experiences of PhD students in STEM programs. The researchers found that fear of being negatively stereotyped was associated with increased negative affect and decreased feelings of belonging at significantly higher levels.
for women than men, pointing toward one potential explanation for women’s higher rates of attrition from doctoral education.

The Effects of Gender, Discipline, and Scientist Advocacy on Perceptions of Credibility and Motivations

Kathryn Arntsen, Kayln J. Clinkenbeard, Madeleine D. McGann, Rebekah Stone, and Mindy J. Erchull (University of Mary Washington)

Arntsen and colleagues examined how gender, seniority, and discipline influence the perceived credibility of psychological scientists who engage in advocacy on Twitter. The researchers found that among students, but not more established researchers, women were perceived as more motivated by personal gain than men. Public health scientists were perceived as more motivated by a desire to serve than psychological scientists.

The Importance of Considering Intersectionality and Identity Management in Leadership Interviews

Kalise Weeks (Virginia State University), Danielle King (Rice University), Ann Marie Ryan (Michigan State University), and Jennifer Wessel (University of Maryland)

Weeks and colleagues examined how individuals’ identity-management strategies, along with their race and gender, influenced their participant-rated performance in leadership interviews. In line with role congruity theory, the researchers found that the success of communal and more self-directed agentic strategies differed across intersectional identities, suggesting that hiring managers should be trained to reduce potential biases in hiring and promotion decisions.

CALL FOR APS FELLOWS NOMINATIONS

Deadline for Spring Review: April 1, 2021

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Ayse Uskul, University of Kent

For more information and to submit a nomination, please visit psychologicalscience.org/fellows
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INSIDE THE “VIRTUAL” PSYCHOLOGIST’S STUDIO WITH GEORGE BONANNO

In August 2020, APS Past President Lisa Feldman Barrett sat down virtually with George Bonanno, professor of clinical psychology at Teachers College at Columbia University, to discuss intriguing aspects of his life, career, and personal interests.

By his own account, APS James McKeen Cattell Fellow George Bonanno’s life has followed a nontraditional trajectory. From a period of travel and self-discovery in his youth to researching intriguing questions in unorthodox ways at that start of his professional career, Bonanno’s unconventional pursuits helped lay the foundation for his seminal work on human resilience and his ongoing studies on the long-term impact of potentially traumatic events.

This compelling personal story piqued the interest of APS Past President Lisa Feldman Barrett, who invited Bonanno to be the featured guest for the APS 2020 Annual Meeting’s “Inside the Psychologist’s Studio,” which is typically one of the highlights of the convention. Rather than allowing the COVID-19 pandemic to stifle what promised to be an entertaining and enriching conversation, Bonanno and Barrett met virtually and spoke candidly about his much-cited work on resilience and its relationship to loss, bereavement, and trauma.

The following is a brief synopsis of some of the key points of their discussions. The entire interview can be found here with this story on psychologicalscience.org/observer/jan-feb21-itps.
BARRETT: Can you share something about yourself from your formative years that is not widely known but that helped to make you the person you are today?

BONANNO: Few people know that I left home and went traveling at quite a young age, 17, and I had no intention of pursuing higher education at the time. This experience opened the world to me so when I finally decided to go back to school about a decade late, I had a sense of what was out there. That experience has underpinned everything I have done since.

BARRETT: This sounds like you were an independent thinker, which can be a hard approach to take when you’re a scientist.

BONANNO: I think that’s very true. In science, if you follow where your heart takes you—the ideas that really motivate and interested you—you can run against what the broader community expects. That can be lonely and have career consequences.

BARRETT: Can you share an example of a personal triumph on a question that was really pressing?

BONANNO: Early in my career, I began to see that people were able to deal with adversities better than was generally believed by the profession. When I began studying bereavement, I also found that the literature needed to be updated and that modern psychology needs to be imported into it. Eventually, evidence began to pile up to affirm my view that most people could cope well with adverse events. Suddenly, I got very excited.

BARRETT: You are known for using nontraditional experimental designs with large data sets in real-world scenarios. That was not a common thing when you started doing research 20 years ago.

BONANNO: You are right. It was very difficult, and I did pay the price. Everyone wants to be recognized for their work and early in my career there was no recognition and my early papers had little impact. On the other hand, the benefit I had was when there’s something you really want to know and it bears fruit, it is very rewarding.

After the terrorist attacks on 9/11, I published a paper, “Loss, Trauma, and Human Resilience: Have We Underestimated the Human Capacity to Thrive After Extremely Adverse Events?” If I were thinking about the traditional benefits of publication, I would not have written that paper at the time. Ironically, however, it brought me a lot of recognition and accolades.

BARRETT: Talk about times in your career when you’ve been wrong, seriously wrong.

