

THE SCIENCE OF
TRANSGENDER FLOURISHING

ENDING STIGMA AGAINST
INTELLECTUAL DISABILITIES

STRENGTHENING GLOBAL
PSYCHOLOGICAL SCIENCE

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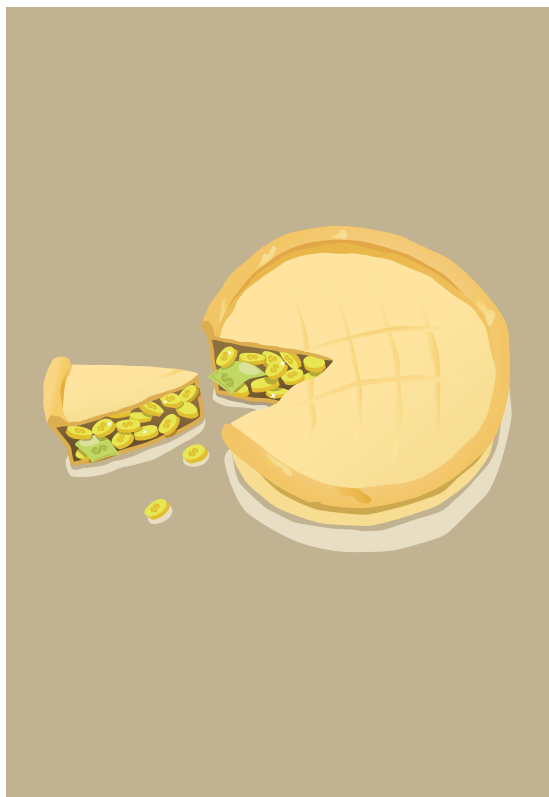
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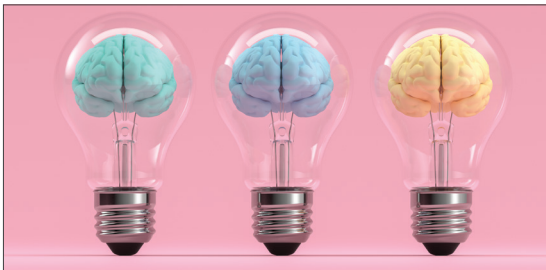
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THE CONTACT CONUNDRUM

Jennifer L. Eberhardt and Linda R. Tropp explore the links between intergroup contact and racial and ethnic relations.



Photo credit: Nana Kofi Nti

Individuals' experiences as group members can dramatically impact their interpretations and expectations of experiences with members of other groups. To explore the science behind this, APS President Jennifer L. Eberhardt interviewed Linda R. Tropp, a professor of social psychology at the University of Massachusetts (UMass) Amherst who studies how group differences in status affect cross-group relations. Tropp has also worked with national organizations on initiatives to promote racial integration and equity, as well as with nongovernmental organizations to evaluate interventions designed to bridge group differences. The two began by discussing Tropp's formative childhood in Gary, Indiana, an industrial city in the American Midwest that was a major site of Black migration in the mid-20th century, followed by significant

Eberhardt and Tropp spoke on August 5. Edited excerpts of their conversation follow. To view a video recording of their complete conversation, see this article at psychologicalscience.org/observer/contact-conundrum.

"White flight" starting in the 1960s. "My family just happened to be one of those who stayed," she told Eberhardt, a fact that helped foster her interest in social justice issues, particularly related to race and ethnic justice.

EBERHARDT: Given your interest in social justice, how did you land on being a psychological scientist, of all things, instead of going to law school?

TROPP: As an undergrad, I really wanted to be a grassroots organizer, but I knew it wasn't me. I'm a data geek and was one of those students who enjoyed statistics and research methods and just thinking about how to phrase questions in ways that were more accessible to the people we were trying to reach. I started off more in personality psychology and became interested in people's identities as group members, especially as members of groups that have been marginalized, and what they wanted to do about it in terms of collective action.

It was through all those experiences that I started thinking about research. Rather than going straight to graduate school, I spent a couple of years after undergrad in a variety of research positions in applied settings. I went to different Boston neighborhoods and interviewed children and their parents about their after-school childcare options. I was a project manager for a longitudinal study of Puerto Rican adolescent development and pilot-tested measures with Puerto Rican youth in different communities. I was a data analyst for a project on media bias and presidential election coverage in the '92 election.

EBERHARDT: I like that you were looking at research from different angles and vantage points. Tell me about your current research program. What's going on now?

TROPP: A lot of the work I'm doing still is very much related to intergroup relations—in particular, contact between groups. Through discussions with policy advocates and community-based organizations, we're trying to apply more rigorous research methods to contact-based programs in field settings. We also want to translate our insights to help folks in local communities and the organizations that sponsor them do their work better, and to make all of our scholarship more accessible to what they do.

We've also been thinking about people's motivations in intergroup relations—for instance, the concerns and experiences of White people and how they might change through contact, perhaps becoming more aware of racial privilege

APS President **Jennifer L. Eberhardt** is Morris M. Doyle Centennial Professor of Public Policy and Faculty Co-Director of Stanford SPARQ. She studies race and inequality in a wide variety of places, including law enforcement agencies, courts, schools, neighborhoods, and workplaces. She is the author of *Biased: Uncovering the Hidden Prejudice That Shapes What We See, Think, and Do*. Eberhardt may be contacted at president@psychologicalscience.org.

and more motivated to participate in collective action for racial justice. And since the 2016 presidential election, we've been conducting a program of research on how a lot of White people seem to be indifferent to racial justice. I recall White people being interviewed prior to the election who basically seemed to say, like, "Oh, racial justice issues. That's just not my thing." As if it were optional and not some sort of civic obligation to care. I've really been interested in how people don't see these issues as relevant to their lives and in the underlying factors that might promote greater interest or engagement, either with those issues or civics more generally.

EBERHARDT: That's a great topic. Can you say more about what you think produces this indifference or apathy?

TROPP: A couple of sociologists have been looking at what they call "racial apathy" over time; in particular, Tyrone Forman (University of Illinois Chicago) and Tony Brown (Rice University) have been doing longitudinal studies with panel data. Our studies have looked at whether we can distinguish indifference from empathy, because in psychology research, so much emphasis is placed on building empathy—trying to encourage people to care. We wanted to see whether apathy or indifference is the flip side of empathy or something different, with its own unique predictive value and role. We tend to find that even after you take into account common demographic indicators, you can incorporate additional measures, like forms of threat posed by out-group members,

into a regression model [to predict policy attitudes]. And when you add empathy and indifference, not only do they each predict [policy attitudes] independently, but they predict beyond what common measures of threat and prejudice and demographics usually predict. This suggests to us that there's something unique there, and that empathy and indifference are playing somewhat distinct roles.

EBERHARDT: What is the unique role empathy and indifference play?

TROPP: We're trying to figure that out. And we're wondering if people who say, "Well, I'm just trying to be objective," if they're actually saying they're not personally invested in the issues, which is not necessarily a positive thing. We're trying to understand how these terms are used in public discourse, how we can reframe our understanding of what objectivity is intended to mean, and the political consequences of apparent objectivity.

I think we're grappling with this in our discipline. There's been a long debate about our purported role as "objective" when we engage in research or the scientific pursuit of knowledge. I've always leaned toward the side of the argument that we're not fully objective—that our values and prior experiences influence what we are motivated to study, how we phrase the questions we ask. My interests in racial justice issues are kind of converging with my interest in public engagement and outreach as I think about how we design studies and translate findings for policymakers and practitioners.

EBERHARDT: One of the things I love about your approach is that you not only collaborate with researchers but you also partner with practitioners who are trying to make a difference. Have partnerships changed your approach and what you've been able to discover?

TROPP: Honestly, what has changed the most for me over the last 20 years in trying to do this type of work is the broader acceptance of it in our discipline. As an assistant professor, I was given not-so-subtle cues, like, "Oh, it's nice that you do that, but it's not going to get you tenure." At the time, I kind of saw it as volunteer work, extracurricular. Now there's broader acceptance in social psychology, which encourages grad students to get involved and has even changed how I train grad students. But before, I faced a real tension between the dual goals of wanting to have a career in academia and wanting to make a difference in the world. ➔



Linda R. Tropp

Linda R. Tropp is a professor of social psychology and faculty associate in the School of Public Policy at the University of Massachusetts Amherst. She studies how members of different groups experience contact with each other and how group differences in status affect cross-group relations. A fellow of the American Psychological Association, Tropp has received distinguished research and teaching awards from the Society of Experimental Social Psychology, the Society for the Psychological Study of Social Issues, and the International Society of Political Psychology. She is coauthor of *When Groups Meet: The Dynamics of Intergroup Contact* (2011) and editor of several books, including *Moving Beyond Prejudice Reduction: Pathways to Positive Intergroup Relations* (2011), the *Oxford Handbook of Intergroup Conflict* (2012), and *Making Research Matter: A Psychologist's Guide to Public Engagement* (2018).

Especially in the last 5 years, we have seen radical change in people's openness to believing that we don't have to sacrifice scholarly integrity in order to cultivate partnerships with organizations. For me, what has been crucial has involved finding a middle path between two more common models of public engagement. The traditional model is scientist as all-knowing expert who shares insights and hopes something sticks to the wall. The other model involves community-engaged research, working in partnership with organizations throughout the scientific process and co-creating knowledge, as might be more typical of participatory action research.

I didn't really feel comfortable in either of those models, and I've been fortunate to find a number of colleagues at UMass Amherst who felt the same. We worked together on a paper to outline what we call a "relational model," whereby we do our best to cultivate trusting relationships with the communities and organizations and policy advocates that we seek to work with and at the same time maintain a certain degree of autonomy in terms of the research method.

EBERHARDT: I also want to know about your approach to reducing intergroup conflict, a central theme in your work. One of the most influential papers in the field of social psychology describes the meta-analysis on intergroup contact that you conducted with Tom Pettigrew (University of California, Santa Cruz). Tell us a little bit about the paper, the motivation for it, and the key findings.

TROPP: We've been surprised by its impact. In the paper, which we published in 2006, we did a quantitative integration—a meta-analysis—pooling data from 515 studies conducted from the 1940s through the year 2000, with about 250,000 participants from 38 countries. It showed that greater levels of intergroup contact tend to



be associated with lower levels of intergroup prejudice. Over the years, we've identified a number of moderators for that effect. For example, contact involving closer relationships across group lines tends to produce stronger effects in terms of reducing prejudice. We've also found important differences in the magnitude of contact effects, depending on the status of the group members involved, such that overall, the positive effects of contact for prejudice reduction tend to be weaker among members of lower-status minority groups than among higher-status majority groups. On the dependent variable side, measures of prejudice more related to affective or emotional outcomes tend to show greater shifts with contact than those that are more cognitively based, like stereotypes or beliefs.

EBERHARDT: I'm also thinking about the whole debate now about where you even enter the problem. You were talking about cognitive processes, at the level of the individual, but there's more and more of a focus on looking at the broader context—at culture, policies and practices within institutions, and so forth. How does your work fit into that? Are we moving in that direction?

TROPP: I think we inadvertently set up false dichotomies by talking about processes at the individual level versus at the structural level, because of course both are relevant. In my own work, especially given valid critiques related to contact research, we're really trying to understand the conditions under which contact may or may not be effective.

To pursue some of those questions, we've conducted collaborations with colleagues in other countries, such as working with Gábor Orosz (Université d'Artois, France) and others to look at contact effects in Hungary, where prejudice against the Roma is extremely blatant. Would contact be as effective

in a context with explicit norms of discrimination as compared to where there might be a broader heterogeneity of norms—in the U.S. context, for example? We have found some evidence through experimental studies that when non-Roma Hungarians have contact with members of the Roma community, they develop more positive intergroup attitudes. Even those who perceive a lack of acceptance of the Roma among their peers see positive contact effects. So it's not just the societal level, but also what you see in your local community. Would my friends approve or disapprove if I engage with those folks? I feel that in some ways we've been trying to push the boundaries there.

With some colleagues in sociology, we've also been looking at implications for civic engagement—the prospect that contact might also influence the extent to which we do or do not engage with our communities. For that study, with Dina Okamoto (Indiana University), Helen Marrow (Tufts University), and Michael Jones-Correa (University of Pennsylvania), we purposely examined these relations

I think about segregation on a daily basis—how it curbs not only opportunities for contact but also willingness to engage in contact. But instead of debating which is more important, I'm a synthesizer. I'm thinking, "How can we integrate the best of what we know about segregation and social norms?"

—Linda R. Tropp

in two highly segregated cities, Atlanta and Philadelphia, and among four different groups: White and Black Americans as well as first-generation Mexican and Indian immigrants. We wanted to see how structural differences between the status positions of U.S.-born people and immigrants might also shape the nature, duration, and outcomes of their contact experiences.

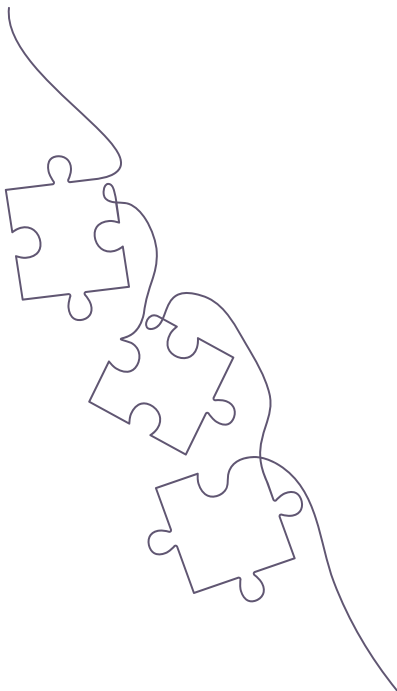
Basically, I think about segregation on a daily basis—how it curbs not only opportunities for contact but also willingness to engage in contact. But instead of debating which is more important, I'm a synthesizer. I'm thinking, "How can we integrate the best of what we know about segregation and social norms?" A lot of our studies now focus on how individuals' contact experiences might predict policy attitudes, voting behavior, willingness to live in integrated communities, civic engagement—their implications for broader structural issues and collective action for racial justice. At the same time, we're thinking about how the ways our societies are structured affect the nature of and opportunities for contact experiences.

EBERHARDT: Given the amount of polarization the world is experiencing, intergroup relations seem to be a lot more volatile.

TROPP: You've raised such an important point. People are really living in different worlds—not just having polarized attitudes but actually living in different Americas. If people are only exposed to polarizing rhetoric, then their ideas of others will be even more exaggerated, based on what we know about meta-perceptions. The same basic psychological processes are at play; it's just that they are going to result in more exaggerated meta-perceptions of how other groups see us that make us even more distrustful.

So we have these competing motivations as individuals. On the one hand, we might feel threatened by group difference or uncomfortable engaging with people who are different. On the other hand, there's the prospect for having positive experiences. Well, if you don't have any opportunities for positive experiences, then all you have is the threat, the stereotypes, the suspicion, discomfort, unease. I don't necessarily think that contact can undo all of that, but I do think it can mitigate it by offering new inputs—new attributions that people can make when they're relating to people who are different. Instead of saying, "I can't trust those people," they might say, "I've just never gotten to know them before. They don't seem so scary after all."

I'll share a little bit from a paper that Eric Knowles (New York University) and I worked on together, because there's been a lot of research ➡



on how neighborhood demographic characteristics might affect White Americans' attitudes, and usually in a negative direction. That is, greater proportions of racial or ethnic minorities where Whites live tend to be associated with a greater sense of racial threat and less positive attitudes toward members of other racial and ethnic groups. At the same time, studies from psychology and sociology show that greater proportions of racial and ethnic minorities in White neighborhoods are associated with greater opportunities for contact, which are associated with more positive attitudes and lower perceptions of racial threat.

So with some of the data that Eric collected, we conducted further analyses where we basically replicated that pattern—that greater racial and ethnic proportions exacerbate racial threat for White people as well as being associated with greater opportunities for contact, which is associated with less threat along racial lines. But then we also looked at the social-economic environments in which those groups came into contact, comparing the responses of White residents who were likely to be under conditions of extreme economic threat, using the indicator of high rates of unemployment, to the responses of Whites in areas with lower rates of unemployment. If you think about this as the threat effect versus the contact effect—the direct effect of neighborhood diversity on threat and the indirect effect of neighborhood diversity on threat through contact—we basically found that the magnitude of the contact effect was comparable in both contexts. It was kind of like, contact is doing its thing regardless of the economic conditions where Whites lived.

What really differed, though, was the direct effect of racial and ethnic diversity on threat. Where there was high unemployment, racial diversity

was associated with much greater perceptions of threat, which seemed to drown out the contact effect. When you looked at areas with low unemployment, racial and ethnic diversity was associated with very little threat. So what you're basically seeing is, it's not actually racial and ethnic diversity per se that is driving these threat effects. It's really the economic conditions associated with the spaces where racial and ethnic diversity emerge. And so, if we really want to reduce threat and improve the conditions for contact, we need to focus on those economic indicators and ease the burden for everybody, so that racial and ethnic contact won't seem so threatening.

EBERHARDT: I'm also channeling some of what I'm seeing, which is that a lot of people are sad, angry, exasperated in this moment of racial unrest. They have lost hope. How do you help them believe in the possibility for real and lasting change?

TROPP: From my perspective, that feeling is totally justified. While many of us who are White can't necessarily relate to the experiences of having your own group being murdered by people who are supposed to protect them, I know that some proportion of the White community and other racial and ethnic communities want and are willing to work for greater equality and justice.

We explored this in another study looking at how Whites witness discrimination—for example, the Philadelphia Starbucks incident, where a Black man was picked up by the police while just waiting for a colleague, or an incident in a Yale University dormitory where the police were called on a Black student who had fallen asleep in the common room. We used footage from those cases to see if they made White people more willing to think about and potentially engage in collective action for racial justice. We have also found that knowing and caring about people of color, Black people in particular, being invested in their welfare and in their communities—are associated with greater willingness

to support racial justice efforts. But we also found that witnessing those moments helps White people realize at a deeper level that this would never happen to them. They become more willing to engage in collective action for racial justice through the mechanism of greater awareness of racial privilege. I think we've seen more of this, particularly since the murder of George Floyd led so many White people to go to protests and post Black Lives Matter signs.

EBERHARDT: But at the same time, there's a pushback against even talking about race. We're seeing kind of a staunch belief in colorblindness as the only way we can move ahead, that any mention of race is actually racist.

TROPP: Yes, I'm thinking of the recent debates against critical race theory. What I hope we can do, through research or advocacy or whatever channels we feel are appropriate, is push back on that opposition a lot harder than we have been pushing. I think about politics in this country, where there's a very loud, well-funded vocal minority that bashes critical race theory. This is where my concern with indifference really comes in, because I suspect that most Americans would value accuracy in reporting on the merit of our history as a country, in having our children learn who we are and be proud of some things and perhaps not so proud of other things in our past. To be honest with ourselves. I was recently on a call with some policy advocates and policymakers about how we need to be much more proactive in shifting the narrative—that it's not enough for us to

 **Watch Online!**

View the video recording of the full conversation between Eberhardt and Tropp with this article at psychologicalscience.org/observer/contact-conundrum.

just try to defend critical race theory, but to actually say, "What does it mean to be an American? It means looking out for our neighbors, it means helping out other people in need." Viewed in that light, I think we want to feel good about who we are and who we can be, recognizing that there's still some ways to go.

There's an incredible amount for us to do, and I think we just need to be more vocal, more willing to engage in public debates and policymaking. Frankly, I think one reason why we as a field haven't had the level of public influence as some other disciplines is because we haven't always been our own best advocates. In our pursuit to be as scientific and objective as possible, we haven't shared all of our insights with people who could potentially make a difference. Perhaps if we do more work at the local level focusing on inclusion and integration, creating the types of communities we want to live in, then we can build political will at the higher federal or political levels. That's very far afield from my research expertise, but that's honestly what I think.

EBERHARDT: I thought we could close out on something that's not far afield. You direct the Public Engagement Project at UMass. Talk more about that so other psychological researchers can understand the mission there and what's driving it.

TROPP: When I started at UMass about 15 years ago, I was fortunate to meet a handful of like-minded scholars who were doing this type of engaged scholarship in sociology

Frankly, I think one reason why we as a field haven't had the level of public influence as some other disciplines is because we haven't always been our own best advocates. In our pursuit to be as scientific and objective as possible, we haven't shared all of our insights with people who could potentially make a difference.
—Linda R. Tropp

and economics and public health and a variety of fields. We kind of started the project on a volunteer basis and over the years became more formalized. Basically, we offer workshops, panels, and programming every semester to train faculty in conducting engaged scholarship, whatever that might look like. For some people, it might look like writing op-eds. For others, it might be working with local legislators or doing community-engaged research. However they wish to do that work, we seek to support them.

We also have a semester-long program where faculty apply to get in-depth training on a biweekly basis: media training; op-ed writing training; workshoping engagement products, such as white papers or policy briefs. They're also matched with faculty mentors outside of their cohort who have gone through the program. And before COVID, we would culminate the program with a visit to the state legislature in Boston, where they would meet with policymakers to talk about their work.

Now I co-direct the program, which continues to give me more insights on the many different ways we can make a difference. Often, when we as psychologists and researchers think about public engagement, we think about getting an op-ed in the *New York Times*. I just want to reassure people that they can take so many different pathways to become engaged scholars. It really depends on the types of activities you want to do, the type of people you want to reach, what their needs are, and how you might be situated to help them meet those needs and make their work as effective as possible, given the insights you have.

EBERHARDT: Linda, it's been a pleasure and a privilege to spend this time with you. Thanks so much for all you do for the field and the larger society. Appreciate you.