BONANNO: I had been studying bereavement and grief for a long time. There was a common understanding that grief treatments weren’t working because they were too broad in scope. Now, I’m not a big fan of diagnostics, but I found myself arguing in favor of the Diagnostic and Statistical Manual of Mental Disorders when it came to grief, which identified it as depression and PTSD for certain types of losses. There were discussions about a need for a new diagnosis, but I argued it wasn’t necessary. Later, as noted in my paper, “Is there more to complicated grief than depression and posttraumatic stress disorder? A test of incremental validity,” I came to find that there is more to grief than depression and PTSD. So I had to come out and say that I was wrong. But, I felt good about that.

BARRETT: Shifting gears a bit, most people may not know that you are a very gifted artist. How did you develop your artistic ability and what made you go for science over art?
BONANNO: Painting and drawing are the things in my life I can just “do.” Early on, I began to do artwork and painted signs for money. Around the same time that I decided to go to college and graduate school, I was doing various art series and showed my work in galleries. In the 1980s, I realized that I would be miserable in art as a career and I had no desire to do any formal training in it. My career in psychology was blossoming then, too, and I felt it would provide a career that was creative but somewhat more manageable. I continue to paint, and I no longer bemoan missing that part of my career.

Currently, I am writing a book for the general public titled The End of Trauma: How the New Science of Resilience Is Changing the Way We Think About PTSD, so for now I put painting on hold. The new book is about integrating resilience and flexibility. We know people are resilient, but we’re not good at predicting who is and who isn’t. The book is about how to solve the paradox of not being able to predict resilience. It’s about how all the behaviors we can do have costs and benefits. Resilience about applying the right behavior at the right time and in the right situation. The book is the details of that. It’s a reimagining what trauma is.

BARRETT: So resilience isn’t about not being bothered or perturbed by adversity. It’s having a big enough toolbox, or options, to craft a solution.

BONANNO: That’s one part of it. We also need to understand what’s happening to us. We need to read the situations and pay attention to them. We need to have a flexibility mindset so we can engage with ourselves. The toolbox comes into play then.

BARRETT: There’s a real important distinction between suffering and being functionally effective in your life. Your work suggests that people could suffer and struggle, yet this is part of the process of being resilient.

BONANNO: If we think about potentially traumatic events, there is definitely pain in those events, but it is somewhat short-lived. Feeling bad isn’t always a bad thing, if it gets you to where you need to be to not feel bad.

BARRETT: Last question. It’s a tough time for young scientists, for usual and unusual reasons. What advice do you have for young scientists today to be resilient in their careers.

BONANNO: Follow what you are interested in and the questions you have, though this can make for difficulties in your career. Sometimes those big questions take a long time to address. Follow your heart and what moves you.
THE DUTY FALLS TO US: COMMUNICATING SCIENCE IN 2021

By Charles Blue, APS staff writer

Throughout 2021, the Observer will feature a special section dedicated to communicating psychological science, why it matters, and what can be done by APS and you, our members, to improve understanding and awareness of psychological research.

A little more than a century ago, Albert Einstein was vaulted from obscure yet brilliant physicist to the world’s most famous science celebrity. This meteoric rise was triggered by breathless news reports that Einstein’s general theory of relativity was correct. With the aid of the most accurate telescopes of the day, along with a solar eclipse, the English physicist Sir Arthur Eddington was able to show that the light from distant stars was bent by the sun’s gravity, proving that the fabric of the universe is malleable, just as Einstein predicted.

Initially reported in The Times of London, the story caught the attention of editors at The New York Times, who gave the task of covering this announcement to Henry Crouch, a sports reporter who was in England to write about golf. His tenuous grasp of this profound yet mind-boggling subject matter was apparent in his reporting. He began with an observation and understatement: “Efforts made to put into words intelligible to the non-scientific public the Einstein theory of light proved by the eclipse expedition so far have not been very successful.” Later in that piece, Crouch’s canard that “only twelve persons in the world can understand Relativity” is more likely a commentary on Crouch’s lack of understanding than that of the scientific community.

This anecdote illustrates one of the major problems in covering science: Most reporters are not subject matter experts. Usually, reporters are generalists who are often called upon to cover topics ranging from technology and politics to pandemics and virology. There are notable exceptions, of course. Reporters like Dennis Overbye at The New York Times and Maggie Fox at CNN have spent their careers honing their craft while developing a keen understanding of the scientific method and the world of academic research. But the broader picture is not so bright.

According to the Pew Research Center, U.S. newspapers have shed half of their newsroom employees since 2008. This change has meant that many science-related news items are written by either part-time reporters or reporters specialized in other fields. Beyond that, there is a growing shift away from traditional media as the Internet has become Americans’ primary source for science news, according to the National Science Foundation’s 2018 Science & Engineering Indicators report.

As a result, the public often encounters either incomplete coverage of truly remarkable scientific advances or unnecessary hyperbole about preliminary and tentative results.

As a personal observation, when I first started communicating science about 30 years ago, conventional newsrooms were teeming with reporters representing outlets both big and small. Decades of attrition and a shift to news aggregators have changed the face of science outreach, especially for societies like APS. The result is that we can no longer count on skilled journalists to read jargon-laden papers or conduct investigative reporting on complex science topics.

The onus of communicating science to the public is therefore falling more and more on researchers, institutions, and scientific societies, including APS. This involves more than fulfilling our mission of “engaging the public with our research to promote broader understanding and awareness of psychological science.” If research is to thrive and receive public support, it is essential that APS’s leadership, staff, and members reach out and effectively communicate the impact that physiological science has on society.

Over the past year, APS has launched several innovative public-outreach efforts, including our Under the Cortex podcast, news videos highlighting journal research, and lay-language backgrounders that explain the critical psychological science aspects of combating and coping with COVID-19.

“Scientists have so many great stories to tell—stories that tie our work to quality-of-life improvements for people around the world,” says Arthur Lupia, head of the National Science Foundation’s Directorate for Social, Behavioral and Economic Sciences. “We need to get better at telling those stories, and professional associations should be front and center in that effort.”

Throughout 2021, the Observer will feature a special section dedicated to communicating psychological science, why it matters, and what can be done by APS and you, our members, to improve understanding and awareness of psychological research.
Data Sharing for Greater Scientific Transparency

Openness and transparency are core values of the scientific process. Sharing research data “can be perceived as a signal of commitment to transparency and of confidence in the integrity of the data and analyses,” wrote APS Fellow D. Stephen Lindsay, former editor of Psychological Science, in 2017. Accessible data can also foster critical reanalyses that shed new light on findings and facilitate meta-analytic work, he added.

Major funding agencies often require researchers to share the data provided by their research. The National Institutes of Health (NIH) policy on data sharing, for example, states that “data should be made as widely and freely available as possible while safeguarding the privacy of participants, and protecting confidential and proprietary data.” An updated NIH policy for data management and sharing, effective in 2023, will require NIH-funded researchers to submit a plan outlining how their data will be managed and shared before beginning their research.

The European Research Council (ERC) has also expressed its support for the so-called FAIR data principles of findability, accessibility, interoperability, and reusability. In information provided to grantees in 2019, the ERC suggested that “the next step in the development of open science is making research data publicly available when possible.”

The ERC recommends that its funded researchers share their data in depositories that:
- store the data safely (e.g., prevent access from unauthorized users);
- make sure the data remain findable (i.e., use identifiers and links that are permanently and uniquely attached to each data set), accessible, and reusable;
- describe the data in a standard way, so their usability is maximized; and
- add a license stating who can access and reuse the data.

The OSF

One of the most commonly used platforms for data sharing is the OSF (formerly known as the Open Science Framework), a not-for-profit depository developed and maintained by the Center for Open Science. Founded by Brian Nosek and Jeffrey Spies, the Center for Open Science’s mission is to increase the openness, integrity, and reproducibility of research.

The OSF is a free, open-source collaboration tool that lets researchers share their data for private collaborations with specific researchers or disseminate their entire projects to the public. Brian Nosek explained in the March, 2014 edition of the Observer that the “OSF helps individuals and research teams organize, archive, document, and share their research materials and data. Users have accounts and create projects. . . . The OSF logs actions and retains version histories of the wikis and files so that the history of the research process is recoverable.”

The OSF provides several guides with instructions on everything from creating and managing projects to ensuring the security and privacy of data. In a 2018 article in Advances in Methods and Practices in Psychological Science, Courtney K. Soderberg wrote a step-by-step guide for quickly using OSF to share data. The OSF user interface has since changed; see this article online for an updated quick-use guide.

Ethical data sharing

In a 2018 tutorial published in Advances in Methods and Practices in Psychological Science, Michelle N. Meyer (Geisinger Health System) described do’s and don’ts for ethically sharing data from research involving humans.

Sharing future data

If you plan to share data that you have yet to collect, consider these measures in both your consent form and
your institutional review board (IRB) submission:

- In your consent form, state that the data will not be destroyed and might be shared.
- Don’t promise that research analyses of the collected data will be limited to certain topics.
- Get consent to retain and share data. Disclose who will have access to the data (e.g., other researchers at the same institution, researchers at other institutions, government agencies, the general public, commercial entities) and the purposes for which the data may be reused (e.g., reanalysis and replication, new analyses).
- Incorporate data-retention and data-sharing clauses into IRB templates.
- Consider the risks of reidentification.
- Choose a data repository judiciously, given that different repositories have different guidelines and privacy settings and might be more suitable for some data sets than others (see Meyer, 2018).

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- Consider the risks of reidentification.
- Choose a data repository judiciously, given that different repositories have different guidelines and privacy settings and might be more suitable for some data sets than others (see Meyer, 2018).

Sharing collected data

Sharing data that you’ve already collected poses two risks to participants. First, they may become subject to harms including privacy loss and discrimination, and second, their data may end up being used for research purposes to which they would not have consented. Meyer (2018) proposed that sharing previously collected data is more acceptable under the following conditions:

- The original consent form did not include a promise not to share data.
- Sharing the data is unlikely to cause significant harm to participants.
- The shared data are not individually identified and are not likely to be relinked to individuals.
- The shared data are accessible only under restricted conditions, protected by agreements prohibiting reidentification.