TROPP: Likewise. It's a real pleasure, Jennifer. Thanks for taking the time. ●

Do Diversity Awards Discourage Applicants From Marginalized Groups From Pursuing More Lucrative Opportunities?

Adriana L. Germano, Sianna A. Ziegler, Laura Banham, and Sapna Cheryan

Offering awards to applicants from marginalized groups might unintentionally discourage applicants from pursuing more lucrative awards with unrestricted eligibility criteria. In four studies, Germano and colleagues found that participants from marginalized groups were more likely to prioritize the more lucrative of two unrestricted awards. However, when a less lucrative diversity award was also offered, they were more likely to prioritize it—in part because they felt the diversity award was for someone like them. These results suggest the need to change unrestricted awards to increase equity, such as by automatically entering applicants into unrestricted pools, more explicitly valuing diversity, and ensuring that election committees are equally likely to select applicants from marginalized and nonmarginalized groups.

Psychological Science

<https://doi.org/10.1177/0956797621993109>



PSYCHOLOGICAL SCIENCE

Exploring the Facets of Emotional Episodic Memory: Remembering “What,” “When,” and “Which”

Daniela J. Palombo, Alessandra A. Te, Katherine J. Checknita, and Christopher R. Madan

How does emotion affect the memory of an event? Participants watched videos that included negative or neutral target images. Afterward, they reported whether they had seen each target image (“what”), at what point in the video the image had appeared (“when”), and which of five screenshots from the video showed it (“which”). Compared with neutral images, negative images enhanced participants’ memory for “what” but reduced their memory for “which.” Participants were accurate in estimating the “when” of negative images but tended to estimate

that neutral images had appeared later than they actually did.

<https://doi.org/10.1177/0956797621991548>

Are Preschoolers’ Neurobiological Stress Systems Responsive to Culturally Relevant Contexts?

Ka I Ip et al.

Ip and colleagues examined changes in cortisol, an important stress-related hormone, among preschoolers living in China, Japan, and the United States. In each culture, preschoolers showed different reactivity to different stressors: An achievement-related stressor increased cortisol response among Chinese preschoolers, interpersonal stressors increased cortisol response among Japanese preschoolers, and only the anticipation of separation at the beginning of each session

increased cortisol response among U.S. preschoolers. These findings suggest that, from an early age, sociocultural variables appear to influence individuals’ responses to stress.

<https://doi.org/10.1177/0956797621994233>

Culture Moderates the Relation Between Gender Inequality and Well-Being

Chen Li, Miron Zuckerman, and Ed Diener

Li and colleagues analyzed aggregated data from 86 countries (Study 1) and from individuals in 69 countries (Study 2) to clarify the role of a country’s culture on the relationship between gender inequality and self-reported well-being. In liberal countries, gender equality was associated with improved well-being for both men and women, but espe-

cially women. In conservative countries, gender equality (or inequality) did not appear to be associated with well-being. These findings suggest that subjective well-being and other psychological outcomes related to objective gender inequality (e.g., labor force participation rates) may differ in liberal and conservative cultures.

<https://doi.org/10.1177/0956797620972492>

The Foreground Bias: Initial Scene Representations Across the Depth Plane

Suzette Fernandes and Monica S. Castelhana

When interpreting a scene, individuals appear to initially rely on visual information in the foreground, this research suggests. Fernandes and Castelhana presented chimera scenes (e.g., office objects in the foreground and a kitchen scene in the background) and found that a foreground bias occurred when the images were presented for short durations (e.g., 50 ms) but dissipated at longer durations (e.g., 250 ms). However, participants always prioritized foreground information over background information. These findings suggest that considering different categories of space across the depth plane may advance understanding of different types of scene processing.

<https://doi.org/10.1177/0956797621993108>

The Bilingual Advantage in Children's Executive Functioning Is Not Related to Language Status: A Meta-Analytic Review

Cassandra J. Lowe, Isu Cho, Samantha F. Goldsmith, and J. Bruce Morton

Do bilingual children have better executive functioning than monolingual children? This meta-analysis suggests they do not. Lowe and colleagues synthesized data from studies that compared the performance

of monolingual and bilingual participants between the ages of 3 and 17 in executive-function domains such as decision-making and working memory (1,194 effect sizes). They found a small effect of bilingualism on participants' executive functioning, but it was largely explained by extraneous factors, such as publication bias. After they accounted for these factors, bilingualism's effects were indistinguishable from zero, suggesting that bilingual and monolingual children perform at the same level in executive functioning.

<https://doi.org/10.1177/0956797621993108>

CLINICAL PSYCHOLOGICAL SCIENCE

The Futures We Want: How Goal-Directed Imagination Relates to Mental Health

Beau Gamble, Lynette J. Tippett, David Moreau, and Donna Rose Addis

Positive and detailed imagining of one's goals is linked to increased well-being and reduced depressive symptoms, this research suggests. Participants generated personally relevant, plausible, and specific goals (e.g., passing an exam). For some of their goals, they also imagined and described a relevant future scene in their life. Results indicated that higher well-being and lower depressive symptoms were linked to more attainable, controllable goals and to more detailed and positive goal-directed imagination. At a 2-month follow-up, participants reported higher well-being if they had imagined more positive goal-related future scenes.

<https://doi.org/10.1177/2167702620986096>

Motives for Substance Use in Daily Life: A Systematic Review of Studies Using Ecological Momentary Assessment

Victoria R. Votaw and Katie Witkiewitz

Votaw and Witkiewitz reviewed 64 studies that used ecological momentary assessment (EMA) to evaluate motives for substance use. In these studies, researchers had assessed participants' daily use patterns and motives in real time. Results did not clearly support the motivational model of substance use, which states that coping, enhancement, social, and conformity motives interact with contextual factors to influence substance use. Results also indicated that EMAs may not reflect the same constructs as trait measures of motives (e.g., sensation seeking or self-critical perfectionism). Thus, it appears that more research is needed to understand heterogeneous reasons for substance use in daily life.

<https://doi.org/10.1177/2167702620978614>

There Is No Evidence That Associations Between Adolescents' Digital Technology Engagement and Mental Health Problems Have Increased

Matti Vuorre, Amy Orben, and Andrew K. Przybylski

To test whether adolescents' mental health has become more closely tied to their use of technology, Vuorre and colleagues examined adolescents' use of smartphones and social media—as well as television, which raised concerns about mental health in the late 20th century similar to those recently raised by digital technology. The researchers found that over the past decade, the association between technology use and depression has weakened, but the association between social-media use and emotional problems has grown stronger. Overall, there was no consistent strengthening of technology's relation with mental health over time. However, firm conclusions about this relationship might be premature.

<https://doi.org/10.1177/2167702621994549>



**CURRENT DIRECTIONS IN
PSYCHOLOGICAL SCIENCE**

**Beyond Stereotypes: Using
Socioemotional Selectivity
Theory to Improve Messaging
to Older Adults**

*Laura L. Carstensen and Hal E.
Hershfield*

Carstensen and Hershfield propose that age differences in motivation influence the type of information that older adults tend to prefer, attend to, and remember. This has consequences for the design of public-health communications and marketing for older adults. In line with socioemotional selective theory, research has shown that as people grow older and their time becomes more limited, they prioritize emotional goals over exploration goals. Thus, older adults remember positive messages better than negative ones and appear to prefer messages that emphasize individual strengths and personal resilience, as well as products that help them enjoy the present.

<https://doi.org/10.1177/09637214211011468>

**Evidence and Implications
From a Natural Experiment of
Prenatal Androgen Effects on
Gendered Behavior**

*Sheri A. Berenbaum and Adriene M.
Beltz*

Studies of females with congenital adrenal hyperplasia (exposure to excess androgens during gestation, typically resulting in masculinized genitalia, which are usually surgically modified in infancy) can reveal the contributions and interplay of prenatal hormones and socialization to gendered behavior. Such studies have indicated that prenatal androgens have strong effects on preferences for male-

gendered activities, moderate effects on spatial skills, and small or no effects on gender identity and gender cognitions. Berenbaum and Beltz analyze these findings and their implications and explain their compatibility with gender equality.

<https://doi.org/10.1177/0963721421998341>

**The Major Health
Implications of Social
Connection**

Julianne Holt-Lunstad

Holt-Lunstad discusses the evidence for links between social relationships and both mortality and morbidity, as well as the possible mechanisms for these links. Social connection can be examined in terms of its components: structure (e.g., network size, marital status), functions (e.g., social support), and quality (e.g., relationship satisfaction). Low levels of these components appear to be associated with increased health risks, and high levels appear to be associated with protective health factors. Further investigation may help to identify the causal mechanisms for the role of social connection in health. These mechanisms may then be leveraged in prevention, intervention, and policy efforts.

<https://doi.org/10.1177/0963721421999630>

**Vitamin S: Why Is Social
Contact, Even With Strangers,
So Important to Well-Being?**

*Paul A. M. Van Lange and Simon
Columbus*

Van Lange and Columbus discuss three propositions to support the idea that not only close relationships but interactions with acquaintances and strangers can be beneficial to well-being: (a) Most interactions with strangers are benign, (b) most strangers are benign, and (c) most interactions with strangers enhance well-being. The researchers present findings supporting these propositions and showing that most interactions with strangers represent

opportunities for low-cost cooperation and little chance of conflict. They discuss research tying social interactions to happiness and suggest that a brief interaction (even a smile) with a stranger can be beneficial in times like the COVID-19 pandemic, when many people are deprived of social contact.

<https://doi.org/10.1177/09637214211002538>

**PERSPECTIVES ON
PSYCHOLOGICAL SCIENCE**

**Small Effects: The
Indispensable Foundation for
a Cumulative Psychological
Science**

*Friedrich M. Götz, Samuel D. Gosling,
and Peter J. Rentfrow*

Götz and colleagues argue that psychological phenomena are most likely determined by a multitude of causes, each with a small effect. They describe the dangers of a publication culture that demands large effects: It rewards inflated effects that are unlikely to be real and encourages questionable practices to obtain such effects, and it hampers the understanding of complex psychological phenomena. The authors recommend using small effects to build a cumulative science. This would allow scholars to leverage the power of big data and machine learning, promote preregistration, and change the culture of scholarly publishing to reward accurate and meaningful effects.

<https://doi.org/10.1177/1745691620984483>

**Viewing Development
Through the Lens of Culture:
Integrating Developmental
and Cultural Psychology to
Better Understand Cognition
and Behavior**

Larisa Heiphetz and Shigehiro Oishi

Viewing developmental milestones through the lens of cultural psychology may shed light on questions about the emergence of new cultures and the

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role of culture in shaping psychological processes. Moreover, because development is influenced by shared values, language, and social norms, cultural psychology can clarify important topics in developmental psychology, such as conflicts between individuals at different developmental stages and age-related changes in cognition and behavior. Thus, Heiphetz and Oishi argue that integrating cultural and developmental psychology can improve researchers' understanding of social and individual cognition and behavior.

<https://doi.org/10.1177/1745691620980725>

What Happened to Mirror Neurons?

Cecilia Heyes and Caroline Catmur

Heyes and Catmur present a review of the research on mirror neurons—in response to execution and observation of behaviors—published since 2011. They discuss the origin and function of mirror neurons, concluding that they appear to contribute to complex control systems at relatively low levels of processing rather than acting alone or dominating systems in the brain. The authors suggest that although the actual role of mirror neurons might fall short of some early claims, studying them can still help researchers better understand body movements, speech perception, and imitation.

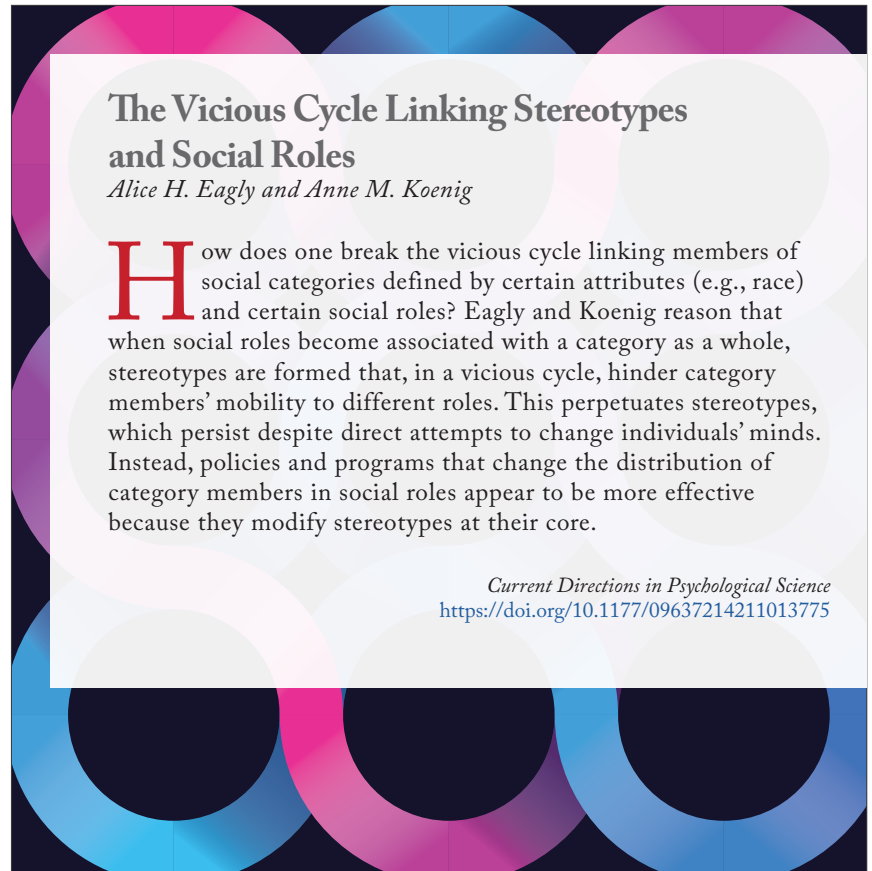
<https://doi.org/10.1177/1745691621990638>

ADVANCES IN METHODS AND PRACTICES IN PSYCHOLOGICAL SCIENCE

How Do We Choose Our Giants? Perceptions of Replicability in Psychological Science

Manikya Alister, Raine Vickers-Jones, David K. Sewell, and Timothy Ballard

Alister and colleagues surveyed the corresponding authors of articles published between 2014 and 2018 regarding 76 study attributes that



The Vicious Cycle Linking Stereotypes and Social Roles

Alice H. Eagly and Anne M. Koenig

How does one break the vicious cycle linking members of social categories defined by certain attributes (e.g., race) and certain social roles? Eagly and Koenig reason that when social roles become associated with a category as a whole, stereotypes are formed that, in a vicious cycle, hinder category members' mobility to different roles. This perpetuates stereotypes, which persist despite direct attempts to change individuals' minds. Instead, policies and programs that change the distribution of category members in social roles appear to be more effective because they modify stereotypes at their core.

Current Directions in Psychological Science
<https://doi.org/10.1177/09637214211013775>

might affect the replicability of a finding. Six types of features appeared to heavily influence the degree of confidence researchers had in the replicability of findings. These features were related to weak methodology (e.g., low power) or lack of transparency, questionable research practices, rigorous analyses (e.g., a large sample), ease of conducting a replication (e.g., the existence of previous replications, open data, or open methods), robustness of the findings (e.g., consistency with theory), and traditional markers of replicability (e.g., status of the researcher or institution).

<https://doi.org/10.1177/25152459211027575>

ManyClasses 1: Assessing the Generalizable Effect of Immediate Feedback Versus Delayed Feedback Across Many College Classes

Emily R. Fyfe et al.

Fyfe and colleagues introduce an experimental paradigm for evaluating the benefits of recommended educational practices in authentic educational contexts, beyond the lab. With ManyClasses, researchers examine the same experimental effect across many classes, focusing on different topics, institutions, teacher implementations, and student populations. Here, the researchers evaluated whether the timing of feedback on class assignments affected students' subsequent performance. Results indicated that, across 38 classes, there were no overall differences in the effects of immediate versus delayed feedback on student performance. However, data suggested that delayed feedback might modestly outperform immediate feedback in certain classes. ●

<https://doi.org/10.1177/25152459211018199>

FAULTY MEMORIES OF OUR PAST WHEREABOUTS: THE FALLACY OF AN AIRTIGHT ALIBI

When someone is suspected of criminal activity, one of the most important questions they are asked is if they have a credible alibi. Playing back past events in our minds, however, is not like playing back a video recording. Recollections of locations, dates, and companions can become muddled with the passage of time. If a suspect's memories are out of line with documented events, a once-plausible alibi can crumble and may be seen as evidence of guilt.

To put people's memories of past whereabouts to the test, a team of researchers tracked the locations of 51 volunteers for one month and found that their recollections were wrong approximately 36% of the time.

"This is the first study to examine memory for where an event happened," said Simon J. Dennis, director of the Complex Human Data Hub at the University of Melbourne's School of Psychological Sciences and lead author of the study, which was published in the journal *Psychological Science*. "We were able to use experience-sampling methods to actually examine people's memories and analyze what is affecting memory error in their everyday life."

In the study, an app on the participants' smartphones continuously (and securely) recorded their locations and surroundings via GPS. The app also made sound recordings of the environment every 10 minutes. Participants had the freedom to turn off the app or to delete events—a mechanism designed to protect privacy.

At the end of the month, the participants received a memory test in which they were given a time and date and then asked to select one of



four markers on Google Maps to show where they had been at that moment.

The results revealed that participants tended to confuse days across weeks. They also often confused weeks in general and hours across days. The participants had the poorest recall when memories of one event become entwined with memories of a similar experience, such as filling up a car with gas at a different location of the same gas-station chain.

Additionally, the researchers found that people tended to confuse places they had visited at similar times or locations, such as multiple bars visited in one evening. People also made mistakes—although less frequently—when events involved similar sounds

or movement patterns, such as when they had walked through town on different days while listening to their favorite music.

"This has implications for alibi generation, as jurors tend to assume that a suspect who is wrong is lying," said Dennis. "These results can alert investigators to the questions they should ask in order to catch the memory errors that suspects are likely to make." ●

Reference

Laliberete, E., Yim, H., Stone, B., & Dennis, S. (2021). The fallacy of an airtight alibi: Understanding human memory for "where" using experience sampling. *Psychological Science*, 23(6), 944-951. <https://doi.org/10.1177/0956797620980752>

WHEN CAREGIVERS CARE TOO MUCH: EMOTIONAL EMPATHY AND MENTAL HEALTH

Caregivers of people with dementia or a neurodegenerative disease are much more likely to experience depression or anxiety than noncaregiving adults of the same age, according to new research published in *Clinical Psychological Science*. These mental health risks are especially pronounced for caregivers who have high levels of emotional empathy, or the ability to feel or share others' emotional states.

"This variation among caregivers underscores the importance of identifying factors that are associated with declining mental health in caregivers," wrote Alice Y. Hua, a data scientist at the University of California, Berkeley, and colleagues. "Such factors can help identify caregivers who are at heightened risk for developing mental health problems and suggest potential intervention targets to prevent new mental health problems and reduce the severity of existing ones."

The present study by Hua and colleagues involved 78 caregivers of people with dementia. Participants were recruited at the Memory and Aging Center at the University of California, San Francisco. Of the people with dementia, 33 had frontotemporal dementia, 11 had Alzheimer's disease, 25 had diagnoses characterized by motor symptoms, and nine were at risk for developing dementia. The caregivers were 64.5 years old on average and were predominantly women, White, and well educated. Most were providing care for their spouses.

In a laboratory at the University of California, Berkeley, Hua and colleagues used noninvasive sensors to measure participants' mental health, emotional empathy (by registering physiological, behavioral, and emotional responses to a film depicting



other people's suffering), and cognitive empathy (by registering how accurately participants identified people's emotions in another film). A month later, caregivers completed two online questionnaires to assess their mental health using the Center for Epidemiological Studies Depression Scale, where participants rate themselves over the past week on a scale from 0 (rarely or none of the time) to 3 (most or all of the time) for 20 items (e.g., "I felt sad," "I felt lonely").

"Results were partially consistent with our hypothesis that laboratory measures of emotional empathy would be associated with poor caregiver mental health," the researchers wrote. "Using a composite measure of depression and anxiety symptoms, we found an association between one of the three emotional empathy measures (self-reported emotional

experience to the emotional-empathy task) and caregiver mental health." The findings are not without precedent, they added, citing prior research finding that too much empathy leads to burnout and emotional distress among health care providers who regularly interact with distressed or suffering individuals. "In the context of caring for a person with dementia, caregivers high in emotional empathy may become overly enmeshed, taking on the added burden of feeling the distress and suffering experienced by a loved one who is dealing with the ravages of a cruel, progressive, and ultimately terminal illness," they wrote. •

See the full article online with references at psychologicalscience.org/observer/caregiving-health-risk.

DIRECT DEMOCRACY: READERS' EYE MOVEMENTS MAY PREDICT VOTES ON BALLOT MEASURES



Whatever the policy in question, research in *Psychological Science* suggests that ballot measures with language that is easier to understand are more likely to be approved—and the way voters' eyes move as they read this language can accurately predict their behavior at the ballot box.

“Using eye-tracking technology, we found that as ballot language becomes more difficult to understand, voters are more likely to abstain from voting or vote against ballot measures,” wrote Jason C. Coronel (The Ohio State University) and colleagues. “Eye movements may be able to assist researchers and policymakers in crafting ballot language that is comprehensible to a larger group of voters.”

Coronel and colleagues analyzed the relationship between readers' eye movements and real-world voter activity through a pair of studies involving a total of 240 registered voters and

137 million votes cast for or against 64 U.S. ballot measures. To reduce the influence of participants' preexisting political leanings, the researchers excluded ballot measures related to high-profile issues such as abortion and immigration in favor of less contentious measures related to state and local taxation, infrastructure projects, and budgets.

The complexity of language used in each ballot measure was determined using SUBTLEXUS, a database of high-frequency words from U.S. film and television subtitles. Words that are more common in films and television have also been found to be more common in people's day-to-day lives, the researchers noted.

Additionally, previous research has shown that when text is difficult to read, people tend to make more fixations—movements of the eye to new or previously viewed parts of the

text—and to look at it longer.

In the lab, participants read and then voted to support, oppose, or abstain on a selection of ballot measures while their eye movements were tracked. Participants who fixated on the text of a ballot measure more or looked at it for longer were more likely to vote against it or to abstain from voting. Longer and more frequent fixations were also found to predict small but consistent increases in rates of opposition or voter abstention for ballot measures that were up for consideration by real-world voters.

“Although these effects are modest, it is important to note that even small effects can influence electoral outcomes. In competitive elections, for example, ballot measures can win by a razor-thin margin,” Coronel and colleagues wrote.

These findings highlight how the language used to frame a policy can influence how it is received by voters, the researchers noted.

“These findings expose the concerns of direct democracy elections because politicians and special-interest groups may inadvertently or deliberately influence election outcomes by crafting difficult-to-understand ballot language,” the researchers added. ●

Reference

Coronel, J. C., Bullock, O. M., Shulman, H. C., Sweitzer, M. D., Bond, R. M., & Poulsen, S. (2021). Eye movements predict large-scale voting decisions. *Psychological Science*, 32(6), 836–848. <https://doi.org/10.1177/0956797621991142>

EXPLORING PIPELINE PROGRAMS THAT WILL SUPPORT YOUR ACADEMIC JOURNEY

Any academic journey is defined by multiple roles, diverse learning tasks, and the development of different skills. For minority students and faculty members, additional challenges, such as a lack of role models or language and sociocultural barriers, frequently stand in the way of navigating these journeys. Pipeline programs (also known as pathway programs) are designed to provide support and resources to aspiring, early-career, and established scholars from diverse ethnic, gender, and economic backgrounds.

In a recent APS webinar, Rihana Mason, a research scientist at the Urban Child Study Center at Georgia State University, discussed how students can participate in pipeline programs and push for progress throughout their journeys. A veteran of academic pipeline programs herself, Mason has devoted part of her career to raising awareness of these programs. She is the cofounder of Academic Pipeline Programs, a set of initiatives that supports students from under-represented minorities with programming related to research, career, and life preparation. She is also coauthor (with Curtis Byrd, also of Georgia State University) of *Academic Pipeline Programs: Diversifying Pathways From the Bachelor's to the Professoriate*, an e-book describing best practices and offering guidance on starting and using such programs. (Also see page 64, "Guess Who's Coming to Dinner," for Mason's contributions during a panel discussion at the 2021 APS Virtual Convention.)

In the webinar, Mason discussed pipeline programs that support students from the precollegiate level to the graduate-school and faculty levels. "Funding is a survival need, but, at some point, just having the ability to pay for your education is not enough,"



she said, noting that pipeline programs should also support inclusive practices and empowerment. Mason and Byrd created the THRIVE Index to help students and faculty evaluate pipeline programs, as well as other programs at their institutions, and push for changes and improvements.

They advise looking at these characteristics in a program:

- Departments and personnel involved
- Longevity and impact
- Research routines and responsibilities—what are participants asked to do, and who are the programs for (e.g., women, women of color, veterans)?
- Identity support and inclusive practices
- How individuals are empowered
- Outcomes (e.g., graduation rates)

Mason also summarized how to get the most out of pipeline programs. "**Be inspired** by something," she said, whether a personal relationship you

develop in the program or something you notice is missing and feel called to create. "Explore **interdisciplinary** connections, learn from other methods, learn the language," and then **be intentional** with your next steps. "Email other persons who have been involved, expand the network, and start talking to see how you can benefit" through collaboration. Finally, she added, seek **interconnectedness** in your interdisciplinary teams. Her own work, she noted, involves making connections with policy analysts and educators in classrooms, as well as those who provide education in their home.

"Knowing this entire ecosystem, I think, will also help you find how your psychological training is going to impact the world," Mason concluded. "Through pipeline programs, you'll see the diversity of how people have used their degrees—and that will be inspiring as well." ◉

 [View this webinar as
psychologicalscience.org/observer/
academic-pipeline.](https://psychologicalscience.org/observer/academic-pipeline)

PERSISTENT STEREOTYPES FALSELY LINK WOMEN'S SELF-ESTEEM TO THEIR SEX LIVES



New research published in the journal *Psychological Science* challenges a pervasive but unfounded stereotype: that women (but not men) who engage in casual sex have low self-esteem. This finding was consistent across six separate experiments with nearly 1,500 total participants.

“We were surprised that this stereotype was so widely held,” said Jaimie Arona Krems, an assistant professor of psychology at Oklahoma State University and first author on the paper. “This stereotype was held by both women and men, liberals and conservatives, and across the spectrum in terms of people’s levels of religiosity and sexism.” But across the studies, Krems also observed that the stereotype was unfounded: There was virtually no relationship between participants’ own self-esteem and sexual behavior.

In one study, Krems and her col-

leagues had participants read about a hypothetical man, woman, or unspecified person in their mid-20s who had casual sex (e.g., one-night stands), monogamous sex, or no reported sexual behavior. Participants were then asked to make some snap judgments about this individual’s personality based on this information. Women who had casual sex were judged as having lower self-esteem. Participants did not connect men’s self-esteem to their sexual behavior, however.

In another experiment, the researchers used a method called the conjunction fallacy, which was made famous by Nobel Prize-winning psychologist Daniel Kahneman, an APS William James Fellow, in now classic research from the 1980s. In this experiment, participants were asked if a man or a woman who had casual sex was

more likely to have been (a) an English major or (b) an English major with low self-esteem. Most participants responded that the second of these two possibilities was more likely even though it was statistically less likely to be true.

The team also discovered that this stereotype persisted even when participants were confronted with contrary information. “When we explicitly told participants that the women who had casual sex were enjoying it and were satisfied with their sexual behavior, participants still stereotyped them as having lower self-esteem than women in monogamous relationships who were unsatisfied with their sexual behavior,” said Krems.

Previous research has suggested that people perceived to have low self-esteem are less likely to be hired for jobs, voted into political office, or sought as friends or romantic partners.

“Although not grounded in reality, the stereotype documented in this work may have harmful effects. Stereotypes like this can have serious consequences in the real world,” said Krems. ●



Listen to an Under the Cortex interview with Jaimie Arona Krems at psychologicalscience.org/self-esteem-stereotypes.

Reference

Krems, J. A., Ko, A., Moon, J. W., & Varnum, M. (2021). Lay beliefs about gender and sexual behavior: First evidence for a pervasive, robust (but seemingly unfounded) stereotype. *Psychological Science*, 32(6), 871–889. <https://doi.org/10.1177/0956797620983829>

WHAT MAKES A CHAMPION? VARIED PRACTICE, NOT SINGLE-SPORT DRILLING



“**W**hat explains the acquisition of exceptional human performance?” asked Arne Güllich (Kaiserslautern University of Technology) and colleagues in a study published in *Perspectives on Psychological Science*. To find out, they conducted a meta-analysis of 447 effect sizes from 51 studies involving 6,096 athletes, including 772 of the world’s top performers. Focusing on the different types of activities high performers undertook during their development, they explored which is more likely to facilitate athletic excellence: intensive specialized practice or a more diversified, multidisciplinary practice background.

Rarely, they found, do adult world-class athletes have career trajectories like those of Romanian gymnast Nadia Comăneci, who trained for hours a day starting at age 7 and won three Olympic gold medals at 14. More common are trajectories like those of Roger Federer and Wayne Gretzky, who played a diverse range of sports throughout childhood and adolescence rather than

specializing in tennis or hockey, respectively, at an early age.

There are parallels in science, too, the researchers found. “Nobel laureates had multidisciplinary study/working experience and slower early progress than did national-level award winners,” they wrote. “The findings suggest that variable, multidisciplinary practice experiences are associated with gradual initial discipline-specific progress but greater sustainability of long-term development of excellence.”

Becoming the greatest

In their meta-analysis, Güllich and colleagues reviewed 51 studies reported from 1998 to 2018. Athletes (68% male, 32% female) represented 15 countries and collectively participated in a wide range of individual and team sports, including all sports of the Olympic Games. Nearly three-fifths (59%) were “junior” athletes competing in youth-level competitions, and 41% were “senior” athletes—typically in their 20s or 30s.

Overall, athletes who achieved higher and lower levels of performance levels began playing their main sport at similar ages, Güllich and colleagues found. However, this null result rested on two opposing patterns: For junior athletes, higher levels of performance were associated with an earlier start; among senior athletes, higher levels of performance were associated with a later start. In addition, world-class senior athletes—the best of the best—not only started their main sport significantly later than their national-class counterparts, but they also accumulated significantly less practice at that sport throughout their career.

The researchers found similar opposing patterns in the age at which athletes reached certain performance milestones, such as participation in national championships. Again, the top-performing junior athletes reached these milestones earlier, whereas the top-performing senior athletes reached them later.

Moreover, although the athletes who achieved relatively higher levels of performance overall had accumulated substantial main-sport practice, the amount of practice was more predictive of performance for junior than senior athletes.

The researchers believe their findings have far-reaching practical implications for sports organizations, from local sports clubs and schools to elite youth sport academies. These organizations “make a choice,” Güllich and colleagues wrote, “to reinforce rapid junior success at the expense of long-term senior success or to facilitate the long-term development of senior performance at the expense of early junior performance.” ●

View this article with references at psychologicalscience.org/making-champions.

GESTURING REDUCES EFFECT OF A CLASSIC OPTICAL ILLUSION, STUDY FINDS

A new study published in the journal *Psychological Science* reveals that gesturing may enhance our ability to gauge the dimensions of objects even when our eyes deceive us.

When people estimated the length of sticks that were part of an optical illusion, their eyes were easily fooled and their estimates were inaccurate. The results were quite different, however, when they prepared to handle a stick or used their hands to show how they intended to move the stick.

“When people describe their experiences with objects, they often gesture with their hands as they talk. These gestures are deeply intertwined with the speech they accompany,” said APS Past President Susan Goldin-Meadow, a

researcher at the University of Chicago and lead author on the article. “People are captivated by the illusion when they are asked to verbally estimate the size of the stick. But despite the tight relation between gesture and speech, people are less deceived by the illusion when they gesture.”

To conduct their research, Goldin-Meadow and her colleagues asked a group of 45 participants to examine examples of the Müller-Lyer illusion. This famous bit of optical trickery consists of two lines or sticks: one framed by closed fins and the other framed by open fins. Viewers routinely estimate that the stick with open fins is longer, even though the sticks are actually the same length.

Thirty-two of the participants were English speakers who spontaneously



gestured while speaking, and 13 of the participants were deaf and used American Sign Language (ASL) to communicate about the sticks.

Each participant saw the Müller-Lyer illusion under three conditions: once after merely looking at a stick, once as they prepared to pick up the stick, and once more while using a sign or a hand gesture to describe an action they had performed on the stick. They were more accurate when they assessed the lengths of the sticks in the latter two situations than in the first situation.

That might be because the way people perceive objects depends in part on their intentions, according to Goldin-Meadow. If someone intends to act on an object, or intends to describe acting on the object, they may

gauge its dimensions more accurately than if they intend to estimate its dimensions.

“When you look at the illusion, you are captured by it,” said Goldin-Meadow. “But if you begin to move as if to grab one of the objects, something different seems to happen between your hand and your mind: You’re no longer quite as susceptible to the illusion as you were. Our discovery is that accuracy also improves when you *gesture* about the object while you talk or sign, just as it does when you prepare to act.” ●



Read the full article, and listen to Under the Cortex coverage, at psychologicalscience.org/gesturing-illusion.

APS James S. Jackson Lifetime Achievement Award for Transformative Scholarship

Nominations Open Now for 2023 Award Deadline: October 15, 2021

The 2022 Jackson Award recipients will be announced in fall 2021.
Questions about your nominee? Contact awards@psychologicalscience.org



James S. Jackson, a pioneering social psychologist known for his research on race and ethnicity, racism, and health and aging among African Americans, died on September 1, 2020, following a nearly 50-year career at the University of Michigan. In tribute to Jackson's transformative, diversity-focused scholarship, the APS James S. Jackson Lifetime Achievement Award for Transformative Scholarship honors APS Members for their lifetime of outstanding psychological research that advances understanding of historically disadvantaged racial and ethnic groups and/or understanding of the psychological and societal benefits of racial/ethnic diversity, equity, and inclusion.

To submit a nomination, visit
www.psychologicalscience.org/jackson



APS James S. Jackson Lifetime Achievement Award Committee
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POLICY WATCH: PROMISING DEVELOPMENTS FOR PSYCHOLOGICAL SCIENCE IN U.S. ARENA

This summer, not even the 17-year Brood X cicadas that ravaged parts of the eastern United States could keep APS's government relations team off its advocacy targets; we've worked on behalf of APS members to push for stronger funding for psychological science and greater application of psychological science in government. In this edition of Policy Watch, we review developments from the past several months and describe APS's recent activities to ensure that behavioral science is front and center in the places it ought to be. As always, the most up-to-date reports on all things funding and policy for psychological science can be found on the APS website at psychologicalscience.org/policy.

APS priorities echoed in U.S. budget process. On an annual cycle, APS visits with members of the U.S. Congress to bring issues of concern to psychological scientists to the attention of Capitol Hill. The hope each year is that Congress will recognize the value of these issues and include formal language supporting those priorities in reports linked with appropriations bills, which dictate how funds can be used in the federal budgeting process. (Appropriations reports help indicate Congress's objectives behind the numbers included in the much shorter bills.) In July, APS learned that the House of Representatives' version of appropriations bills related to National Science Foundation (NSF) and National Institutes of Health (NIH) funding for 2022 indeed mirrored APS's priorities. Specifically, the House called for better integration of behavioral and social sciences into the national COVID-19 response and reinforced its support for the wings of U.S. funding agencies that support

APS helped lead the charge to encourage the National Science Foundation to grow the Graduate Research Fellowship Program, rather than shrink it.

psychological science. At the time this piece went to print, APS was still waiting to see whether the Senate would echo these priorities. You can read more at psychologicalscience.org/US-appropriations.

More NSF Graduate Fellowships on the way? The NSF Graduate Research Fellowship Program (GRFP) is a key source of funding for promising graduate students in psychological science. Each year, NSF offers about 2,000 of these fellowships, some 100 of which typically go to psychological scientists. Over the past few years, however, NSF has indicated that it plans to cut the number of fellowships by about 25%, raising concerns within the scientific community. APS helped lead the charge to encourage NSF to grow the GRFP rather than shrink it. That's why we are thrilled with the newly issued program solicitation for the 2021 GRFP, which indicates that NSF intends to award 2,500 prizes this cycle. If you're eligible for the GRFP this cycle, be sure to get your application in by October 19! Read more at psychologicalscience.org/2021-GRFP-fellowships. And stay tuned—sometimes, NSF ends up

offering more awards than initially advertised, thanks to congressional interventions or advocacy from groups like APS. Will we see more than 2,500 awarded in spring 2022?

Injecting psychology into health moonshot fuel. In July, APS emailed members to share that U.S. President Joe Biden, Congress, and NIH are exploring the possibility of creating an Advanced Research Projects Agency for Health—or ARPA-H—designed to tackle “moonshot”-type goals for Alzheimer's, diabetes, cancer, and more. (You may be familiar with DARPA, or the Defense Advanced Research Projects Agency—this is being conceived as a “DARPA for health.”) The new agency, if established, could have a whopping budget of over \$6 billion. However, there's no clear plan to involve behavioral and social sciences in the work of this agency in any significant way, despite the truth, made all the more clear by the COVID-19 pandemic, that these factors contribute substantially to most of today's leading health threats. For this reason, APS is working to ensure that lawmakers don't overlook psychological science's potential contributions to health. We're speaking to our networks at NIH, on Capitol Hill, and in the White House to ensure this message remains loud and clear.

That's it from us this issue—again, keep your eyes on the APS website and our social media accounts (including [@PsychScience](https://twitter.com/PsychScience) on Twitter) for updates on these topics and more. And if there's anything you're concerned about in the world of funding and policy, we'd like to hear from you. Please write to aps@psychologicalscience.org. ●

— **Andy DeSoto**

APS Director of Government Relations

APPLYING PSYCHOLOGICAL SCIENCE AT OES: THREE SKILLS TO SHARPEN

By Heather Kappes

If you've read previous installments of this column—and I hope you have!—then you know that I've been sharing my reflections during my Fellowship at the Office of Evaluation Sciences (OES) in the U.S. General Services Administration. After nearly a year of experience, I have a better understanding of the knowledge and skills used at OES that are not necessarily covered in a typical psychology graduate program. For those looking to take on a similar role, here are my suggestions for skills you might want to develop.

Be able to articulate and apply psychological science in the design of interdisciplinary applied interventions.

Our team at OES is a mix of policy-area specialists (with expertise in housing or education, for example), methods specialists, and “all-rounders.” (Read about some of our different perspectives at oes.gsa.gov/blog/2020-fellows.) I consider myself an all-rounder because I work with psychological theories of motivation that are relevant to behavior in many policy areas. Most people with a graduate education in the psychological sciences could play a similar role even if, like me, they don't have any particular public policy expertise.

However, the way interventions are developed in an interdisciplinary applied setting like OES is probably different from how it's done in most graduate schools. One tool OES uses is a “map” that shows all the steps to interacting with a program, as well as the psychological and structural barriers that individuals might encounter.



These maps are similar to the “customer journeys” used in marketing. However, customer journeys often result from qualitative research with a small number of participants. OES sometimes uses qualitative research, but our maps typically synthesize relevant quantitative research from psychology and related disciplines. These maps make it easier to identify the barriers that can prevent people from executing a specific behavior—for example, factors that discourage government employees from making earlier, and cheaper, bookings for work-related travel—and draw on psychological science to identify promising interventions that will address those barriers (for a related OES map, see oes.gsa.gov/collaborations/gsa-travel-mapping).

Maps aren't a necessary part of applied intervention design, but they are

one way to home in on relevant research and theories. These maps can also be a great way to facilitate conversations among people with different disciplinary backgrounds.

Understand special considerations that pertain to field experiments.

Large field experiments require at least two specific skills that many psychology graduate programs don't cover in much depth. The first is block randomization, a technique I'd read about but never considered using until I joined OES. (Fortunately, OES has methods specialists, as mentioned above, to guide the way.)

Blocking is a tool for refining random assignment. It involves creating homogeneous subsets, or blocks, of experimental units (e.g., research participants) and randomly assigning treatments within those blocks.

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 served 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](https://twitter.com/heatherkappes)) or by email at h.kappes@lse.ac.uk.

Specifically, preexisting variables that could affect outcomes of interest are evenly distributed across the blocks, which allows researchers to make more precise estimates of an experimental treatment's effects.

For example, a current OES project is evaluating a multimodal communication strategy to increase take-up of the American Opportunity Tax Credit among students at a Midwestern U.S. university. Blocking was based on student characteristics such as years in school, status as a transfer student, and status as a dependent on someone else's tax return. These characteristics probably predict differences in tax filings, so if we ensure that they're evenly distributed across the groups that do and don't receive targeted communications, we can be more certain that observed effects are due to the communication strategy.

In addition to specific skills like block randomization, large field experiments require project management skills, because the contributions of multiple people must be organized and tracked over time. By seeking out opportunities in graduate school or your current position, you may be able to develop general project management skills as well as the ability to use specific tools like block randomization.

Gain comfort working with administrative data.

I said a bit about this already in my March/April column (see [psychologicalscience.org/observer/fellow-notes-](https://psychologicalscience.org/observer/fellow-notes-march-april21)

Understanding applied intervention design, being able to do field experiments, and working with administrative data are my “Big 3” skills to develop, but different roles within the government might require other skills from psychological scientists.

[march-april21](https://psychologicalscience.org/observer/fellow-notes-march-april21)). The specific challenges of using administrative data include identifying relevant existing data sets, accessing and cleaning the data, and leveraging them to build evidence. Also, although using administrative data is typically less expensive and less burdensome than collecting new data, it can limit the information you're able to observe.

It seems like data science skills will be increasingly relevant to the work OES and similar teams do. For example, some current OES projects are examining how funding to provide relief to small businesses during the

COVID-19 pandemic affected those businesses' resilience in San Diego and Dallas. The analyses combine administrative data about which businesses applied for and received funding (from the cities) with data on bankruptcy (from court records), opening hours (from Yelp), and credit card transactions (from card payment databases).

Having team members who can find these different data sets and wrangle them into usable form allows OES to do evaluations that would be impossible otherwise. These projects are different from typical OES work, in which government agency collaborators usually have their own data. But in almost every kind of project, we need to brainstorm creative measures of the core outcomes of interest and then be able to work with the data an agency collaborator provides.

Understanding applied intervention design, being able to do field experiments, and working with administrative data are my “Big 3” skills to develop, but different roles within the government might require other skills from psychological scientists. As graduate programs look to prepare their students for these sorts of jobs, I'm hopeful that they'll offer coursework and other opportunities to build the necessary skills. If you have examples or ideas to share, I'd love to hear about them (via Twitter [@heatherkappes](https://twitter.com/heatherkappes) or by email at h.kappes@lse.ac.uk). ●

QUOTE OF NOTE

“It is our hope that by identifying these priorities for social and behavioral science research and making recommendations for how they can be pursued in a coordinated fashion, this report will help produce research that improves the lives of everyone affected by dementia.”