Sharing is limited to research purposes that fall within the scope of the research described in the original consent form.

Sharing “public” data

During the COVID-19 pandemic, many researchers have been forced to find alternatives to collecting data in their laboratories, often opting to use publicly available data to attempt to answer their research questions. Sources of publicly available data include social media platforms such as Twitter, Facebook, and Instagram, along with dating websites such as OkCupid.

The use and sharing of publicly available data raise specific ethical questions, given that “participants” are usually not aware of their participation, did not provide informed consent, did not have an option to opt out of the research, and did not intend for their data to be shared or used in research. Moreover, efforts to eliminate connections between data and participants’ identities might not completely prevent the reidentification of data.

Meyer (2018) illustrated some of these issues by describing a study in which the researchers joined a closed online community to retrieve data. “The fact that users were willing to disclose personal information to fellow members of a particular community, for a particular purpose… does not mean that they would have agreed to share the same information with researchers, much less with the public, and much less in a permanent data repository” (p. 142).

Employing good research practices and seeking institutional approval before retrieving and sharing publicly available data might help to avoid ethical violations. Josh VanArsdall (Elmhurst College), in the APS webinar Online Research: Tools and Techniques, encouraged researchers to keep in mind that most online data were not intended to be used in research and may not fully represent the people behind the data. Be careful not to misrepresent data, he added, and always seek IRB approval.

By Ludmila Nunes, APS staff writer

Open science badges

- **Open Data**: For making publicly available the study data that other researchers would need to reproduce the reported results.
- **Open Materials**: For making publicly available the materials and methods that other researchers would need to reproduce the experiments leading to the reported results.
- **Preregistered**: For having disclosed a plan for the experimental design and analysis (i.e., specification of the variables and the statistical analyses that will be conducted) before the research was conducted and having followed that preregistered plan.

References


The APS Employment Network is your connection to the best jobs in psychological science. Employers from colleges and universities, government, and the private sector use the APS Employment Network to recruit candidates like you. Visit www.psychologicalscience.org/jobs for additional job postings and to sign up for job listings by email.

observerads@psychologicalscience.org • +1.202.293.9300

INDIANA

Assistant/Associate Clinical Professor

The Indiana University (Bloomington, IN) Department of Psychological and Brain Sciences invites applications from candidates who are deeply committed to innovative clinical psychological training within an evidence-based, translational, and interdisciplinary model of doctoral training. We are seeking an individual with training and clinical experience in cognitive-behavioral therapy (CBT) and other evidence-based intervention techniques and a commitment to intervention development, implementation, and outcome assessment. A strong interest in translational research and practice with a focus on moving interventions from the lab/clinic to the community is desirable. Primary responsibilities will include: (1) supervision of predoctoral psychology students and early career faculty in clinical practicum training; (2) coordination with, and oversight of, external practicum sites; (3) teaching clinical courses in the department; (4) assisting with administrative and accreditation activities in the clinical science doctoral program.

Qualifications include a Ph.D. in Clinical Psychology from a PCSAS and/or APA accredited program; being licensed or license-eligible in the State of Indiana, training and clinical experience in cognitive-behavioral therapy (CBT) and other evidence based services; clinical supervisory experience; interest in university level teaching; and commitment to pedagogical advancement. This will be a full time non-tenure track, faculty appointment beginning August 2021. Rank and salary commensurate with experience.

The Clinical Science Program at Indiana University is nationally recognized for an emphasis on translational research on mechanisms and intervention. Clinical and research training is highly integrative, often involving approaches from medicine, cognitive science, neuroscience, behavioral genetics, informatics, social and developmental psychology. The Department of Psychological and Brain Sciences’ in-house training clinic serves adult, family, and child populations and is integrated with active programs of research. Faculty overseeing its operation are supported by administrative staff. The University is located in Bloomington, Indiana, a university town which offers an exceptional cultural, educational and recreational environment.

The department and College of Arts and Sciences are committed to building and supporting a diverse, inclusive, and equitable community of students and scholars. Indiana University is an equal employment and affirmative action employer and a provider of ADA services. All qualified applicants will receive consideration for employment without regard to age, ethnicity, color, race, religion, sex, sexual orientation, gender identity or expression, genetic information, marital status, national origin, disability status or protected veteran status.