—*Reducing the Impact of Dementia in America*, a report released July 26 by the National Academies of Sciences, Engineering, and Medicine on efforts by psychological scientists and other experts to develop a research agenda related to Alzheimer's disease and related dementias. Read more at bit.ly/sbsdementia.

EUROPEAN RESEARCH COUNCIL CONSOLIDATOR GRANT

Iris-Tatjana Kolassa, a professor of clinical and biological psychology at Ulm University, shares her insights on this prestigious grant.

The European Research Council (ERC) is one of the premier funders of basic-science research in Europe. Established and supported by the European Commission, the ERC advances the frontiers of knowledge and promotes cutting-edge research in Europe while also attracting talent from abroad. The Consolidator Grant provides recipients with up to 2 million euros for 5 years to support innovative proposals and helps principal investigators consolidate their own independent research team or program.

Iris-Tatjana Kolassa, an APS Fellow and Spence Award winner, is a professor of clinical and biological psychology at Ulm University, a relatively young university in southern Germany. She is a psychological scientist and licensed clinical and cognitive-behavioral therapist. The interdisciplinary research team she leads investigates the biomolecular consequences of chronic and traumatic stress, the biological underpinnings of the frequent comorbidity of psychological and physical diseases, and the reversibility (or nonreversibility) of stress-associated biomolecular alterations through psychotherapy. With this aim, she built the Outpatient Clinic

for Psychotherapy at Ulm University and started three biomolecular labs that facilitate the investigation of immunological, endocrine, and biomolecular cell processes with a specialized focus on oxidative stress, telomeres, DNA integrity, and mitochondrial bioenergetics. Her group's research and teamwork are characterized by high interdisciplinarity and an integrative view of mental health.



Iris-Tatjana Kolassa

What are you researching?

Traditionally, major depressive disorder (MDD) is conceptualized as a neurotransmitter deficiency in the brain. However, with pioneering methods, we have provided initial evidence for reduced mitochondrial energy production in MDD, characterizing it as a cellular-metabolic disorder. Through my ERC project, "Major depression as a metabolic disorder: The role of oxygen homeostasis and mitochondrial bioenergetics in depression etiology and therapy (MitO2Health)," we aim to develop a radically new pathophysiological model of MDD

as a systemic energy-deficiency disease. We also wanted to go the extra mile and investigate whether psychotherapy can normalize mitochondrial energy provision in MDD. Therefore, we want to apply cognitive-behavioral therapy (CBT) as a randomized treatment condition to test whether CBT-related MDD symptom reduction is coupled to a normalization of mitochondrial and immunological parameters. Through MitO2Health, we aim to identify biomarkers of individuals' responses to therapy. We hope that in the long run, our project will lead to new diagnostic standards and innovative personalized MDD treatment concepts.

How has ERC funding supported your research efforts?

I started the ERC project in October 2020, so I cannot yet evaluate research efforts. In this initial phase of the project, ERC funding enabled me to consolidate and expand my interdisciplinary team of psychologists, biologists, psychotherapists, and a medical technical assistant and to procure resources required to conduct the project. Moreover, it has already helped me and my team to gain further national and international visibility for our research efforts. For example, I was invited to participate as principal investigator in a consortium of excellent researchers under the guidance of the Central Institute of Mental Health in Mannheim (ZIHU), part of the newly established German Center for Mental Health. In addition, I was asked to join a consortium of researchers in establishing a site of the German Center for Child and Youth Health at Ulm University. I think that being awarded the ERC opened

Grant Information

- **Country/Region:** European Union
- **Organization:** European Research Council
- **Grant Mechanism:** Consolidator Grant
- **Amount:** €1,999,363

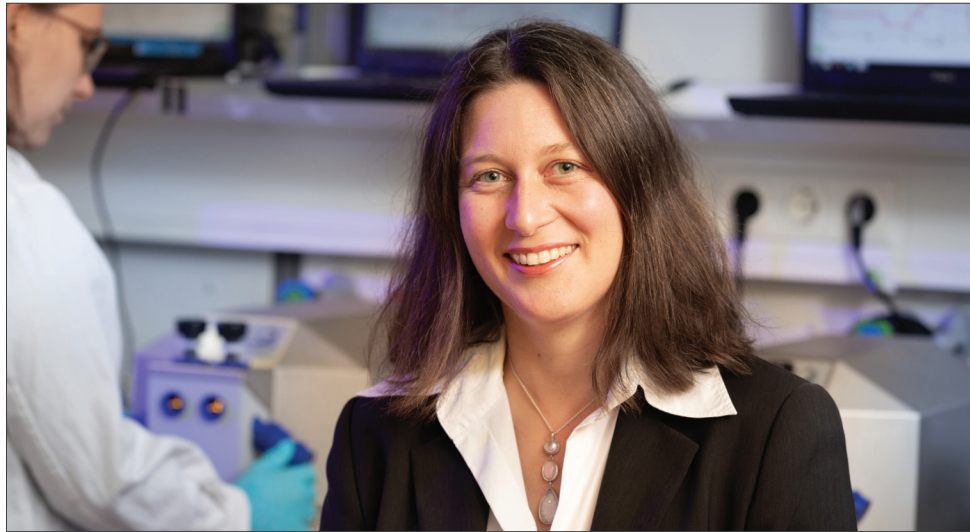
up opportunities to be part of such ambitious initiatives.

What was the grant application process like for the Consolidator Grant?

Writing the grant was a tremendous amount of work—a 5- to 6-month full-time job! We had to fill out several forms (administrative, budget- and ethics-assessment, and ethical-clearance paperwork) and develop a project proposal that needed to be presented in a very condensed, 6-page format for the first assessment step. I then had to present my CV and an early-achievement track record on 2 pages each. At the same time, we had to submit a highly precise and detailed project proposal of 15 pages that would be evaluated only when we came to the second assessment round. After successful evaluation of the second, full proposal, I was invited to an interview in Brussels. Here, I had exactly 10 minutes to present the project idea, outline the project's groundbreaking nature, and explain why I am the right person to conduct this kind of research. Preparing and practicing the talk was also an immense amount of work. The deadline for grant submission was in February 2019, the interview was in September 2019, and the news of the award came in December 2019.

What advice do you have for researchers applying for grants from the ERC?

I tried twice before to apply for an ERC starting grant but was not successful. However, this time we were well prepared and had collected pilot data proving the feasibility of the approach in advance. We also put intensive effort into developing the project proposal, and we asked for feedback from colleagues and mentors. In particular, round-the-clock discussions with members of my team developed into project ideas and how we could visualize certain things. I would advise researchers



Iris-Tatjana Kolassa is a professor of clinical and biological psychology at Ulm University in Germany.

to be persistent; even if you are not successful at first, get feedback from colleagues and mentors. Also, practice the Brussels presentation thoroughly. I am well experienced at giving talks in front of audiences, yet, in the interview situation, I felt my heart beat as fast as when I took my driving license test or my PhD examination. In this situation, it is helpful to practice a lot; however, you also need to have consolidated knowledge and expertise in your field to precisely answer questions from a large group of reviewers.

Anything else you wish to share regarding the Consolidator Grant or your research?

I would like to thank my team for its tremendous support during the writing phase—in particular, Dr. Alexander Karabatsiakos, Dr. Alexander Behnke, Dr. Roberto Rojas, Nehir Mavioglu, Melissa Hitzler, Sarah Karrasch, Anja Gumpp, Felix Neuner, and Suchithra Varadarajan. I also would like to say thank you to the Center for Research Strategy and Support at Ulm University, particularly Dr. Beate Griepner, Dr. Karl-Heinz Mueller, and Bernd Aumann for their excellent advice and for encouraging me to professionally practice the Brussels

interview in a training simulation. Without them I would not have been able to perform so well.

I would also like to add that mental health researchers should be open to crossing boundaries between disciplines in order to tackle novel and challenging scientific problems. This strategy is quite demanding, as one needs substantial insights into other disciplines and methodologies. This is a humbling process; one needs to admit that one does not know everything. For me, this approach is rewarding and enables me to understand complex biological mechanisms and see novel connections; the more I realize that things fit together, the more I am encouraged to continue—despite the strain and frustration that scientific business often is! ●

Visit psychologicalscience.org/tag/European-research-council-erc for more information, funding opportunities, and past APS stories on the European Research Council. More information can be found on the ERC website, erc.europa.eu.



Combating Stereotypes and Bias

The challenges associated with addressing persistent inequality among marginalized communities have never been more apparent. Psychological science explores the roots, the risks, and the roads to meaningful behavioral change.



RAIN BEFORE RAINBOWS: THE SCIENCE OF TRANSGENDER FLOURISHING

A growing body of research supports the fact that, with acceptance and body autonomy, people who are transgender can live just as happily as anyone else.

By Kim Armstrong, APS staff

“**W**e’re all born naked and the rest is drag”: That pithy tagline, popularized by RuPaul of *Ru Paul’s Drag Race* fame, sums up the socially constructed nature of gender in just a handful of words, though it’s far from the full picture. Philosopher Judith Butler’s concept of gender performativity fills in the gaps. In this performance, wrote Thekla Morgenroth (University of Exeter, United Kingdom) and Michelle K. Ryan (University of Exeter, United Kingdom, and University of Groningen, the Netherlands) in *Perspectives on Psychological Science*, each of us plays a character (most often, a man or a woman) through our costume and behavioral scripts. The performance takes place on a stage set by our

cultural environments for an audience of others and ourselves.

“The concept of gender is created through the performance of gender—the way that we act in line with gender norms,” Morgenroth added in an interview with the *Observer*. Recognizing the socially constructed nature of this performance, they said, can help everyone to live safer and more authentic lives.

Generally, we view this performance as essential to who we are as individuals, Morgenroth and Ryan noted, and, in most modern Western societies, the cultural stage is set to perpetuate a rigid sex/gender binary in which all males are men, all females are women, and all people ➔

Gender Cognition in Trans Youth

APS Fellow Kristina Olson's TransYouth Project, one of the first large-scale longitudinal studies of transgender children's development, has followed more than 300 children throughout the United States and Canada since 2013. In one related study reported in *Psychological Science*, Olson and colleagues found that transgender children demonstrated gender-cognition patterns that mirrored those of their same-gender peers rather than those of children who were assigned the same sex at birth.

Read more about Olson's research, for which she was named a MacArthur Fellow and received the National Science Foundation's Alan T. Waterman Award, both in 2018, at psychologicalscience.org/kristina-olson.

are expected to dress and behave in certain ways as a result. This binary is culturally enforced by our laws, languages (through gendered pronouns and nouns—e.g., “he” and “she” in English or “un étudiant” and “une étudiante” for “a student” in French), and even our architecture (as with gender-segregated bathrooms), in addition to broader cultural ideas about masculine and feminine gender roles.

When a person's performance is out of alignment with this binary, Morgenroth and Ryan added, they cause “gender trouble”—a term coined by Butler. This can occur when someone plays the “wrong” character (e.g., a nonbinary or transgender person), puts on an “incongruent” costume (e.g., a woman wearing pants in 19th-century America), or enacts an “incorrect” script (e.g., a man who wants to be a stay-at-home father).

Gender trouble is common even among the majority of people who are cisgender (who identify with the gender they were assigned at birth), Morgenroth and Ryan noted, but it is most harshly punished in people who are LGBTQ+, and especially in people who are transgender—those who have a gender other than the binary option they were assigned at birth or, in the case of some nonbinary people, no gender at all.

“Trans and nonbinary people, particularly those of color, often get particularly negative reactions because they disrupt the gender/sex binary basically by just existing,” Morgenroth said.

Challenging the binary in this way can be met with everything from derision to imprisonment or violence, a chilling reality for the 33 transgender or nonbinary people, many of them women of color, who have been murdered in

the United States alone this year as of July 30th, according to the Human Rights Campaign (which notes that many of these deaths go unreported or misreported). In the 2015 U.S. Transgender Survey (USTS), almost one in 10 respondents reported being physically attacked because they were transgender, with rates as high as 19% for those who were Native American and 23% for those who were undocumented immigrants.

This kind of violence arises at least in part because gender trouble can trigger feelings of threat, Morgenroth and Ryan explained. When someone perceives another person's gender variance as threatening the sense of certainty and belonging provided by a binary view of man- or womanhood, they may attempt to enforce their binary perspective through social shaming, economic penalties, open hostility, or physical violence.

The legal system can also be used to serve these ends: As of April 15th, lawmakers in at least 33 U.S. states had introduced more than 100 bills in 2021 intended to strip trans people of their right to body autonomy and equality. These bills include bans on trans athletes' participation in school sports; opt-in-only or opt-out options for curricula that include mention of LGBTQ people; protections for insurance carriers and health care providers that refuse coverage or care to transgender people; and prohibitions on the evidence-based use of hormones and puberty blockers for children who are transgender, including penalties of up to 10 years in prison for doctors who provide these treatments. Perhaps most disturbingly, legislators in New Hampshire and Texas have put forward bills that would define gender-affirming care as child abuse, potentially allowing trans kids to be forcibly removed from their homes or their parents to be imprisoned.

“Regardless of whether these pieces of legislation pass, the fact that they are even being considered suggests just how disposable we are considered to be,” wrote artist Alok Vaid-Menon of similar bills in their 2020 book, *Beyond the Gender Binary*. “At a fundamental level, we are still having to argue for the very ability to exist.”

In this transphobic climate, it's no surprise that elevated rates of suicidal ideation and suicide attempts have been found in trans communities across the world.

Through the 2015 USTS, Sandy James (National Center for Transgender Equality) and colleagues found that, of 27,715 transgender respondents, 81% had seriously considered suicide and 41% had made at least one attempt in their lifetime, compared to 4.6% of the general population; within the past year, 48% had experienced suicidal ideation and 7% had attempted suicide.

Among a sample of 1,309 trans men and women in China, Runsen Chen (Central South University, China)



Listen Online!

Hear more on disrupting the gender/sex binary from Thekla Morgenroth in their *Under the Cortex* interview at psychologicalscience.org/morgenroth.

and colleagues found that 56% of participants reported considering suicide, and 16% had made an attempt in their lifetime, compared to 12% and 3%, respectively, in the general Chinese population. Over half the participants also reported experiencing major depressive disorder at some point in their lives.

Looking at a much smaller time scale, a 2017 study of 937 transgender women in eight countries in sub-Saharan Africa (Burkina Faso, Côte d'Ivoire, the Gambia, Lesotho, Malawi, Senegal, Swaziland, and Togo) reported similar rates of depressive symptoms (57%), and 19% of participants had considered suicide in the past 2 weeks alone. Notably, this region is home to more than 70% of the world's HIV cases, according to Tonia Poteat (Johns Hopkins Bloomberg School of Public Health) and colleagues. During the study, HIV-positive rates were twice as high among transgender women compared to cisgender gay and bisexual men, and transgender women who reported experiencing depression, violence, and stigma from law enforcement were particularly likely to test positive.

The risk for death by suicide in a Dutch sample of 8,263 people referred to a gender clinic between 1972 and 2017 was 3 to 4 times higher than in the general population, according to a 2020 study by Chantal M. Wierjes (VU University Amsterdam, the Netherlands) and colleagues. It can be difficult to track fatality rates within the trans community outside of this kind of clinical context, however, because gender identity is rarely recorded on death certificates, as Ann P. Haas (City University of New York) and colleagues noted in a call for more thorough demographic reporting.

This misery is far from inevitable. Even well-meaning attempts to address transgender health disparities can fall into the trap of depicting gender variance as a modern phenomenon, but a look back across human history—or even just outside mainstream Western culture today—suggests this is not the case. In his 1996 book *Transgender Warriors*, labor activist Leslie Feinberg demonstrated that people we might call “transgender” today have always been with us. They include, for example, the two-spirit people recognized by certain North American indigenous groups, such as Lakota winyanktecha, as well as hijras in India and Pakistan and fa'afafine in Samoan culture.

These “third-gender” people—who have social roles unique to their own cultures, distinct from being transgender or nonbinary—were and in some places still are valued and respected members of their societies, Feinberg noted, belying the idea that the social stigma and violence faced by gender-minority people today is

Getting Pronouns Right

Many languages, including Cantonese, Finnish, and Hawaiian, don't grammatically specify the gender of a person who is being spoken or written about. In languages that do, however, referring to someone by their correct pronouns and using gender-neutral language for people of unknown gender can be part of challenging the gender binary, wrote Morgenroth and Ryan in *Perspectives in Psychological Science*. In English, these include “he”/“him,” “she”/“her,” and “they”/“them,” as well as newer pronouns such as “xe”/“hir.”

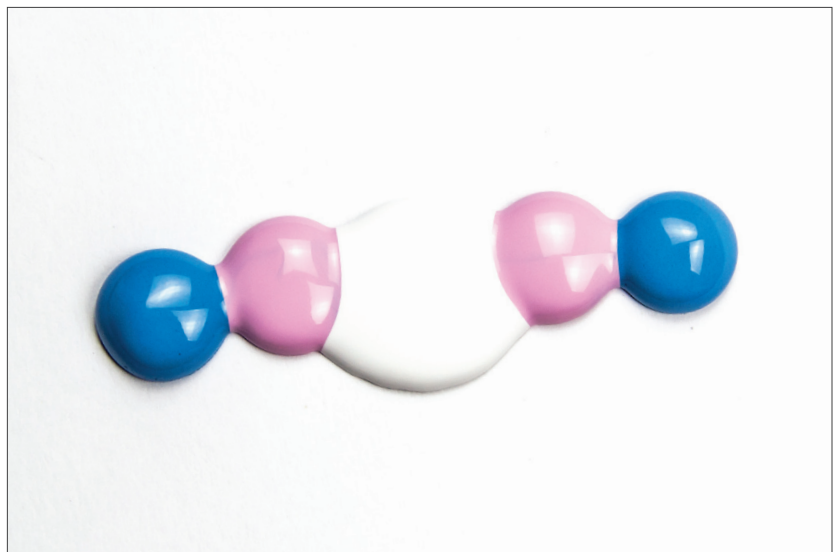
For discussion of the gender-inclusive use of the Swedish pronoun “hen,” see our collection of LGBTQ+ Flash Talks from the 2021 APS Virtual Convention at psychologicalscience.org/LGBTQ-talks.

inherent either to gender variance or to human nature. What changed, Feinberg stressed, is how European colonialism and capitalism have restricted the ways in which people outside of the gender binary can safely exist.

The cause of this suffering, in other words, is transphobic bias, and the simple solution, as demonstrated by trans people's own experience and a growing body of psychological science, is acceptance and autonomy.

Social support for a sunnier start

In a 2019 study of 129 Americans ages 15 to 21, Stephen T. Russell (University of Texas at Austin) and colleagues found that transgender participants who were able to go by their chosen name in at least one social ➡





context (home, school, work, or with friends) were 29% less likely to report suicidal ideation and 56% less likely to report suicidal behavior in the past year.

Similarly, in 2020, the Trevor Project conducted a U.S. survey of 40,000 LGBTQ+ youth ages 13 to 24, approximately 13,600 of whom were transgender or nonbinary. The survey found that young people who reported having their pronouns respected by all or most people in their lives were less than half as likely to report attempting suicide in the past year (12%) than those who had no such support (28%).

Parental support is an especially influential factor, noted Robb Travers (Wilfrid Laurier University, Canada) and colleagues in a 2012 Trans PULSE report. Through a survey of 433 trans participants ages 16 to 24 in Canada, the researchers found that more than 70%

of youth who perceived their parents as strongly supportive of their gender reported being satisfied with their lives and mental health; by comparison, among youth whose parents were less supportive or not at all supportive, just 33% were satisfied with their lives, and only 15% reported positive mental health. The majority of trans youth without strong parental support also reported considering (60%) and even attempting suicide (57%) in the past year.

Youth in the Trans PULSE survey with supportive home environments still experienced heightened suicidal ideation compared to the general population, but just 4% reported attempting suicide in the past year—a 93% reduction in suicide attempts.

These findings are echoed throughout the literature. In a 2017 study of 310 children in the United States and Canada, Lily Durwood (Harvard University) and APS Fellows Katie A. McLaughlin (Harvard University) and Kristina R. Olson (Princeton University) found that transgender kids whose

parents allowed them to socially transition (by dressing how they wanted and using their chosen name and pronouns) reported rates of depression in line with those of their cisgender siblings and age-matched peers. Furthermore, in a 2021 study of 265 transgender youth ages 3 to 15, Durwood, McLaughlin, Olson, and colleagues found that children whose parents reported higher levels of support for their child among family, friends, and at school also reported levels of anxiety and depression similar to those found in the general population of children.

In the Trans PULSE survey, participants who described their parents as only somewhat supportive did not report significantly better outcomes than those whose parents were not at all supportive, Travers and colleagues noted. This, the researchers wrote, suggests that anything less than the same support parents would extend to a cisgender child is likely to negatively impact well-being. No youth with strongly supportive parents reported experiencing homelessness or other issues with housing security, for example, compared to 55% of those with less supportive parents, who are more likely to run away from or be forced out of their childhood homes, and to lack financial support from family for housing.

“While some parents worry that being trans will cause their child to be unhappy, ultimately our data indicate that it is parents and caregivers themselves who provide the foundation for their children’s health and well-being with their support,” Travers and colleagues wrote.

Fortunately, although not all trans youth can count on support from the people they were born to, family can be something you find, too. In the Trevor Project’s 2020 survey, young people who reported that they were highly supported by at least one friend or were able to access at least one LGBTQ-affirming space in their community were 8% less likely to have attempted suicide in the past year.

Scattering storm clouds in adulthood

No one stays young forever, and social support forms the foundation of mental health in adulthood as well.

In a 2018 study of 423 transgender and nonbinary adults ages 18 to 61 in Brazil, Bruna L. Seibel (Faculdade Cesuca University, Brazil) and colleagues found that participants who described their parents as being at least somewhat supportive of their gender reported levels of self-esteem in line with the general population. By contrast, not only did participants without parental support report lower self-esteem, they were also more than 4 times more likely to have moved away from friends and family because they were transgender, and they were significantly more likely to have experienced homelessness as a result.

The ability to work openly as a transgender person without facing harassment or other forms of discrimination becomes increasingly important with age as well. In the

“While some parents worry that being trans will cause their child to be unhappy, ultimately our data indicate that it is parents and caregivers themselves who provide the foundation for their children's health and well-being with their support.”
—Robb Travers and colleagues

2015 National Center for Transgender Equality survey of 28,000 transgender Americans, participants were 3 times more likely to be unemployed than the national average, and more than twice as likely as cisgender people to live below the poverty line, with 29% making less than \$12,000 annually.

In line with this economic hardship, 13% of respondents reported that they had lost at least one job in their lifetime because of their gender. Of those who had been employed in the past year, 14% had been verbally harassed at work because they were transgender, and the majority (77%) had to hide their gender, quit their job, or take other steps to escape mistreatment at their workplace.

Of course, it doesn't have to be this way. In a 2015 reanalysis of data collected from 1,299 transgender adults in 2003, Amaya Perez-Brumer (Columbia University) and colleagues found that participants were less likely to have attempted suicide in their lifetime in areas with lower state-level structural stigma. The study focused on the presence or absence of policies supporting LGB people (e.g., legal marriage and adoption for same-sex couples; employment-nondiscrimination and hate-crime statutes that include sexual orientation), Perez-Brumer and colleagues noted, because legal protections for gender-minority people were rare when the data were collected. States with stronger legal protections for LGB people have consistently gone on to have more protections for gender minorities, the authors added, which suggests that these policies may serve as historic indicators of current support or future support for people who are transgender.

Similarly, in a 2021 reanalysis of data collected from 6,771 transgender people in the European Union in 2012, Richard Bränström (Karolinska Institutet, Sweden) and

colleagues found that lower transphobic structural stigma at the national level (including legal protections against discrimination, marriage recognition for transgender people, legal gender recognition, and the ability to claim asylum on the basis of gender identity) were significantly associated with higher life satisfaction.

In the workplace, employers can help to create a trans-inclusive environment by having clear policies about respecting colleagues' pronouns, names, and appearance, in addition to their right to use shared spaces such as bathrooms, wrote Christian N. Thoroughgood (Villanova University) and colleagues in the *Harvard Business Review*. It's also important to “proactively cultivate a supportive work environment” so that trans employees don't have to build one themselves from scratch, the authors added, by modeling trans-inclusive behavior and having a clear process for trans employees to address questions and concerns with management.

“Only when people feel totally authentic and connected with their organizations can they achieve their full potential at work. Trans employees are no exception,” Thoroughgood and colleagues concluded.

Finding community can powerfully influence the well-being of people who are transgender in adulthood as well. In a review of 18 studies from the United States, Canada, Croatia, Guatemala, and the United Kingdom, Athena D. F. Sherman (Johns Hopkins University) and colleagues found that trans adults who reported higher participation in the trans community, either in person, online, or through media such as television and movies, also reported better mental well-being. In one study of 1,093 trans men and women in the United States, for example, those who had peer support from other people in the trans community experienced less psychological distress in response to transphobic stigma.

The freedom to grow

Mainstream narratives often portray medically transitioning as a prerequisite for being transgender, but one is not necessarily dependent on the other. According to the 2015 USTS, for example, the desire to receive hormone therapy was reported by 95% of transgender men and women but just 49% of nonbinary people.

The need for surgical intervention also differs significantly by gender and the procedure in question. The majority of transgender women and nonbinary people assigned male at birth (AMAB) reported wanting or having had hair removal, for example, and virtually all transgender men and the majority of nonbinary people assigned female at birth (AFAB) wanted or had already had chest-reduction surgery.

But other surgeries are both less common and less wanted, particularly among nonbinary people. More than 75% of transgender women and 60% of transgender

men reported wanting, having had, or considering some form of genital reconstructive surgery, whereas roughly 50% of AMAB nonbinary people and 70% of AFAB nonbinary people were certain they did not want it. Nearly all trans men but only 67% of AFAB nonbinary people wanted, had, or were considering having a hysterectomy.

Regardless of how common these procedures may or may not be, medical interventions such as hormones and gender-affirming surgery can be lifesaving for the people who need them.

In a 2021 study that leveraged data from the 2015 USTS, for example, Anthony N. Almazan (Harvard Medical School) and Alex S. Keuroghlian (Massachusetts General Hospital) found that participants who reported undergoing at least one form of gender-affirming surgery in the past 2 years were less than half as likely to report experiencing suicidal ideation or attempting suicide in the past year, or experiencing other forms of severe psychological distress in the past month, than respondents who reported wanting but not receiving surgery. When Jack L. Turban (Harvard Medical School) and colleagues reexamined the USTS data in 2020, they found that adults who reported wanting and receiving puberty blockers as a child or adolescent were 15% less likely to report suicidal ideation in their lifetime or the past year.

Likewise, in a 2021 review of 20 studies on the relationship between hormone therapy and mental health, Kellan E. Baker (Johns Hopkins Bloomberg School of Public Health) and colleagues concluded that hormone therapy decreased participants' depression and anxiety and improved their quality of life—though the strength of these associations was limited by small sample sizes.

Anna Martha Vaitses Fontanari (Federal University of Rio Grande do Sul, Brazil) and colleagues reported similar findings from a study of 350 Brazilian transgender and nonbinary youth. In this case, youth who were able to take multiple steps toward gender affirmation, including socially, legally, and medically transitioning, reported fewer symptoms of depression and anxiety and were more likely to report feeling socially accepted and positive about their gender.

Of note, a 2021 meta-analysis of 27 studies of 7,928 participants age 13 or older who underwent gender-affirming surgery in Belgium, Brazil, Canada, Germany, Italy, the Netherlands, Singapore, the United Kingdom, and the United States found that just 1% of participants reported regretting their physical transition for any reason between 1 and 9 years after the fact. Less than half of that 1% reported wanting to detransition or already having done so, either because they wanted to return to their previous binary state or had realized that they were nonbinary, Valeria

Bustos (University of Pittsburgh) and colleagues wrote.

More often than not, the researchers added, those who experienced regret reported that it stemmed from post-surgery transphobia among family, friends, and employers rather than a change in their gender or change of heart about the surgery itself.

Pulling the weeds: Depathologizing transness

Despite the clear benefits, very few transgender people are able to access gender-affirming medical care because of economic constraints and transphobic bias on the part of practitioners and insurance carriers.

Although Brazil provides its citizens with access to trans health care as part of its universal health program, Fontanari and colleagues noted, clinics that provide these treatments are not equally distributed throughout the country, creating geographic barriers to care.

In countries without this kind of inclusive social safety net, including the United States, the barriers to care are even more severe. In the 2015 USTS, 14% of respondents were uninsured; even among those who had insurance,

one out of four people looking to receive gender-affirming hormones and more than half of people seeking transition-related surgery were denied coverage. According to the gender-confirmation fundraising guide on GoFundMe—a platform Americans sometimes turn to in order to pay for lifesaving health care, including insulin and even cancer treatment—hormone-replacement therapy can cost hundreds to thousands of dollars annually, and gender-affirming surgeries may cost thousands or tens of thousands of dollars per procedure for those without insurance.

Given these and other barriers, although 91% of USTS respondents reported needing some form of health care related to being transgender, only 65% had received any form of counseling (54%), hormone therapy (49%), surgery (25%), or puberty blockers (1%) in their lifetime.

Accessing trans-related health care also often requires people to submit to a lengthy diagnostic process, wrote researcher Florence Ashley (University of Toronto, Canada), author of the 2019 article “The Misuse of Gender Dysphoria” in *Perspectives on Psychological Science*.

The diagnosis of “transsexualism”—a term that, in this context, positioned being transgender as a mental illness—first appeared in the third edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-III)* in 1980. Since then, Ashley wrote, advocates efforts to destigmatize being transgender have resulted in a number of shifts in terminology, including the relatively recent removal of “gender identity disorder” in favor of “gender dysphoria” in

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the *DSM-V* in 2013 and “gender incongruence” in the 11th revision of the International Classification of Diseases in 2019. Gender dysphoria in particular, though inconsistently defined in the academic literature, tends to be diagnosed on the basis of the emotional distress a person might experience as a result of misalignment between their gender and the sex or gender role they were assigned at birth, Ashley explained.

Nonetheless, they said, for people who view being transgender as an uncommon but nonpathological part of human variation, any kind of diagnostic process can be distressing and dehumanizing because it gives practitioners the authority to decide whether a person is “trans enough” to receive care instead of respecting that person’s self-knowledge and autonomy.

“Health care practitioners often falsely believe that a diagnosis of gender dysphoria under the *DSM-V* is required before initiating hormone therapy or offering transition-related surgeries,” Ashley explained, but this isn’t the case everywhere. They emphasized that although a diagnosis may be necessary when required for insurance coverage, for a surgical referral, or by local legislation, this should be determined on a case-by-case basis rather than being an automatic response to a person being transgender.

Mental health issues are common among trans people, Ashley added, but, as demonstrated above, they occur as a by-product of stigma, not transness itself.

“The pathologization of trans identity came about because of the prejudices of psychiatrists and psychologists towards gender nonconformity, and continues to bolster the stigmatization of trans people today,” Ashley wrote.

Instead of seeking to define right and wrong, normal and abnormal, they added, mental health professionals need to start thinking about diagnoses in terms of how they benefit

the population in question. Labeling gender dysphoria—or simply being transgender—as a mental illness has never been about achieving the best outcomes for transgender people themselves, Ashley continued, but about stigmatizing trans people in order to create barriers to gender-affirming health care and participation in society.

“Our experience of gender is no more or less pathological than that of ‘mainstream’ society,” they said. “We have a right to live in a body that matches our self-image and deep desires without someone else being the gatekeeper to our experience.” ●

Read this article online, and share your thoughts, at psychologicalscience.org/observer/transgender-flourishing.

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**“The pathologization of trans identity came about because of the prejudices of psychiatrists and psychologists towards gender nonconformity, and continues to bolster the stigmatization of trans people today.”
—Florence Ashley**

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ONE OF US: COMBATING LIFELONG STIGMA AGAINST PEOPLE WITH INTELLECTUAL DISABILITIES

Conversations about the health disparities facing people with intellectual and developmental disabilities and disorders, and how to combat them, are long overdue.

By Emily Hotez

The COVID-19 pandemic exposed inequalities in all walks of American life, bringing to the forefront long-overdue conversations about health disparities among various marginalized populations, including individuals with intellectual and developmental disabilities (I/DDs). Even before the pandemic, however, individuals with I/DDs—including attention-deficit/hyperactivity disorder, autism spectrum disorder, cerebral palsy, learning disabilities, seizures, developmental delays, and intellectual impairment (Bagchi, 2020; Turner-Musa et al., 2020)—experienced

pronounced health disparities (Scior et al., 2016), such as increased rates of cardiovascular disease, diabetes, epilepsy, and psychiatric conditions and decreased life expectancy relative to the general population (Krahn & Fox, 2014; Young-Southward et al., 2017). Perhaps unsurprisingly, during the pandemic, they experienced more severe illness, greater risk of hospitalization, and almost twice the case fatality rates (Turk et al., 2020). And yet despite these staggering findings, individuals with I/DDs were often excluded from receiving priority vaccinations. As I noted in a commentary and opinion piece published ➔



Author Emily Hotez (right) and her sister Rachel (left) reading together as children.

earlier this year, stigma—adverse social judgments about a person or group (Weiss et al., 2006, p. 280)—was partially to blame.

As a developmental psychologist and the sister of an autistic adult, I have witnessed firsthand the effects of stigma on the health of people with I/DDs. Health care stigma, including physician misinformation and bias, is a significant driver of negative health outcomes. Indeed, I have been privy to countless stories of doctors who have expressed preconceived biases, discomfort, or outdated knowledge about autism, and, as a result, deemed my sister too complex, dangerous, or challenging to treat. For example, more often than not, my sister’s dentist appointments would culminate in referrals to other dentists who were purportedly more equipped to address her anxiety and sensory challenges in the chair. But stigma originates well before individuals with I/DDs step foot in their doctors’ offices. It can be traced back to a lifetime of experiences and accumulates to create health disparities (Krahn & Fox, 2014). The pandemic magnified these disparities, and it is now more important than ever to understand how stigma permeates throughout the life course for individuals with I/DDs, how it contributes to poor health outcomes, and what we can do to combat and prevent it.

Understanding stigma

Stigma begins when people identify differences—often based on stereotypes and prejudices—and link people to undesirable characteristics. The labeling separates the stigmatized group—“them”—from “us,” resulting in discrimination (Link & Phelan, 2006; Sheehan et al., 2017). I’ve seen this process play out for my sister, from peers at school who avoided her to strangers who unleashed anger, threats, or verbal abuse. Although these are examples of overt stigma, stigma can also be more insidious, not only experienced but anticipated or, at worst, internalized, resulting in shame or self-loathing (Chaudoir et al., 2013). Countless marginalized groups experience stigma, and many individuals experience amplified intersectional stigma because they belong to more than one marginalized group (Turan et al., 2019).

Stigma—in all of its many forms—is directly damaging to health. Perceived or experienced discrimination produces heightened stress responses (Murphy et al., 2007; Pascoe & Smart Richman, 2009), and over time, chronic exposure accumulates and creates physical wear and tear (Ganzel et al., 2010). It also puts people at higher risk for maladaptive coping behaviors, including substance use and disordered eating (Simone et al., 2019; Wang et al., 2018). Stigma is further associated with reduced psychological well-being (Ali et al., 2012; Dagnan & Waring, 2004), including increased vulnerability to emotional and interpersonal challenges (Jahoda et al., 2010). Finally, stigma may prevent people from accessing appropriate services, which further compounds health disparities (Ali et al., 2012).

The experience of stigma among individuals with I/DDs

Stigma against the I/DD population begins in childhood, increases with age, and is perpetuated through limited exposure to individuals with I/DDs. For instance, by age 9, children without I/DDs have distinctly negative perspectives of children with I/DDs, and that negativity is greater among older children and those with less contact with the I/DD population (Bellanca & Pote, 2013). Middle school students without I/DDs report that they have limited contact with peers with I/DDs, believe that they are unable to participate in academic classes, and do not want to interact socially with them (Siperstein et al., 2007). Stigma continues to proliferate throughout adolescence. For instance, 13-year-olds with I/DDs are significantly more likely than their peers without I/DDs to report being bullied (Christensen et al., 2012). High school students with I/DDs report experiencing

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overt stigma, including name-calling, ridicule, and exclusion (Cooney et al., 2006). Thus, there appears to be a snowball effect throughout adolescence, whereby more implicit and subtle forms of stigma that originate in childhood become more explicit and pronounced.

Stigma continues to accumulate in adulthood

A nationally representative study revealed more negative stereotypes, greater social distance, and greater withdrawal behaviors toward people with I/DD compared to people with physical disabilities. In this study, adults read vignettes about “Joseph,” were told that he had either an I/DD or a physical disability, and responded to a series of questions. When participants were told that Joseph had an I/DD (instead of a physical disability), they were more likely to report, for example, that they would maintain social distance from him in a coffee shop or worry about him being aggressive toward them. Indeed, people continue to distance themselves from the I/DD community in adulthood, which contributes to lower acceptance, higher perceived dangerousness, and other negative perspectives (Werner, 2015). For example, the general adult population overestimates the extent to which individuals with attention-deficit/hyperactivity disorder have hyperactivity, impulsivity, and impairments at work or school, which has clear negative implications for their vocational and educational trajectories (Godfrey et al., 2020). The effects of stigma may be felt most deeply among certain subgroups. For example, older adults with I/DDs report more stigmatizing experiences relative to younger adults, and individuals with moderate I/DDs are more likely to report being made fun of and being treated like children relative to those with mild I/DDs (Ali et al., 2016). In effect, lifelong stigma continues to accumulate for members of the I/DD population, and they are well-aware of its presence.

Compounding lifelong experiences of stigma

Physician misinformation and bias are major facilitators of stigma and key mechanisms underlying health disparities (Malik-Soni et al., 2021). Health care professionals report stress, lack of confidence, fear, and anxiety in providing care for patients with I/DDs, as well as a tendency to treat those patients differently (Pelleboer-Gunnink et al., 2017). Bias and preconceptions about the I/DD community are also rampant. For example, pediatric providers describe working with their patients with I/DDs as a “minefield” (Como et al., 2020). A recent review of more than 40 studies revealed that direct-support professionals, social workers, and therapists are often skeptical about community inclusion for people

Physician misinformation and bias are major facilitators of stigma and key mechanisms underlying health disparities.

with high support needs, which in turn affects the quality of care they receive (Pelleboer-Gunnink et al., 2019). Low I/DD knowledge among health care providers is potentially most damaging for vulnerable groups, including those with limited support networks (Nicolaidis et al., 2015).

The effects of stigma on I/DD population health

As noted, stigma broadly contributes to chronic stress and maladaptive coping behaviors and impedes service access and utilization. In addition, individuals with I/DDs experience distinct health impediments due to variability in the extent to which their I/DDs are discernible to the general public, making stigma particularly potent for this group. In anticipation of or in response to experiences of stigma, individuals with I/DDs strategically use concealment, whereby they choose not to share their disability (Botha et al., 2020). Camouflaging—using strategies to compensate for or hide traits associated with I/DD—is also common, particularly among those who experience more stigma (Hull et al., 2020; Perry et al., 2021). Qualitative research has revealed that, over time, camouflaging creates considerable stress and fatigue and exacerbates chronic stress (Hull et al., 2017).

Individuals whose I/DDs are easier to conceal from the public have just as many, if not more, health challenges. For example, they report greater social isolation and less social support—factors that have profound impacts on psychological and physical health—relative to individuals with more visible conditions (Hatzenbuehler et al., 2009). Stigma associated with high-functioning autism, for instance, may be worse than that associated with more visible conditions, because individuals with high-functioning autism are more likely to be blamed or personally attacked for divergent behaviors (Gray, 2002). Thus, all individuals with I/DDs—not only those with the highest support needs—experience poor health outcomes due to stigma.

Exacerbating issues of visibility, the fear of being labeled may cause individuals to delay or avoid seeking treatment altogether (Link & Phelan, 2006). The fact that anticipated or experienced stigma discourages service utilization and help-seeking is particularly detrimental for the I/DD population, given their distinct service needs (Havercamp & Scott, 2015; Ward et al., 2010). Thus, the health effects





of stigma are uniquely and profoundly experienced among individuals with I/DDs.

Previous attempts to address stigma

Anti-stigma interventions—including interventions that are interpersonal, educational, or structural in nature—are widespread but often fall short. For example, interpersonal interventions that promote direct or indirect contact with people with I/DDs—such as by having participants watch movies or vignettes with characters with I/DDs—are common. These approaches, however, often lack nuance, primarily targeting explicit attitudes about individuals with I/DDs (e.g., opinions on whether children with I/DDs should be included in mainstream classrooms or levels of

self-reported comfort with individuals with I/DDs). This strategy is problematic because it does not address implicit attitudes. Whereas explicit attitudes tend to improve with age, implicit attitudes tend to remain negative (Aubé et al., 2021). Although these interventions purport short-term improvements in attitudes toward individuals with I/DDs, it has yet to be seen whether these changes lead to long-term, lasting changes in both explicit and implicit attitudes, let alone actions or behaviors (Walker & Scior, 2013).

Anti-stigma interventions also include educational interventions to challenge misconceptions and stereotypes. Medical schools, for example, are beginning to develop core competencies for trainees relating to the care of patients with disabilities, including understanding patients' experiences and cultivating skills in providing patient-centered care (Iezzoni & Long-Bellil, 2012). But these educational approaches tend to be retroactive, implemented long after trainees have internalized preconceptions, misinformation, and biases. In addition, they typically focus on stigma pertaining to individual health conditions or identities in isolation. This tendency to ignore intersectionality has encouraged a siloed approach to health-related stigmas, impeding comparisons across stigmatized conditions and subsequent innovations to improve health outcomes (Stangl et al., 2019). Further, programming is often biased toward individuals with the most prevalent conditions,

Educators, professionals, and researchers can meaningfully address stigma by intervening in education across the life course, health care practices, and research.

which excludes many less prevalent subgroups (e.g., autistic girls and women, like my sister; Staniland & Byrne, 2013).

Finally, anti-stigma interventions include structural interventions, which focus on large-scale institutional stigma, often through legislative action or mass-media campaigns. These approaches have the potential to impact stigma beyond traditional educational approaches. For example, among college students, exposure to one episode of a fictional drama depicting autism, compared to watching a lecture, resulted in more accurate knowledge of autism, more positive and fewer negative characteristics associated with autism, and a greater desire to learn more about autism (Stern & Barnes, 2019). However, although structural interventions hold promise in combating stigma, they have not been leveraged to full capacity.