Interested candidates should submit a letter of application, CV, teaching, and diversity and inclusion statements, and letters of
recommendation as described at: http://indiana.peopleadmin.com/postings/10062. Review of all applications will begin on February 1, 2021 and will continue until the position is filled. Questions regarding the position or application process can be directed to: Cherlyn Crees, Assistant to the Chair, ATTN: Clinical Professor Search, Department of Psychological and Brain Sciences, 1101 E. 10th Street, Bloomington, IN 47405-7007 or chcrees@indiana.edu

INDIANA UNIVERSITY-BLOOMINGTON

VISITING ASSISTANT PROFESSOR

The Department of Psychological and Brain Sciences is seeking to fill four positions for visiting assistant professors to teach undergraduate courses in the areas of Introductory, Cognitive, Social, or Developmental Psychology, and/or Neuroscience. Position will begin August 2021. The ideal candidate will be an experienced instructor at the college level with an interest in adding value to the undergraduate program. This will be a 1 year appointment, renewable for one additional year. The teaching load is five courses a year. At the time of the appointment, applicants should have an advanced degree (a PhD in Psychology, Neuroscience, or related field is preferred), and documented teaching experience. Applicants should submit a letter of application that includes a statement of teaching philosophy and experience, evidence of teaching effectiveness, a diversity, equity, and inclusion statement, a curriculum vita, and have three letters of recommendation.

Interested candidates should review the application requirements and submit their application at https://indiana.peopleadmin.com/postings/9952. Questions regarding the position or application process can be directed to: Cherlyn Crees, Assistant to the Chair, ATTN: Instructor Search, Department of Psychological and Brain Sciences, 1101 E. 10th Street, Bloomington, IN 47405-7007 or chcrees@indiana.edu. Review of applications will begin January 4, 2021 and continue until the positions are filled. Information about the department and the university is available at http://www.psych.indiana.edu. The College of Arts and Sciences is committed to building and supporting a diverse, inclusive, and equitable community of students and scholars.

Indiana University is an equal employment and affirmative action employer and a provider of ADA services. All qualified applicants will receive consideration for employment without regard to age, ethnicity, color, race, religion, sex, sexual orientation, gender identity or expression, genetic information, marital status, national origin, disability status or protected veteran status.
Why do people reject science? As scientists rush to solve a global pandemic, denying their breakthroughs can cause thousands, if not millions, of deaths. Likewise, denying scientifically supported public health recommendations increases death rates. Consider the U.S. public health response to the COVID-19 pandemic. Although the United States represents 4% of the world’s population, it has accounted for 20% of the world’s COVID-19-related deaths (Miller, 2020). Efforts to change Americans’ false COVID-19-related beliefs have largely failed. Simply telling people that their attitudes are mistaken doesn’t work. A deeper explanation and appreciation for the roots of science denial is needed.

Matthew Hornsey offers a solution to science denial that goes beyond force-feeding people scientific facts. People often hold on to their mistaken beliefs despite having high levels of education and scientific literacy (Drummond & Fischhoff, 2017). What is more useful, Hornsey argues, involves considering the roots of science denial that gave rise to people’s mistaken beliefs. Using a tree metaphor, Hornsey identifies six roots of science denial that must be addressed before lasting attitude change is possible: conspiracist worldview, vested interests, ideologies, anxieties/phobias, personal identity expression, and social identities.

Science denial can be a difficult topic to discuss, mainly because psychology students typically accept the scientific method. But Hornsey’s theoretical model can help even the most earnest student understand why people may struggle to separate empirical fact from fiction.

We live in the golden age of science. Embracing science has helped usher in the safest, healthiest, and most prosperous period in human history (Pinker, 2018). Two global pandemics separated by a century—the 1918...
H1N1 pandemic and the COVID-19 pandemic—have had vastly different outcomes because of progress in reason and science, allowing effective vaccines to be developed in record time. Such progress was made possible by understanding and removing the roots of science denial. Having an open mind and a compassionate heart can help psychological scientists interact with people who deny scientific information by considering not only what they believe but why.

References
Drummond, C., & Fischhoff, B. (2017). Individuals with greater science literacy and education have more polarized beliefs on controversial science topics. Proceedings of the National Academy of Sciences, USA, 114, 9587–9592.


STUDENT ACTIVITY: SIX ROOTS OF SCIENCE DENIAL

This activity will involve student pairs choosing a surface attitude (see Figure 1). Students may also explore surface attitudes related to the COVID-19 pandemic, such as believing that influential people intentionally planned the coronavirus outbreak (Schaeffer, 2020). Depending on class size and available time, instructors can ask student pairs to discuss each attitude root or have teams discuss only one attitude root. This activity will work in both face-to-face and virtual teaching environments.

Sample Questions
• How might a given attitude root affect people’s perceptions of scientific findings related to your chosen surface attitude?
• Using a search engine or social media, can you find some examples of how that attitude root might relate to your chosen surface attitude?
• How might your understanding of the roots of science denial help you understand a person who holds this attitude root?

See this article online at psychologicalscience.org/observer/teaching-current-directions-denial-sleep for more questions on Hornsey’s work in PowerPoint form for classroom use.