The lack of evidence-based methods for addressing stigma is due to many flaws in the existing research. First, individuals with I/DDs have been excluded from research, particularly through studies that unnecessarily deem them ineligible to participate. Indeed, a recent review of 300 randomized clinical trials published in high-impact medical journals found that people with I/DDs were represented in only 2% of trials and could have been included in others with minor methodological tweaks (Feldman et al., 2014). Thus, we know little about their experiences, perspectives, and priorities when it comes to stigma and health disparities. Second, the vast majority of these approaches have not been robustly evaluated using rigorous research methodology. In the few instances when a rigorous randomized trial was conducted, fewer than half reported measures of practical significance (i.e., effect sizes), and those varied widely in magnitude and were typically small (Rao et al., 2019). Finally, program outcomes are often not meaningful. Most available I/DD attitudinal scales and measurement tools are outdated or otherwise insufficient, focusing exclusively on measuring explicit attitudes at the expense of other types of stigma (Werner et al., 2012).

Combating stigma at its core

Educators, professionals, and researchers can meaningfully address stigma by intervening in education across the life course, health care practices, and research.

First and foremost, we need to implement neurodiversity-oriented approaches that promote positive perceptions of the I/DD community before stigmatizing attitudes even develop. For instance, Dr. Nava Siltan has developed *Realabilities*, a multimedia educational curriculum that portrays children with I/DDs in a positive light and promotes education about specific I/DDs. Interventions like this are proactive and can foster positive perspectives of the I/DD population before negative perspectives develop. Approaches that focus on cultivating meaningful social interactions with the I/DD community, as well as promoting education

Health in People With Intellectual and Developmental Disabilities

- Having an I/DD is a statistically significant predictor of poor general health (Young-Southward et al., 2017).
- People with I/DDs experience decreased life expectancy and greater rates of co-occurring conditions (Scheepers et al., 2005).
- People with I/DDs are more likely to experience increased rates of sensory impairment, epilepsy, psychiatric disorders, limited mobility, and gastrointestinal disorders than those without I/DDs (Traci et al., 2002).
- Individuals with I/DDs are more likely to develop common health conditions such as high cholesterol, hypertension, and cardiovascular disease and are more likely to experience multiple chronic conditions (Bodde & Seo, 2009; Draheim, 2006; Krahn et al., 2006; Reichard & Stolze, 2011; Reichard et al., 2011; Tyler et al., 2010).

and advocacy capacities for all children, could build on this progress. Efforts need to target both explicit and implicit attitudes by promoting active reflection on implicit attitudes (Aubé et al., 2021). They should also target diverse I/DD conditions. Teachers, school psychologists, administrators, and educational institutions should support these efforts (Salinger, 2020). And stigma must also be addressed in medical training. To effectively capture the complexities underlying stigma, training and educational approaches need to consider intersectionality and how those with multiple stigmatized identities experience more pronounced health disparities. Informal educational approaches should focus on creating informed and accurate media depictions of individuals with I/DDs.

Addressing stigma in health care should not stop at the end of medical school. Health care institutions need to promote a culture of neurodiversity—that is, an organizational culture focused on accessibility, patient empowerment, self-advocacy, and self-determination in care (Sabatello, 2018; While & Clark, 2010). A culture of neurodiversity may be more commonly understood by physicians as precision medicine. Precision medicine, sometimes called personalized medicine, seeks to replace the “one-size-fits-all” approach with more customized preventative and therapeutic options that take individual genetic, environmental, and lifestyle variability into account. ➔

Stigma in education, research, and practice

Stigma in education and practice is perpetuated through stigma in research, which we can address in several ways. Most importantly, we need research that is inclusive of individuals with I/DDs. Beyond simply including individuals with I/DDs as research participants, it is essential to collaborate with individuals with I/DDs in all aspects of the research process. Research has often focused on stigma faced by family members of individuals with I/DDs (Mitter et al., 2019; Werner & Shulman, 2013), leaving individuals with I/DDs themselves out of the conversation. My colleagues and I at the Autism Intervention Research Network on Physical Health created an Autistic Researcher Review Board—composed of autistic scholars from the United States, Canada, and the United Kingdom—to ensure that all research supported within the network aligns with the priorities of autistic individuals. Continuing to advance these types of research collaborations will promote a comprehensive understanding of individuals with I/DDs, which will, in turn, enhance education and practice.

These approaches must be accompanied by research that captures meaningful outcome variables. There is a need to develop innovative measures of stigma that reflect practical applications in the real world. For example, we should avoid assessing “contact” with the I/DD community with a yes/no checkbox and consider the closeness of relationships with individuals with I/DDs (Blundell et al., 2016). Finally, there is a need for researchers to implement robust research designs, including longitudinal studies with large samples that can generate more conclusive findings. With more inclusive eligibility and recruitment criteria, researchers will be more equipped to recruit robust samples. Through engagement with the I/DD population, they will gain a better understanding of how to retain participants with I/DDs in longitudinal research.


Because education, practice, and research are interdependent, enacting meaningful change at one level is likely to lead to meaningful changes at other levels. Thus, addressing stigma across sectors that intervene at different points in the life course can have cascading effects on health disparities for individuals with I/DDs. The COVID-19 pandemic has exposed the effect of stigma on the health of individuals with I/DDs; we can't afford to waste this opportunity to attack that stigma head-on. ●

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CONVICTED BY MEMORY, EXONERATED BY SCIENCE

Looking back to move forward in exonerating the innocent

By Michael P. Toglia and Garrett L. Berman

The criminal justice system was designed to find and punish actual perpetrators guilty of the crimes of which they are accused. Questions and claims of innocence were rarely examined and, until recently, were generally dismissed out of hand. However, the advent of DNA-based exonerations some 30 years ago brought to light an alarming number of wrongful convictions that have called the system's mission and methods into question.

Nevertheless, it is difficult to establish how often innocent defendants are found guilty, a point made repeatedly in the literature (e.g., Norris et al., 2017). Based on Norris et al. (2017) and other registry projections (e.g., National Registry of Exonerations) investigating samples of DNA-

based exonerations, we estimate the frequency at about 5% in the United States. But surely this is a conservative estimate, as it is extrapolated from known exonerations and excludes wrongful convictions that have not been overturned. In any event, the National Registry of Exonerations reports that nearly 2,800 wrongful convictions have been reversed since 1989 (Norris et al., 2017). Fortunately, these shockingly high numbers have served as a clarion call to actively address the serious consequences of wrongful incarceration—which include not only the punishment of innocent people but citizens' mistrust of the system and the failure to jail real perpetrators, who may go on to commit additional violent crimes.

In 2016, we initiated a program of research exploring factors that contribute to wrongful convictions. Given our long-standing interest in memory and cognition, especially in the arena of eyewitness recollection and testimony, we were focused on memory factors that led juries and judges to reach guilty verdicts for defendants who later were determined to be not guilty. The basis for our research was a data set of such cases taken on by the Innocence Project, an initiative that strives to exonerate the wrongly convicted through DNA testing and criminal justice reforms. A large body of findings in the lab and the field has shown that eyewitnesses' memory for perpetrators is subject to the same frailties and biases that typify recall of events and daily activities (Lindsay et al., 2007; Bialer et al. 2021). Although in some circumstances, mistaken identifications may be just as likely as correct identifications, lineups and showups (one-person "lineups") are regularly used by investigators because there is no physical trace evidence in a large majority of cases (Wells, 1995; Wells & Loftus, 2003). In such cases, memory is the evidence!

Eyewitness lineup procedures at their core produce memory evidence which, as with any recollection, is subject to error and contamination. Though our research has a U.S. focus, the problem of wrongful convictions is global in scope. As an aside, we have collected international data (Toglia et al., 2018) in which we compared exonerations in the United States ($N = 351$), other Western countries ($N = 900$), and non-Western countries ($N = 595$) to further pinpoint factors responsible for convicting the innocent. Key results indicated that the leading cause of erroneous convictions outside of the United States was government misconduct (29%), followed by eyewitness memory issues (25%). To learn more about eyewitness identification guidelines worldwide, we recommend consulting Fitzgerald et al. (2021).

Psychological science in reforms

The impetus for reforming eyewitness-identification procedures was a seminal 1978 article by social psychologist (and APS James McKeen Cattell Fellow) Gary Wells distinguishing between estimator variables and system variables in criminal investigations. Following this classification, hundreds of laboratory studies have demonstrated the negative impact these variables may have, individually and collectively, on eyewitness memory and identification accuracy. Estimator variables are those present during a crime that could affect a witness's accuracy (e.g., the witness's stress level; the race of the perpetrator and the witness; and conditions

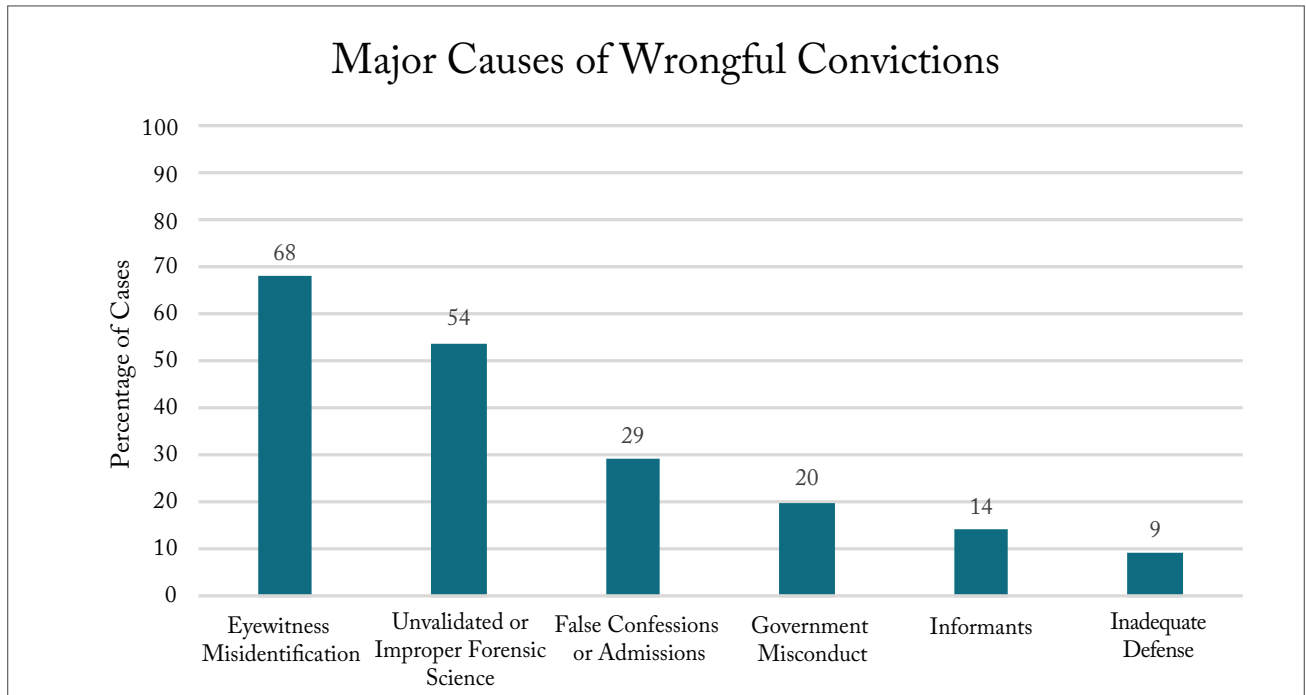
A large body of findings in the lab and the field has shown that eyewitnesses' memory for perpetrators is subject to the same frailties and biases that typify recall of events and daily activities.

that could affect the witness's view, such as distance and lighting). They reduce the witness's ability to encode and store the event (Wells & Olson, 2003) but are outside of the control of the legal system. Conversely, system variables (e.g., lineup instructions; selection of "fillers," or people presented along with the suspect in lineups; and use/non-use of a blind administrator) can be controlled and modified by investigators. Using this partitioning scheme, Wells suggested new strategies for researching and reforming eyewitness-identification procedures in ways that could impede wrongful identification and, in turn, reduce the conviction of innocent individuals. His paper was an immediate game changer: In the 1980s, researchers armed with Wells's distinction published a number of important laboratory and field studies showing that several lineup reforms (e.g., informing witnesses that suspects may or may not be in the lineup) reduced the identification of innocent suspects. Wells's initial classification continues to have a tremendous influence on both methods and theory in the science of eyewitness lineups. More recently, it has also informed important strides in policy and reform (see Smith et al., 2021, for an in-depth review).

By the start of the 1990s, reform-oriented research by social and cognitive psychologists was growing exponentially and drawing increased attention in the criminal justice system. The timing of this growth was fortunate for the legal community. As framed by Toglia, Lampinen, and Smith (2021), "the criminal justice system found itself in a state of crisis" (p. 6) with the introduction of polymerase-chain-reaction DNA testing in 1984, followed shortly by the discovery of a disturbing number of innocent persons jailed (and, in some cases, sent to death row to await execution) for ➡

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As of 2018, work by the Innocence Project had led to 351 exonerations. Mistaken identification contributed to erroneous convictions in 239 (68%) of the cases. (The percentages sum to more than 100% because multiple causes contributed to many exonerees' wrongful convictions.)

serious crimes they did not commit. These findings were a major force behind the launch of the Innocence Project in 1992 by Barry Scheck and Peter Neufeld.

Paralleling the genesis of the Innocence Project was the public's increased awareness of miscarriages of justice, as portrayed through both news stories and TV crime dramas such as *NYPD Blue* and *Law & Order*. More recently, films such as *Just Mercy* and *Conviction*, both from 2019, and documentary series on Netflix and other streaming services (e.g., *The Innocence Files*, *The Innocent Man*) have focused on wrongful convictions involving actual events and people. These real-life stories have highlighted systemic problems within a judicial system that traditionally has focused on guilt. Only within the past decade has innocence been thrust into the public eye and national discourse.

Why the innocent are convicted

The criminal justice system treats physical evidence as items to be preserved and protected because they could be contaminated. Unfortunately, and inconsistent with psychological scientists' recommendations, the system's approach to the collection and preservation of memory evidence is qualitatively different (Wells & Loftus, 2003). Compared to the protection of crime scene evidence, investigators receive less formal training in the security of

testimonial evidence obtained by interviewing witnesses concerning their memory for the crime and the suspect. Even though police interrogators typically have considerable experience in interviewing suspects and witnesses, they have less experience with issues regarding the vulnerability of human memory to suggestive information (see Loftus et al., 1978, for a seminal demonstration) that taints the collection of remembrances.

Given this distinction and our desire to limit contamination due to multiple causes contributing to wrongful convictions, for the purposes of this article we focused on memory errors involved in misidentification cases. Our first qualitative step, archival analyses, required homing in on mistaken-identification cases within the Innocence Project, which attributes wrongful convictions to five additional causes beyond eyewitness misidentification: unvalidated or improper forensic science, false confessions or admissions, government misconduct, informants (jailhouse prisoners who are often compromised), and inadequate defense.

Following our development of an initial coding scheme, we analyzed cases for 60 variables across five different categories (Toglia et al., 2017):

- Variables known to increase eyewitness inaccuracies during encoding (estimator variables) and at retrieval (system variables)

System Variables in Initial ID Tests	
Number of ID tests*	Single: <i>n</i> = 26 (28.9%) Multiple: <i>n</i> = 51 (85.67%) None/missing: <i>n</i> = 13 (14.4%)
First ID test*	Photo array: <i>n</i> = 43 (47.8%) Mugbook: <i>n</i> = 6 (6.7%) Live lineup: <i>n</i> = 10 (11.1%) Showup: <i>n</i> = 14 (15.6%) Sketch: <i>n</i> = 6 (6.7%) In-court ID: <i>n</i> = 3 (3.3%) No ID test/missing: <i>n</i> = 18 (20%)
Lineup instructions for first ID*	Biased: <i>n</i> = 12 (22.6%) Unbiased: <i>n</i> = 28 (52.8%)
Lineup administration for first ID*	Single-blind: <i>n</i> = 38 (71.7%) Double-blind: <i>n</i> = 10 (18.9%)
Lineup presentation for first ID*	Simultaneous: <i>n</i> = 37 (69.8%) Sequential: <i>n</i> = 16 (30.2%)
Video recording of first lineup*	Recorded: <i>n</i> = 5 (9.4%) Not recorded: <i>n</i> = 24 (45.3%) Unsure: <i>n</i> = 24 (45.3%)

Legal Safeguards	
Attorney presence at lineup	Present: <i>n</i> = 2 (3.5%) Not present: <i>n</i> = 35 (61.4%) Unsure: <i>n</i> = 20 (35.1%)
Motion to suppress filed	Yes: <i>n</i> = 27 (47.4%); 6 (22.2%) granted No: <i>n</i> = 22 (38.6%) Unsure: <i>n</i> = 8 (14%)
Eyewitness expert testimony	Present: <i>n</i> = 9 (15.8%)
Cross-examination of detective	Rigorous: <i>n</i> = 20 (35.1%) Standard: <i>n</i> = 33 (57.9%)
Judges' instructions	Standard: <i>n</i> = 19 (33.3%) Eyewitness-specifics: <i>n</i> = 14 (24.6%) Unavailable: <i>n</i> = 14 (24.6%)

Estimator Variables	
Other-race ID	Other-race: <i>n</i> = 25 (43.9%) Same-race: <i>n</i> = 27 (47.4%) Unsure: <i>n</i> = 5 (8.7%) Present: <i>n</i> = 42 (73.7%) Not present: <i>n</i> = 14 (24.6%) Unsure: <i>n</i> = 1 (1.8%)
Weapon	Present: <i>n</i> = 42 (73.7%) Not present: <i>n</i> = 14 (24.6%) Unsure: <i>n</i> = 1 (1.8%)
Disguise	Disguised: <i>n</i> = 5 (8.8%) Not disguised: <i>n</i> = 47 (82.5%) Unsure: <i>n</i> = 5 (8.8%)
Lighting	Well-lit: <i>n</i> = 28 (49.1%) Dark: <i>n</i> = 22 (38.6%) Unsure: <i>n</i> = 7 (12.3%)

The table at left shows the frequency of factors related to system variables, legal safeguards, and estimator variables in an archival analysis of 57 eyewitness-misidentification cases.

- Legal safeguards (e.g., expert testimony, presence of an attorney at the lineup)
- Suspect characteristics (e.g., race, juvenile status, mental disability)
- Case characteristics (e.g., conviction state, type of crime)

Determining the presence or absence of these factors is key to understanding their individual and combined roles in exoneration cases as well as the utility of recommended reforms.

We quickly realized that crucial data on these factors were missing from the Innocence Project website. Needing more data for an adequate archival study, we gained access to the Innocence Record, a database that houses documents concerning each exoneree's conviction, including motions and transcripts from trials, such as witnesses' testimonies and judges' instructions.

The Innocence Record revealed 254 cases wherein the primary cause of conviction was eyewitness misidentification. We then narrowed the set to 104 cases in which mistaken identification was the sole factor for conviction—what we refer to as “pure” misidentification cases. Finally, we removed any profiles with little to no associated archival documents, reducing the final data set to 57 “pure” cases. Transcripts and other accompanying documents related to those cases provided a rich database that allowed us to use our five classification categories and expand our coding scheme to 123 variables.

The table at left provides a snapshot of the findings from these 57 cases. It is notable that the majority involved innocent suspects identified in multiple selection procedures. The use of ➡

*Because the number of eyewitnesses per case ranged from one to five, data on certain variables do not reflect the total number of cases.



multiple identification tests varies widely by jurisdiction, but more troubling is the increased risk of false identification resulting from repeated procedures (Stebly & Dysart 2016). That pattern in initial identifications, coupled with biased pre-lineup instructions in which the witness felt compelled to choose, is concerning, especially given that attorneys were rarely present during lineup administrations.

Another item that drew our attention was the more frequent use of simultaneously administered lineups, in which lineup members or their photos are presented collectively, compared to sequential lineups, in which each person or photo is shown individually. The latter, it's worth noting, has resulted in fewer misidentifications in lab studies (Cutler & Penrod, 1988), a finding supported by meta-analysis (Stebly et al., 2001).

Though the debate over the superiority of sequential lineups continues (Kaesler et al., 2020; Stebly et al., 2011), theories of memory provide some perspective. One such position is fuzzy-trace theory (FTT). Advanced by Reyna and Brainerd (1995), FTT proposes that verbal and visual information is encoded in two types of independently developed memory traces. One results from processing verbatim aspects and contains exact, detailed information (e.g., a person's specific facial and physical characteristics). The other represents the gist of the information, or general characteristics (e.g., a person's gender, hair color, and approximate height). Both verbatim and gist representations contribute to accurate memory, but in explaining inaccuracies such as misidentifications, the focus is on gist processing. Returning to the comparison of lineup procedures, FTT predicts that simultaneous lineups provide considerable competing gist cues, obscuring differences among lineup options. Sequential lineups, by contrast, may result in more accurate identifications because they alternate a good verbatim cue (in the form of the actual perpetrator) with good gist cues, making the recollective differences more apparent.

Reliance on gist is also relevant to understanding the

“own-race bias effect,” in which witnesses identify suspects of their own race better than suspects of other races. FTT argues that decreased familiarity with other races may increase interference from competing gist cues (Meissner & Brigham, 2001). In the entire Innocence Project database, 42% (375 post conviction DNA exonerations) of all cases involved cross-race misidentifications, and 44% (25) of the pure cases were cross-race mistaken identifications. Notably, each of those 25 cases involved a White witness. In 23 cases, the White witness misidentified a Black suspect; the other two misidentified suspects were Hispanic.

Referring again to the table, the estimator variables in the bottom panel include data regarding the frequency of crimes committed with a weapon (73.7%). This raises the specter of the “weapon-focus effect,” in which witnesses to a crime involving a weapon are much more likely to misidentify a suspect (Pickel, 1999). In FTT terminology, focused attention produces strong verbatim memories of the weapon but only gist impressions of the assailant's face.