EDITED BY C. NATHAN DEWALL

Teaching Current Directions in Psychological Science offers advice and guidance about teaching a particular area of research or topic covered in this peer-reviewed APS bimonthly journal, which features reviews covering all of scientific psychology and its applications. Visit this column online for supplementary components, including previous columns, classroom activities, and demonstrations: psychologicalscience.org/publications/teaching-current-directions.
When thirsty, we drink water. When hungry, we eat food. When sleepy, we watch Netflix, drink caffeine, scroll through social media, or do just about anything except sleep. Since the industrial age, sleep has become the only biological need that people routinely (try to) ignore.

Sleep loss permeates our society. In the United States, approximately half of teenagers and college students fail to sleep even 7 hours per night (Scullin, 2019; Twenge et al., 2020). Sleep just isn’t high on their priority list. But it’s not just society’s youth who dismiss sleep. Policymakers defend school start times that require teenagers to wake before sunrise. Medical residents take on-call work at night and then work the entire next day. Nearly every workplace leaves the impression that sleep is idle time being wasted (Barnes & Drake, 2015).

Sleep science suggests differently. Lab-based, experimental sleep research makes two things clear: Sleep loss makes life worse, and it makes you worse at life. Let us explain.

• Sleep is good for mental health; without it, we are moodier, show greater racial/ethnic biases, are more prone to anxiety, and experience more suicidal ideation (Simon et al., 2020).
• Sleep is good for physical health; without it, we are more prone to respiratory infections, we perform worse athletically, and our Instagram selfies are rated as less attractive (Montgomery-Downs, 2020).
• Sleep is good for brain health; without it, our frontoparietal attention network is weakened, we aggregate more amyloid plaques, and we have difficulty encoding and retaining memories (Feld & Born, 2020).

Gordon Feld and Susanne Diekelmann want students—and the rest of society—to take note. Sleep matters. And it’s not just the quantity of sleep, but also the quality. According to them, sleep quality can be improved, and doing so will result in immediate benefits, including remembering more from the previous day.

Feld and Diekelmann note that brain stimulation can augment specific brain waves during sleep, such as the slow oscillations during slow-wave sleep. Those slow oscillations, which are generated in the neocortex, coordinate the reactivation and consolidation of memories in the hippocampus (Diekelmann & Born, 2010). Therefore, if one can increase slow oscillations, one can also improve retention of memories encoded the previous day. One such technique is known as “closed-loop auditory stimulation.” The participant sleeps while wearing an electroencephalogram (EEG) cap, and when slow oscillations are detected, a brief auditory click is played. These clicks increase the size and “trains” (groupings) of slow oscillations (Ngo et al., 2013). Your students can watch a video of this technique at tinyurl.com/SleepStimulation.

The problem, of course, is that effective brain stimulation requires expensive equipment. Consumer devices exist, but Feld and Diekelmann caution that such devices have not been independently validated. Thus, there is a gap between what sleep science is showing in the laboratory and how people can benefit in the real world.

Feld and Diekelmann propose that we bridge sleep science findings to everyday settings by using targeted memory reactivation and improving sleep hygiene practices.

Targeted memory reactivation, commonly shortened to TMR, is like learning while you sleep. To take advantage, students need to pair their studying with a distinct sensory cue, such as a rose scent or music (Rasch et al., 2007). The key is to re-present that sensory cue during sleep, particularly slow-wave sleep (30–60 minutes after falling asleep). In one experiment, students...
who learned vocabulary while smelling an incense stick showed improved memory for the vocabulary the next day if they slept with the incense stick near their bed (Neumann et al., 2020). In another experiment, students who studied microeconomics while listening to classical music showed improved test performance the next day if they listened to the same classical music while they slept (Gao et al., 2020).

As a class activity, ask students what other distinct sensory cues they might pair with studying and how they might re-present that stimulus during slow-wave sleep at home the night before their big test.

With all the fancy neuroscience gadgets available, it’s easy to forget that the quickest and most “battle-tested” way to improve sleep is through behavioral change. People can improve their sleep quality by improving their sleep hygiene practices. Here are some examples:

- Go to bed and wake up at the same time every day. (Yes, even on weekends!)
- Avoid caffeine after 5 p.m.
- Disconnect from your screens at least 30 minutes before bedtime.
- Relax by writing down your worries and making a to-do list.
- Optimize your room with dark curtains, white noise, and a cool temperature.

Let’s do a better job of listening to our biological drives. When we are thirsty, let’s drink water. When we are hungry, let’s eat healthy food. And, for goodness sake, when we are sleepy, let’s sleep.

References


Sarah Townsend is an associate professor of management and organization at the Marshall School of Business at the University of Southern California. She uses a cultural psychological approach to research the sources of and solutions to inequality.

Landing the job
The first time I went on the job market, I got an interview somewhere I thought was perfect, and I didn’t get the job. I was devastated, but it all worked out. In the end, my first job was as a postdoc at the Kellogg School of Management. It was a great position for many reasons—developing collaborations, building a strong pipeline, and getting additional experience in the classroom. It’s a long story, but I thought it would be a good stepping-stone. In that kind of position, you teach a full load, but you also have research funds and some support, so it was exciting.