Moving from postdiction to prediction

Though other theories could be discussed, our current purpose is not to compare explanatory positions. Rather, FTT is our preferred approach to introduce postdiction, or a “looking back” strategy, which in the present context translates to leveraging theoretical expectations about what patterns should be evident in archival searches of wrongful-conviction cases.

This novel strategy is significant in a number of ways. In particular, it can improve the ecological validity of eyewitness research. Dissenters often question the admissibility of testimony based on that research and the generalizability of the findings because the methods used to test eyewitness factors do not parallel actual eyewitness situations (Konečni & Ebbesen, 1986). The courts have traditionally agreed with this argument, excluding expert testimony on the reliability of eyewitness memory on the grounds that it is not based on sufficiently established science (*United States v. Amaral*, 1973) or does not provide information beyond the jurors' common sense (Schmechel et al., 2006). Arguments about the established science have largely abated, thanks to the Daubert standards, a set of guidelines on scientific testimony emanating from a Supreme Court case (*Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 1993), and more recent court decisions that have continued to offer corrective strategies, such as shifting the burden of proof to prosecutors to show that an eyewitness's identification is sufficiently reliable (*State v. Lawson*, 2012) and the use of case-specific jury instructions to help jurors evaluate identification evidence (*State v. Henderson*, 2011). Nevertheless, external validity remains a concern. Using archival data is critical for reducing the discrepancy between laboratory simulations and real-world cases. By identifying system and estimator variables, legal safeguards, and case characteristics in documented exoneration cases, we can

design new experimental paradigms and studies to argue and examine the factors most prevalent in actual cases of erroneous conviction due to mistaken identification. Materials carefully selected from real-world cases could also be used to design laboratory experiments modeled on actual crimes and trials.

An experimental approach to informing reform

Archival analyses from the Innocence Project and Innocence Record databases provide a glimpse into the benefits of accessing trial transcripts and witness testimony to understand factors (estimator and system variables) contributing to erroneous convictions, as well as to achieve further reform via existing or new legal safeguards. To date, analyses of DNA exoneration cases have isolated the impact of one factor, confidence (for a review, see Berkowitz et al., 2020), and one category, estimator variables (for a review, see Giacona et al. 2021), and have only been used for descriptive purposes. We endorse a new classification of study, which we call innocent-conviction research, to inform experimental designs. For example, the impact of eyewitness cross-examination as a legal safeguard against misidentification is well established in the literature (Berman & Cutler 1996). But laboratories have yet to explore how jurors assess the validity and accuracy of an identification when rigorous cross-examination strategies highlight differences between the identification procedures administered by a lead detective using recommended best-practice guidelines. This factor was present across all 57 pure misidentification cases in the Innocence Record database. We expect that as more studies emanate from archival descriptions, their findings will inform the further mining of archival databases, resulting in a symbiotic relationship between archival data and empirical research that allows for a more comprehensive understanding of wrongful convictions. Such an understanding should be extremely beneficial in further advancing criminal justice reform, expanding best practices (Wells et al., 2020), and ultimately restoring faith in the criminal justice system.

Perhaps the most important potential impact of this looking-back strategy is the furthering of communication between researchers and those working on behalf of erroneously convicted persons. Already, a significant development within the criminal justice system is the establishment of conviction review units (CRUs), which evaluate convictions in some jurisdictions to identify potential prosecutorial errors as an option to the traditional path of requesting an appeal post-conviction. Typically housed in district or state attorneys' offices, CRUs carry out an extrajudicial examination of the facts in erroneous cases in which convicted defendants' claims of innocence are highly plausible. CRUs also work on reforms designed to prevent unwarranted convictions.

It is not our purpose to detail here how CRUs function, their processes, or the many challenges they face (see Hollway, 2016, for an in-depth review and set of recommendations). Rather, our interest is to recognize important steps the criminal justice system has taken toward self-correction via CRUs—a marked contrast to prosecutors' tendency to reject the possibility of either a flawed prosecution or actual innocence. CRUs' entry into the role of aiding innocent people to be released from prison in 2007 has significantly increased the number of successful reversals of injustice. We call for researchers to work with CRUs, and vice versa, in using real-world archival data and identifying additional factors that need empirical study. Such efforts would produce a two-way street—a connection between the lab and the field—and would complement the model of a research agenda guided by postdiction, employed to test experimental predictions stemming from archival findings (e.g., our symbiosis argument), and having come full circle with fresh examinations of archival data repositories.

Finally, we urge law enforcement to improve record keeping so as to reduce the number of missing documents that CRUs and innocence commissions seek. Archival searches have allowed us to strengthen both the methodological strategies and rigor of research—but our review of the Innocence Project and Innocence Record files highlighted the need for a uniform organization of case files to improve accessibility and facilitate data mining. This will result in more incisive theoretical postdictions, greater clarity in proposing policy reforms and recommendations, and increased testing of experimental predictions. The details of wrongful convictions, regardless of their causes, also present opportunities to design stronger, ecologically valid “trial transcript” experiments, wherein participants read a detailed narrative (transcript) of a criminal court case, by modeling crime scenarios on actual Innocence Project and Innocence Record cases.

For generations, wrongful verdicts have had serious consequences that require addressing. Psychological science can help repair the public's trust in the criminal justice system and eliminate threats to equal justice. ●

Read this article online, and share your thoughts, at psychologicalscience.org/observer/convicted-memory.

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psychologicalscience.org/covid-initiative



UP-AND-COMING VOICES: COMBATING STEREOTYPES AND BIAS

As part of the recent 2021 APS Virtual Convention, researchers had the opportunity to connect with colleagues and present their work to the broader scientific community in a new format—15-minute Flash Talks. In this collection, we highlight talks by students and early-career researchers related to combating stereotypes and bias. Videos can be viewed online at psychologicalscience.org/combating-bias-talks.



Are Iranian Immigrants in the U.S. Happy? Social Support as a Buffer for Discriminatory Behavior's Impact on Well-Being in Iranian Immigrants in the U.S.

Tina Badakhshan (*Claremont Graduate University*), **Afarin Rajaei** (*Alliant International University*), **Ozlem Kose** (*independent researcher*), and **Saeideh Heshmati** (*Claremont Graduate University*)

What did your research reveal that you didn't know before?

Although I was aware of, and experienced, discrimination as an Iranian living in the United States, I did not know it made such a large impact on the well-being of so many Iranian immigrants in this country. I was surprised to learn, based on our study, that about 30% of Iranian immigrants in the United States have below-average satisfaction with their lives, and another 30% have just average satisfaction. For comparison, in the United States overall, the percentage of those with below-average satisfaction has been a steady 10% to 15% over the last few decades.

How might your findings contribute to combating bias?

The issue of discrimination is quite profound for Iranians in the United States because of the hostility between the Iranian and U.S. governments and the subsequent demonization of Iranians and Muslims, which led to the justification of harassment of Iranians in the United States. Iranians are assumed to be Muslim in the United States and are often subjected to a kind of nationwide perception that identifies all members of this religion as violent fanatics or terrorists. Moreover, the U.S. government has often reinforced the stereotype that Iranians are potential terrorists. Some Muslims from various countries in the Middle East blame the American media and popular culture for propagating negative stereotypes about their culture and religion. Given that many other groups of people in the United States also fall victim to harassment because of stereotypes and bias, these findings demonstrating the harmful impact of experiencing such discrimination on well-being should move the academic community to continue looking for solutions to reduce bias. Our findings also reiterate the importance of leveraging social support to combat the harmful impact of discrimination in daily life.

Bold type indicates authors of response



Conversations About Race in Black and White U.S. Families: Before and After George Floyd's Death

J. Nicky Sullivan, Jennifer L. Eberhardt, and Steven O. Roberts
(Stanford University)

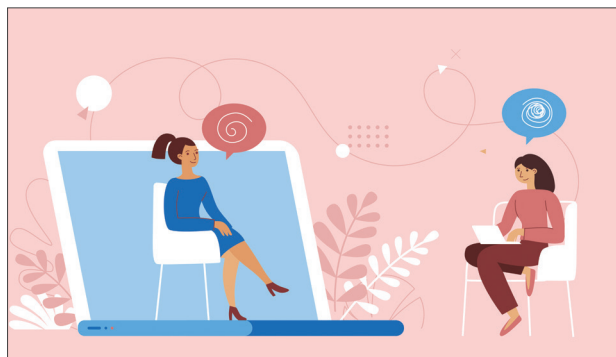
What did your research reveal that you didn't know before?

When this project started, we were hoping to get a deeper understanding of how Black and White parents socialize their children around race. But after George Floyd was murdered in May 2020, we realized we were positioned to gain insight into

how Floyd's death and the ensuing protests impacted parental socialization. We were surprised to find that despite all the media coverage of Floyd's death, White parents basically didn't change post-Floyd (if anything, their conversations about race decreased), even as popular articles encouraged them to talk with their children about race. Most strikingly, we found that White parents, unlike Black parents, remained relatively unconcerned that their children might be racially biased, despite the mainstream discussion on systemic racism in the United States and a highly visible act of brutal racism by a White man.

How might your findings contribute to combating bias?

Our findings highlight the need for more research exploring not just how White parents can effectively talk about race with their children but also what will motivate them to do so. Prior work has documented the pitfalls of color-blind strategies commonly used by White parents, and scholars have rightfully pointed out the need for experimental work testing what strategies parents could use instead. But relatively little attention has been paid to the question of how to motivate White parents to have conversations in the first place, which will be critical for reducing racial bias. Our research suggests that one avenue worth exploring might be increasing White parents' worry that their children might be biased, or at least conveying to them the downsides of not talking with their children about race. Doing so might motivate parents to have more conversations, and more effective conversations, which would be an important step in raising a generation of anti-racist children who can confront bias in themselves and in society.



Informal Mentors: A Critical Source of Support for Underrepresented Students During the COVID-19 Pandemic

Elizabeth Raposa, Kate Bartolotta, Jasmine Cosby, Nicola Forbes
(Fordham University), and Ida Salusky (DePaul University)

What did your research reveal that you didn't know before?

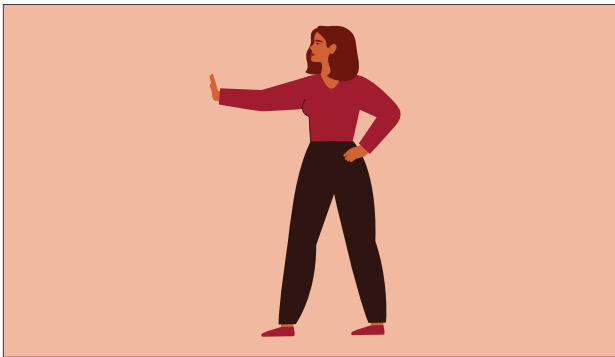
Our study examined the protective effects of supportive relationships that college students have with nonparental adults called "informal mentors." Informal mentors can include faculty or staff on campus, as well as other adults from students' social

networks, such as family friends, neighbors, or high school teachers. We were particularly interested in exploring the role of informal mentors in buffering psychosocial risk for first- and second-year underrepresented students attending college during the onset of the COVID-19 pandemic. We were surprised to see that fewer than half (43%) of all first-generation college students in our sample reported having an informal mentor in fall 2019, prior to the onset of the COVID-19 pandemic. And among those students who reported having an informal mentor in fall 2019, more than two-thirds (68.9%) no longer reported having this relationship by the end of the spring 2020 term. However, underrepresented students who *did* have an informal mentor in the fall reported less severe COVID-19-related life disruptions during the spring semester, as well as less dramatic increases in perceived stress in response to life disruptions caused by the pandemic.



How might your findings contribute to combating bias?

Historically marginalized groups of students—including students of color, first-generation students, and low-income students—are enrolling in college at higher rates but continue to struggle with worse college outcomes (e.g., more psychological distress, substantially lower graduation rates) than their more privileged peers. With our research, we hope to shed light on naturally occurring protective factors, such as relationships with informal mentors, that may help promote the academic and psychosocial success of college students from underrepresented groups. These findings help to identify ways that institutions can reduce biases in access to social resources on campus—including relationships with faculty and staff—with the ultimate goal of redressing social and economic inequalities among students from diverse backgrounds.



Perceptions of Women Who Confront Hostile and Benevolent Sexism

Jordana E. Schiralli and Alison L. Chasteen (*University of Toronto, Canada*)

What did your research reveal that you didn't know before?

The motivation for conducting this research was to assess the role of sexism type (hostile vs. benevolent) in perceptions of women who confront sexism. We predicted that confronters would face significantly greater consequences when challenging benevolent sexism because of its subtle and subjectively positive

nature. For example, we expected that women would have greater support when confronting hostile views suggesting that women seek special treatment compared to benevolent views suggesting that women should be protected and cherished.

We found that confronters were generally well liked across all studies, particularly by participants who were women. We were surprised to see that the penalties for confronting benevolent sexism were not as high as we anticipated, with two notable exceptions: (a) when perceivers were men and (b) when benevolent sexism was expressed in a way that endorsed gender essentialism, such as by stating that men and women fundamentally and naturally differ.

How might your findings contribute to combating bias?

Although explicit forms of discrimination and sexism may be on the decline, experiencing benevolent sexism is common for many women. This research contributes to our understanding of how women can expect to be perceived when confronting different sexism types, especially when sexism is disguised as a compliment to reinforce gender roles (e.g., suggesting that men should protect and provide for women).

Based on results from our research, women can expect support when confronting patronizing and condescending attitudes toward women. In comparison, confronting attitudes that embrace fundamental and natural differences between men and women may be met with a mixed response, suggesting greater education and awareness are needed when it comes to harms associated with essentialist attitudes about gender. Altogether, this research provides a generally positive outlook for women who choose to confront benevolent sexism, particularly when it takes the form of paternalistic attitudes.



The Relationship Between Genetic Attributions, Genetic Essentialist Biases, and Stigma of Schizophrenia

Jordan Sparks Waldron (*University of Indianapolis*)

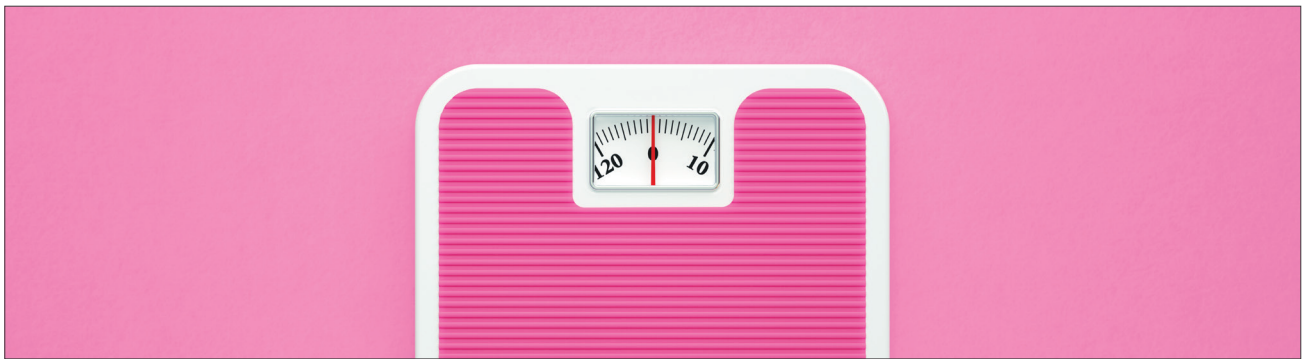
What did your research reveal that you didn't know before?

Before this study, I knew that disorders like schizophrenia were highly stigmatized and that past research has shown that genetic explanations for schizophrenia can actually increase some forms of stigma. The thinking is that genetic explanations can activate what we call “essentialist biases” (e.g., if a behavior is genetically

linked, it's “natural”). However, the research has been somewhat inconsistent, and it is important to understand why that might be and look for potential moderators that could explain when genetic attributions are most likely to be associated with stigma. In this research study, I learned how people's general tendency to engage in different types of essentialist thinking about genetic causes moderates the relationship between prognostic pessimism (e.g., the degree to which you think schizophrenia will be persistent and permanent) and genetic explanations. In other words, for people higher in some forms of essentialist thinking, the belief that schizophrenia was genetically influenced was a better predictor of prognostic pessimism surrounding schizophrenia than it was for people who demonstrated less essentialist thinking.

How might your findings contribute to combating bias?

For so long, many people have been pessimistic about recovery from schizophrenia, leading to really negative stereotypes surrounding the ability of these individuals to function well in society. Happily, the recovery model of schizophrenia is more well-known now, and there is more optimism surrounding different types of recovery, although we still have work to do. People frequently encounter information about genetic influences on mental health in the media, and it is common to make genetic attributions about schizophrenia—so I think that understanding any factors that might lead a person to be less optimistic about recovery in the face of genetic explanations, such as whether or not they engage in essentialist thinking, represents an interesting target for future interventions on stigma.



Weight Stigma by Association Among Parents of Children With Obesity

Kristen M. Lee, *Lauren Arriola-Sanchez* (University of California, Los Angeles), *Julie C. Lumeng*, *Ashley N. Gearhardt* (University of Michigan), and *A. Janet Tomiyama* (University of California, Los Angeles)

What did your research reveal that you didn't know before?

Weight stigma is pervasive and highly prevalent among children, adolescents, and adults. However, few studies have examined how weight stigma may impact the parent-child dyad, and none have tested this relationship using an experimental design. In our study, we found that parents of children with obesity were evaluated more negatively than parents of children without obesity, even when identical descriptions of positive parenting practices (based on American Academy of Pediatrics recommendations) were presented. Specifically, parents of children with obesity were viewed as less effective parents. Moreover, parents with obesity were viewed as less effective and less helpful compared to parents without obesity. Our results offer causal evidence that parents with higher weight experience weight stigma, and parents of higher-weight children experience weight stigma by association.

How might your findings contribute to combating bias?

Our findings suggest that individuals may overlook indicators of good parenting when a parent has a child with higher weight status. The weight stigma by association may lead to inaccurate perceptions of parenting practices, which may be most consequential in pediatric health care, where effective parent-provider communication is a key contributor to optimal outcomes. If parent-child dyads with obesity are experiencing weight stigma, pediatricians may need to monitor for this bias in their own interactions with these dyads and consider that information about children from outside agencies (e.g., schools, therapists) could be tainted by bias and therefore should be interpreted in this context. ●



Psychological Science Needs the Entire Globe

PART 1: THE PROBLEM WITH U.S. DOMINANCE IN PSYCHOLOGICAL SCIENCE

By Hans IJzerman, Natalia Dutra, Miguel Silan, Adeyemi Adetula,
Dana M. Basnight Brown, and Patrick Forscher

In this three-part series, a team of researchers in Europe, South America, and Africa explores the underpinnings and consequences of a legacy that has long reflected and, many believe, hindered further progress in, the field: dominance by researchers in White, educated, industrialized, rich, and democratic (WEIRD) countries. Part 1 outlines some explanations for and problems with U.S. dominance in psychological science. Part 2 will discuss the more complex origins of these problems, including how the history and legacies of colonialism impact psychological science in the developing world. Part 3 will argue that this problem is urgent for the survival and relevance of psychology, explore potential solutions, and ask a provocative question: Does psychological science as it currently stands even deserve the attention of brilliant prospective researchers from the developing world?

A long-heard complaint about psychological science is that study subjects and authors are predominantly White and North American (Arnett, 2008), a state of affairs that does not seem to be improving (Thalmayer et al., 2021). In widely cited international psychology journals, the literature favors samples and authors from a very narrow population, usually located in the United States and often referenced with the acronym WEIRD (White, educated, industrialized, rich, and democratic). This U.S. dominance extends to journal editors; across scientific disciplines, most journal editors are from the United States (29%), with Great Britain (8%), Italy (7%), and China (7%) in distant second, third, and fourth places (Altman & Cohen, 2021).

U.S. dominance is not just observed in publications and editorial-board positions. APS, which publishes this magazine, predominantly hands out its awards to researchers from North America (Fried, 2018). The most prestigious prizes from the Society for Personality and Social Psychology go to scholars from the United States (see figure, page 60). Only 35% of members of the Psychological Science Accelerator, an international research network, are from outside the United States, Canada, and Europe (Paris et al., 2020), even though these world regions comprise 86% of the world's population, and despite the fact that cultural diversity is one of the network's guiding principles. In the Society for the Improvement of Psychological Science, an organization actively working on improving its membership's geographic diversity, 53% of members are from the United States (44%) and Canada (9%; Hilgard, 2020). Fewer than 1% of the organization's members are from South Asia, Latin America, the Caribbean, North Africa, the Middle East, and sub-Saharan Africa combined.

Furthermore, one of the most important social psychology journals in Europe, the *European Journal of Social Psychology*, had more submissions and a higher acceptance rate for articles

submitted from Europe, Australia, or North America (939 accepted articles for 4,932 submissions; 19% acceptance rate) than for articles submitted from outside those three regions (73 accepted articles for 951 submissions; 8% acceptance rate; personal communication with Ronald Imhoff, October 2019). Of the authors who published articles in the top five developmental-psychology journals between 2006 and 2010, fewer than 3% were from countries in Central or South America, Africa, Asia, or the Middle East (Nielsen et al., 2017).

Why is psychology so U.S.-centric? Many reasons are likely contribute to the dominance of the United States (and, to a lesser extent, Europe) in psychology. One reason may simply be that the United States invests more in research than other countries. The greater availability of resources could lead to more ambitious projects and could attract researchers to move to the United States from other countries. Scientific articles are also typically published in English, so publication for native English speakers likely entails lower resources and effort (which could explain why the Dutch, who are the most proficient non-native English speakers, publish at relatively high rates). Authors from the United States could even benefit from systematic discrimination in publication decisions, funding rates, and hiring decisions.