I really think that persistence is key. Studies flop, papers get rejected, but you keep going. You’ll get there.
Forging your own route to success

Much of the work I was doing when I received the APS Rising Star Award in 2016 was testing a difference-education intervention approach that targets first-generation college students. The idea is that we teach students a new lay theory of social group difference—that differences are malleable and the result of adapting to the situation you grew up in. The goal of the intervention is to show first-generation college students that while they might experience obstacles that are different than those of continuing-generation students, they can use different strategies to be successful. Since then, I’ve followed up on long-term outcomes, including whether the effects persist through graduation. I’m also working on a few projects investigating how a contextual theory of group difference can be applied to individuals’ understandings of gender and racial differences.

Strengthening strategies
When teaching and mentoring one-on-one, I emphasize that people have different strengths, strategies, and obstacles. Everyone has the ability to be successful, but their routes to success might be different. It’s important to acknowledge your particular perspective and experiences and then capitalize on those as much as possible.

Using your voice
To be honest, I feel very lucky. I’m not going to say that getting to this point in my career was easy; it took a lot of persistence and hard work and dedication, but I had a wonderful, diverse, and supportive set of mentors and collaborators throughout the years. They really helped me stay the course and focus on doing what I needed to do to run studies, write papers, and publish them. As a Black, White, and Okinawan woman, it was invaluable to have them as role models and examples, assuring me that I had what it takes. Now that I have tenure, I happy to have the opportunity to mentor others and pay it forward. I also feel the responsibility to use my voice to create inclusive classrooms and a diverse faculty.

Variety at work
I enjoy how varied my work is. Sometimes I’ll meet with one student and talk very intensely about how to manipulate a specific construct and get into the nitty-gritty of study design or statistics. And then I will read a paper and have these really high-level discussions about theory in the PhD seminar I teach. The next day I might do an executive education session, helping company leaders to improve their diversity, equity, and inclusion (DEI) practices and policies. And, at some point, I still squeeze in some writing. Every time in my career when I’ve begun to feel like I’ve got this down, something new falls on my plate and I have to figure that out. It’s challenging, but it also keeps things dynamic and enjoyable.

Diving into DEI
A lot of the professional education I do is through Marshall’s Executive Education program and in industries such as grocery, biotechnology, and banking. I teach sessions on DEI with a focus on providing research-based solutions.

One of my favorite groups to work with is Marshall’s Navy SEALs transition group, With Your Shield. They have two cohorts a year of 8 to 10 SEALs. The SEALs will be the first to tell you that they are not very diverse and have not had a lot of experience in diversity-related issue. But, they dive right in and ask a lot of tough questions. I always enjoy hearing their perspectives and getting to share mine, so it’s really rewarding.

Going forward
I’m very much interested in continuing to research difference-education and, in particular, examining how a contextual understanding of difference can be leveraged to reduce inequality and increase inclusion not only in college but in the workplace as well. This interest also dovetails with my teaching. In educating people and companies about what they should do, I often stumble on open questions, like: What is the best way frame DEI efforts to employees? I’m excited about what the next chapter of my career will hold.
The coronavirus pandemic has forced most in-person classes to meet online, creating a new teaching dynamic for instructors and teaching assistants (TAs). Many articles on working with TAs are written by team leaders, course instructors, and professors. In this article, I draw from my 4 years as a TA (assisting with eight online health education classes and 13 in-person courses) to offer advice to instructors on how they might work with TAs more effectively.

1. Get to know your teaching assistant
Meet with your TA before classes start. Amid the coronavirus pandemic, conversations normally held over lunch have become video chats. Getting to know your TA can help you to gather information about their strengths, familiarity with the course content, teaching experience, and experience with Blackboard Learn or any other platform you use (Ciston et al., 2016). This can also help you assess which responsibilities they can address on the first day and which tasks they still need to learn. The working relationship between instructor and TA is a dynamic collaboration that has specific roles, tasks, and goals. The first few conversations about these topics can set the tone for the semester.

2. Exchange phone numbers—and be available
Invite your TA to ask for clarification on grading coursework (Hardre, 2005) and other tasks. Texting to answer brief questions in clear language can be more effective than communicating through platforms such as Blackboard, which might not reach your TA before the next class or deadline.

3. Create opportunities for ownership
Being a TA can help students develop into competent and confident assistants who work independently on agreed-upon tasks (Ciston et al., 2016). Create opportunities for your TA to take ownership over parts of the course. For example, TAs are often asked to review and proofread course material before it is posted. After the first few quizzes, you could ask your TA to write multiple-choice questions for an upcoming quiz and to upload them to the learning platform after incorporating your feedback. This lets your TA practice entering quiz questions into the platform, writing logical but incorrect options to multiple-choice questions, and posting the quiz on time to meet the deadlines in your syllabus.

4. Ask your TA for observations and feedback
Ideally, your TA has taken this course in the past or knows the content well enough to be approved by the assistantship committee and assigned by the TA coordinator (Gehringer, 2009). But if they have only a basic understanding of the course content, they may be able to offer fresh insights on your explanations, reading assignments, and questions on quizzes and tests.

Sarah C. Turner is a doctoral candidate in the Measurement, Quantitative Methods, and Learning Sciences program at the University of Houston. Her dissertation research proposes the Coping Ahead Resilience Intervention for Latina first-generation college students. Her teaching interests are online research methods in psychology and measurement techniques in health.
5. The golden rule of grading: Treat your TAs’s time as you would your own

Even with the shift to online, it’s important to avoid piling tasks with short-turnaround times on your TA. Instead, invite your TA to collaborate with you in designing innovative course assignments to optimize opportunities to provide specific feedback for students. Ask your TA about their experiences as a student in online classes; this conversation might give you ideas for structuring your own online classes (Hardre, 2005). Other variables to consider are class size and number of assignments, which can significantly impact your TA’s ability to keep up with your course, as well as their own classes and any other courses they may be assisting with.

References


Call for Applications

APS Teaching Fund
Small Grants Program

APS invites applications for nonrenewable grants up to $5,000 to launch new projects broadly addressing the categories below:

- Scholarship of Teaching and Learning (SoTL): Grants in this category support high-quality, potentially publishable scholarship directed at the teaching and learning of psychological science.

- Meetings and Conferences: Grants in this category support efforts that facilitate communication among teachers of psychological science who share common challenges and who would benefit from sharing ideas and resources.

- Technology and Websites: Grants in this category support projects leveraging technological resources to enhance the teaching and learning of psychological science, and to increase the reach and efficient dissemination of related resources.

- Antiracist Curricula: Grants in this category support projects that aim to eliminate racial bias in psychological science curricula and incorporate principles of racial justice into the teaching of psychological science content.

NEXT APPLICATION DEADLINE: MARCH 1, 2021

For details, go to www.psychologicalscience.org/smallgrants

Questions? Contact teachfund@psychologicalscience.org

The Teaching Fund was established with the support of The David and Carol Myers Foundation.
THE FRONT LINES OF DEI

Lily Jampol, is the head of people science at ReadySet, a San Francisco–based firm that helps organizations build more inclusive environments. She is also a coauthor of “The Future of Women in Psychological Science” (see article on page 29).

What led to your interest in this line of work?
The experience of injustice and oppression at work contributes to further inequality in our society. Creating change in a workplace at both the behavioral and the systemic levels has the potential to have a lot of impact. But I wasn’t always interested in applied work. A few years into being a professor, I started to realize that a lot of psychology research is based on and conducted by White, Eurocentric, wealthier people, making it challenging to have a direct impact. So I quit academia to apply my research skills and expertise at the ‘front lines’ of DEI, where I can be more innovative and learn from others who have diverse experiences and talents.

Why do so many DEI programs fail or even have unintended consequences?
Because they ignore context, both on the organizational level and on the societal level. Organizations are living, breathing things that don’t exist in a vacuum. And yet people often attempt to apply a blanket “best practice” that is meant to help a de-individuated “underrepresented group”—but these practices are often harmful when their consequences are not thought through, or when the context of the organization is not taken into account, or the people who are making the decisions are not in tune with the needs of different identities and groups or current events. We try not to advise people on strategy without understanding the workplace’s unique context first.

You’ve also researched the specific challenges women face at work, including the quality of the feedback they receive. What’s behind these “white lies” and how do they harm women?
With my co-author, Dr. Vivian Zayas, I found that women-identified people were given more upwardly distorted performance feedback than men, even when they were believed to be equally underperforming. Given the importance of clear, accurate performance feedback in the workplace, this bias belies a discrepancy in helpful information and patronizing behavior. An important note: In an attempt to decolonize my language, I no longer use ‘white lies’ to describe this bias (rather ‘upward distortions’). Also, ‘women’ is a much broader identity group than was researched here—most of my research subjects were White, Ivy-League college students. A more intersectional, representative, and nonbinary study of this bias would be needed to understand how it shows up across identity groups before applying this research in any sort of practice.

What advice would you offer to other early-career psychological researchers considering a career outside academia?
1. Trust your gut. You don’t have to be miserable to do research, pursue interesting ideas, or make an impact.
2. Ask for help. Many of us have done this before and can help you transition, from putting you in touch with the right people to talking to you about the deluge of emotions that comes with redefining your career or pursuing the unknown.
3. Don’t put pressure on yourself to know exactly what you want or to get the ‘perfect job.’ Know that your first job outside of academia won’t be your best or your last, but it will help you learn and develop skills that will allow you to thrive.
4. Finally, don’t believe people who tell you it’s a bad idea. It’s not their choice, and they honestly have no idea. Even when it’s hard, it’s so worth it.

See this article online for a longer version of the interview, at psychologicalscience.org/observer/jampol.
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