Understanding how these explanations fit together requires investigating the origins of academic inequality. One reasonable starting place is submissions for awards and for journals. Without examining submission rates, we cannot know, for example, if non-U.S.-based researchers less frequently apply for awards. If these researchers rarely apply, then we have to start ensuring more equal participation and consider ways in which they can learn about awards, seek out nominations, and be contenders for recognition. Unfortunately, journals rarely publish self-assessments with information on which countries submitting authors are from, thus ➡

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Miguel Silan is a psychological science researcher affiliated with the University of the Philippines Diliman. His area of focus is meta-methodology, and he has worked to organize the local methodological community to tackle issues regarding the replication crisis and methods reform.

Adeyemi Adetula worked and studied in Nigeria before moving to France. He is currently a PhD candidate at Université Grenoble Alpes in France, focusing on building research capacity in Africa through open science projects and on finding synergy between the credibility revolution and human development in Africa.

Patrick S. Forscher is an incoming research lead at the Busara Center (busaracenter.org, headquartered in Nairobi, Kenya). He does meta-research on how to make behavioral science more robust, generalizable, useful, and fair.

Dana Basnight-Brown is an associate professor of psychology and the director of the Centre for Cognitive and Developmental Research at the United States International University-Africa, situated in Nairobi, Kenya. Her primary research focuses on the cognitive processes surrounding human memory and language, particularly within the domain of multilingualism. She has a strong interest in cross-cultural cognitive science and issues that have a global influence.

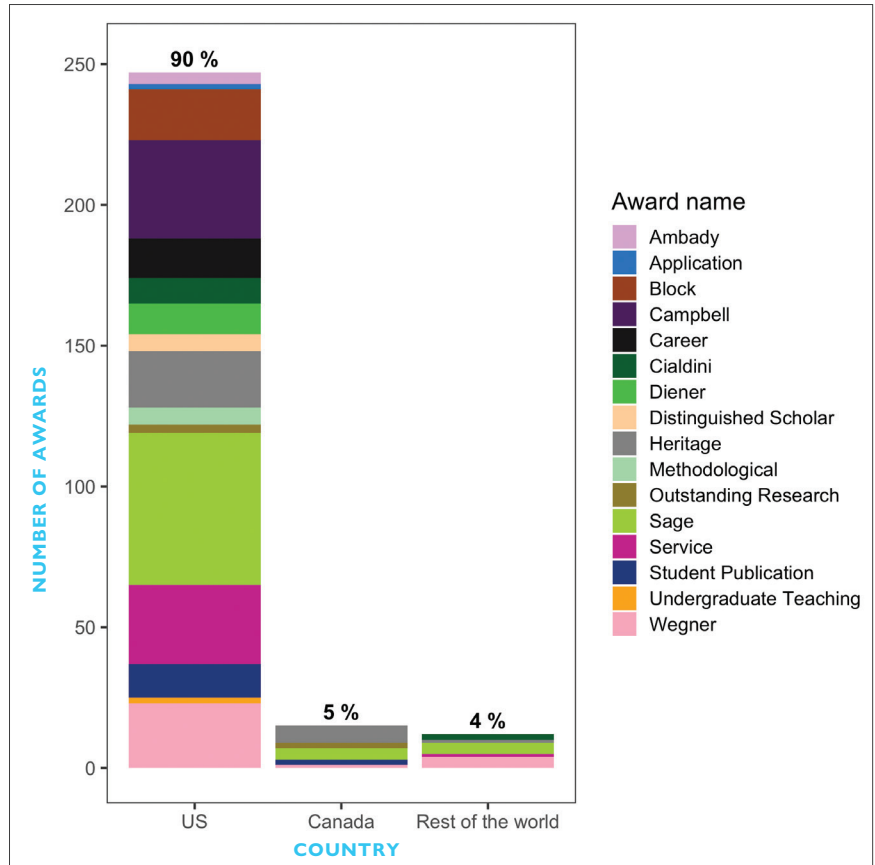
preventing accurate estimates of the number of papers submitted by and rate of acceptance for researchers from other countries. Transparency in submission procedures will be a first step in helping to fix the problems and in identifying and addressing possible biases.

Whatever the origins of U.S. dominance, it is likely to be self-reinforcing. Academic elites are often connected through coauthorships (Kristensen, 2015). This pattern is further reinforced across elite institutions within the United States, where the prestige of one’s doctoral degree is a strong predictor of job placement (Clauzet et al., 2015). This creates the potential for a nepotistic system in which academic elites provide favors to each other, thereby perpetuating the dominance of high-status researchers located largely in the United States.

Why is all this a problem?

U.S. dominance hurts our attempts to create generalizable psychological theories (IJzerman et al., 2020). Take, for example, theories of child-rearing practices (Keller, 2018). One of the most famous theories in psychology, attachment theory, presumes a primary relationship between the mother and the developing child, a model that is largely based on the concept of the nuclear family. The idea of the nuclear family presumes a family structure similar to the U.S. middle-class ideal, in which parents live with their children in a home separate from their extended family. But in many cultural contexts, attachment theory may have limited applicability: Among traditional families in southern Madagascar, for instance, infants interact almost exclusively with peer groups of older children, and these older children are thus major infant caretakers (Scheidecker, 2017).

This example illustrates how theories in psychology become loaded with assumptions that are embedded in U.S. culture. This culture tends to take a highly individualistic approach; thus, psychological theories may tend to focus too much on individual-level explanations for psychological problems. When interventions are built on top of these theories, they may also target individuals at the expense of structural solutions. For example, the self-esteem movement emphasized improving self-esteem to wipe away life’s



Prestigious awards from the Society for Personality and Social Psychology, as counted by home universities as of June 2018. Underlying code and data available at bit.ly/spspdata. Plot created by Olivier Dujols, Hans IJzerman, and Patrick S. Forscher.

problems rather than addressing systemic factors, such as poverty or lack of affordable health care. Proponents of “power posing” claimed that embodying powerful postures could make people, and especially women and racial minorities in the United States, more successful—an emphasis that contrasts with approaches that tackle other barriers to success faced by women and minorities, such as inadequate child care and systemic discrimination.

When psychology researchers are in positions to influence policymakers, the prevailing emphasis on individual causes and quick-fix solutions can have real policy consequences. For example, as the coronavirus pandemic raged across the globe, psychology researchers raced to see how they could apply their findings to combat the pandemic. One suggestion within this context was that “inducing more adaptive mind-sets about stress could increase positive emotion, reduce negative health symptoms and boost physiological functioning under acute stress” (Van Bavel et al., 2020, p. 467); one of two studies cited to support that

claim tested the effects only with 124 undergraduates at an American university. Or consider the statement “fear can make threats appear more imminent” (p. 461). This claim also relied on evidence from two small studies in the United States (Study 1: $N = 101$; Study 2: $N = 48$). The publication that covered these results led to a speech at the World Health Organization and may therefore have influenced public policy worldwide. However, it is unclear whether findings from the studies we described are helpful for combating the stress of the pandemic in, say, Nigeria or Brazil, where the pandemic’s devastating economic consequences could make fear a rational response and healthy mind-sets largely irrelevant. Psychological claims and theories require considerable rethinking before they are ready for application, especially if they are to be used in a variety of cultural contexts (IJzerman et al., 2020).

Solutions to the problem of U.S. dominance, however, may be on the horizon. Although they do not address the full scope of the problem, some solutions would be fairly simple to implement. For example, journals could institute policies obliging authors to include “Constraints on Generality” sections in their papers (Simons et al., 2017). Researchers could explicitly specify their samples in the titles of their papers, especially if they are from the United States (Cheon et al., 2020). A more comprehensive solution might be to shift to a more collaborative mode of “big team science,” or science that involves large-scale collaborations among researchers across diverse labs, institutions, countries, cultures, and disciplines (Forscher et al., 2020). But this will work only if these big teams achieve adequate funding (Forscher & IJzerman, 2021) and if big-team science organizations prioritize geographic and cultural diversity in their projects and staff. ●

Read this article online, and share your thoughts, at psychologicalscience.org/observer/global-psych-science.

Coming in the November/December Observer: A deeper look at how the history and legacies of colonialism impact psychological science in the developing world.

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Recognizing Excellence

Call For Nominations

2023 APS William James Fellow Award

Honoring APS Members for their lifetime of significant intellectual contributions to the basic science of psychology.

Nomination Deadline: October 15, 2021

2023 APS James McKeen Cattell Fellow Award

Honoring APS Members for their lifetime of significant intellectual achievements in applied psychological research and their impact on a critical problem in society at large.

Nomination Deadline: October 15, 2021

2023 APS Mentor Award

Recognizing APS Members who have significantly fostered the careers of others, honoring those who masterfully help students and others find their own voices and discover their own research and career goals.

Nomination Deadline: October 15, 2021

2023 APS James S. Jackson Lifetime Achievement Award

Honoring APS Members for their lifetime of outstanding psychological research that advances understanding of historically disadvantaged racial and ethnic groups and/or understanding of the psychological and societal benefits of racial/ethnic diversity, equity, and inclusion.

Nomination Deadline: October 15, 2021

APS honors Members with the field's most prestigious awards and recognitions. This is a critical part of supporting scientific advances. **Please consider the diverse and international nature of psychological science in nominating colleagues. Nominations of members of underrepresented groups in the field are encouraged.**

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Fellow status is awarded to APS Members who have made sustained outstanding contributions to the science of psychology in the areas of research, teaching, service, and/or application.

Nomination Deadline: October 15, 2021

APS Rising Stars

The Rising Star designation recognizes outstanding APS Members in the earliest stages of their post-PhD research careers whose innovative work has already advanced the field and signals great potential for their continued contributions.

Nomination Deadline: September 30, 2021

To submit a nomination or for more information, including past recipients and nomination materials, please visit www.psychologicalscience.org/awards




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GUESS WHO'S COMING TO DINNER

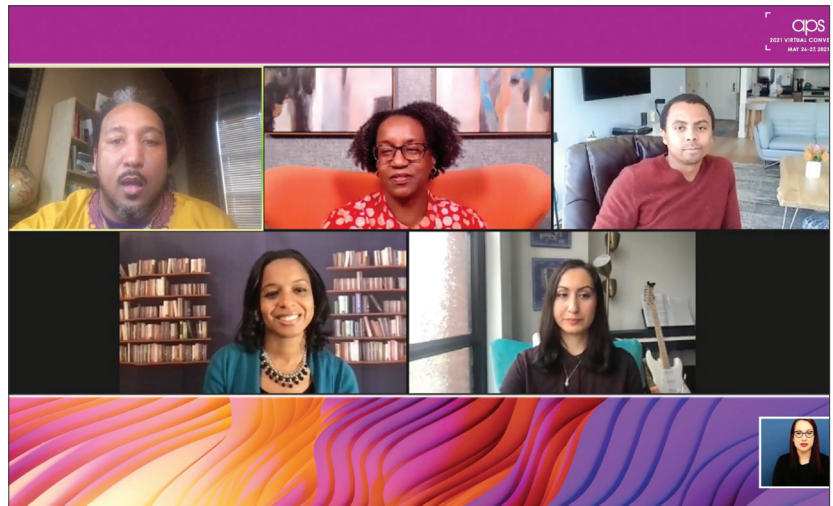
Scholars at the 2021 APS Virtual Convention set the table for a more welcoming and inclusive field.

All of psychological science is a stage, and all the psychological scientists merely players. And by reinforcing this theater's decades-old norms and practices, "we, as actors... will work to reinforce cultural racism," explained developmental psychologist Stephanie Rowley during the 2021 APS Virtual Convention. Rowley and three other researchers led a panel discussion on reducing disparities related to race and other factors in and through psychological research. Against the backdrop of global reckonings with systemic racism, they drew from multi-disciplinary research exploring the psychological science behind systemic cultural racism and racial disparities and provided recommendations for an anti-racist path forward.

 See a recorded video of this panel discussion with this article at psychologicalscience.org/observer/reducing-disparities

The dinner party

"Cultural racism is the collection of cues and signals, behaviors, norms, and procedures that let us know that one culture is preferred or valued over other cultures," said Rowley, who is known for her work on racial identity. She used the metaphor of a dinner party,



C. Malik Boykin (top left), an assistant professor in the Department of Cognitive, Linguistic & Psychological Sciences at Brown University, led the discussion on "Reducing Race and Other Disparities In and Through Psychological Research." The panelists were Stephanie Rowley, Steven O. Roberts, Ida Momennejad, and Rihana Mason (clockwise from top center).

with its guest list and menu, to explore how cultural racism is reinforced and perpetuated by the currency of professional societies, including the journals they publish and the awards they bestow.

The guest list is the people who are invited (and can afford) to join the societies. Rowley, a professor of psychology and education and the Provost Dean and Vice President for Academic Affairs at Teachers College, Columbia University, believes the scope of this group is often constrained by those "from elite organizations that have funding to support participation in these activities." Without such support, membership costs often "exclude people from the Global South, from minority-serving institutions, from teaching institutions and so on and so forth, necessarily constraining the cultural expression within," she said.

Cost aside, "these guest lists are often based on insider information," Rowley added. For example, when planning committees are compiling lists of candidates for panel discussions and awards, they tend to gravitate toward colleagues at similarly nondiverse institutions.

Then there's the menu. "Who gets to decide what we eat?" Rowley said. The offerings are often broad at conferences, she said, "but what ends up in the invit-

ed-speaker section?” Plenary sections in particular are often constrained by traditional views about what is valued, as are the articles published in journals “that are managed by similarly elite organizations and institutions. In effect, these traditions perpetuate cultural racism,” she said. “We’re systematically excluding people from the conversations in these societies that then generate the science that governs our future.”

Rowley outlined four considerations for moving the field forward. First, she called for alternatives to the current publication model dominated by “elite” publishers, noting that fields outside of psychology have taken the lead in this trend. Second, she called for more diversity among editorial boards, noting the need for underrepresented and excluded groups more generally. Third, she stressed that societies should rethink their dues structures and journals should build greater transparency and inclusivity into the process for submitting articles.

Rowley’s fourth point challenged the steps that many organizations have taken to address cultural racism, including adopting anti-racist statements and training programs that have been shown to often be counterproductive. “Certainly there’s little evidence that these activities are leading to what we really want, which is anti-racist organizations.”

Positions of power

Steven O. Roberts, an assistant professor of psychology at Stanford University, underscored Rowley’s concerns, noting the history of racism in psychological research—including that by Lewis Terman, a Stanford psychology professor and eugenicist whose arguments on IQ “deficiency” led to the sterilization of

tens of thousands of Americans, many of them people of color and low-income immigrants.

Equally importantly, psychological scientists can also decrease racism, noted Roberts, an APS Rising Star and a 2021 recipient of the APS Janet Taylor Spence Award. He cited the groundbreaking “doll studies” by pioneering Black psychologists Kenneth and Mamie Clark in the 1940s, which demonstrated that “prejudice, discrimination, and segregation” created a feeling of inferiority among African American children and damaged their self-esteem. These findings were cited in the U.S. Supreme Court’s 1954 *Brown v. Board of Education* ruling, which helped desegregate U.S. schools.

For psychological scientists to decrease racism, he noted, they don’t just need to conduct actionable research—they also have to get it published. “Who’s in the position to determine what can be published and what cannot?” In a 2020 article published in *Perspectives on Psychological Science*, Roberts and colleagues examined more than 26,000 empirical articles published between 1974 and 2018 in six top-tier psychology journals. Almost all had been edited by White men, and few looked at race and racism.

“What’s not depicted here,” Roberts said at the APS convention, “is that the proportion of those papers is predicted by the race of the editor. Specifically, under White editors in chief, only 4% of publications focus on race and racism.” That percentage almost tripled, to 11%, when the journal editors were people of color.

In exploring the roots of this disparity, Roberts and his colleagues found that White reviewers place less value on race scholarship. “It’s seen as less important, less generalizable to the broader world,” he said. This omission, in turn, discourages researchers who study race from submitting their research to most publications. Moreover, “we find that the race of the author predicts the race of the participants,” Roberts said. “So if you put the whole thing together, you’ll see that a POC [person of color] scholar who mostly studies POC people must now navigate a science that’s in many ways controlled by White psychologists.”

To remedy these problems, Roberts outlined some recommendations for journals, including increasing diverse representation throughout the publishing process and detailing the demographics of study samples. “Often reviewers are asked to evaluate a paper for how theoretically rigorous or novel it is, how tight the methods are, but rarely are we asked to evaluate diverse samples,” he said. “Just as we’re asked to justify our sample sizes or methods or hypotheses, → why don’t we justify who we’re studying?”

For more on the 2020 article cited by Roberts, see “Turning the Page,” January/February 2021 *Observer*.

**[Membership costs] often “exclude people from the Global South, from minority-serving institutions, from teaching institutions and so on and so forth, necessarily constraining the cultural expression within.”
—Cynthia Rowley**

Finally, Roberts encouraged the use of positionality statements: How are authors connected to the topic at hand? Even if researchers' work has nothing to do with race or a social group, if they study only people who look like them or are in their own neighborhood, "maybe that raises questions about whether our science is as objective as we would like it to be."

Pioneering progress

Other pioneers in the field can also offer guidance. Rihana Mason, the panel's third speaker, cited Inez Beverly Prosser—the first African American woman to receive her doctoral degree in psychology, in 1933—who said, "everything possible to provide healthy and normal personality development should be the birthright of every child." This simple quote "speaks volumes to a lot of the issues that we are trying to address today," said Mason, a research scientist at Georgia State University's Urban Child Study Center.

Nearly 90 years ago, Prosser's research explored Black children's development in integrated and segregated schools, along with matters such as school choice and teacher and student characteristics—issues that remain salient in classrooms today, Mason said. But she herself learned of Prosser only recently, at an exhibit on psychology's "hidden figures" based on research by Leslie Cramblet Alvarez. "Our students today aren't aware of pioneers like Dr. Prosser," Mason said. Alvarez's research "demonstrated that junior and senior psychology majors recognized the notable women and people of color to a lesser extent than White male pioneers. We need to start priming the pipeline of psychological sciences early by exposing them to the richness of our discipline's history."

More recently, Mason noted, University of Chicago psychologist Margaret Beale Spencer developed PVEST (phenomenological variant of ecological systems theory), a framework of hu-

Algorithms inform everything from product design to parole decisions in ways that discriminate against diverse populations, especially people of color and women.

man development used to examine how youth develop resiliency, identity, and competence, given their evolving understanding of self and their social, cultural, and historical context. PVEST has been important to the study of resilience among African American youth and "can be used as a way to prioritize humanity in diverse populations," Mason said.

Mason and colleagues are using PVEST at the HBCU STEM Undergraduate Success Research Center, a National Science Foundation-sponsored project to strengthen STEM education and career readiness at historically Black colleges and universities (HBCUs). Led by scientists from Morehouse College, Spelman College, and Virginia State University, the project follows a model of community-based participatory research, drawing from participants at some 50 HBCUs. "We need our research to be useful and usable," Mason said. She quoted Anthony DePass, a leader in the area of workforce development: "Periodically, scholarship liberates itself from the confines of ivory towers and pontification to relate to the people and their lives." (See page 19 of this issue to learn about Mason's work involving academic pipeline programs.)

Simulating systemic injustice

Ida Momennejad, a senior researcher in reinforcement learning at Microsoft Research, rounded out the panel at the APS convention. She shared insights on how to simulate systemic injustice, noting that its ubiquity extends to research on car safety, in which the use of only White European men as safety testers resulted in designs that made women more vulnerable in car crashes.

Even today, Momennejad said, algorithms inform everything from product design to parole decisions in ways that discriminate against diverse populations, especially people of color and women. "The prominent reason underlying all of this is, typically, the teams that made these products were not diverse."

Working with APS Fellow and former Board member Stacey Sinclair at Princeton University, Momennejad ran agent-based simulations of structural bias. The simulations showed that unequal gender ratios in professions such as STEM fields, politics, and business lead to increased sexism among men in those fields and impose higher costs on women (e.g., lower morale and limited upward mobility) and institutions (e.g., higher turnover) than men. Sexist comments in meetings and other forms of sexism persisted even after gender ratios were changed to 50-50, and even when the targeted women objected. The only meaningful change, the researchers found, came when male allies increased their awareness of sexism and confronted the perpetrators.

Noting that the simulations were limited to binary gender identities, Momennejad added that future simulations will take a more intersectional approach. ●

APS BOARD WELCOMES RESEARCHERS ADVANCING DIVERSE SCHOLARSHIP

New members seek to expand representation and public engagement.

2021-2022 APS Board

- **Jennifer L. Eberhardt**, Stanford University (President)
- **Alison Gopnik**, University of California, Berkeley (President-Elect)
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- **Richard Ivry**, University of California, Berkeley (Treasurer)
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- **Michele J. Gelfand**, Stanford University
- **Ann M. Kring**, University of California, Berkeley
- **Tania Lombrozo**, Princeton University
- **Seth Pollak**, University of Wisconsin-Madison
- **Janet F. Werker**, University of British Columbia
- **Eric-Jan Wagenmakers**, University of Amsterdam

Learn about the APS Board, bylaws, history, and more at psychologicalscience.org/about.

Four prominent psychological scientists whose research covers children's learning and development, social perception and cross-cultural communication, the foundational questions of cognition, and cognitive modeling have joined the APS Board of Directors for 2021–2022. APS James McKeen Cattell Fellow **Alison Gopnik** (University of California, Berkeley, President-Elect), **Rachael E. Jack** (University of Glasgow, Secretary), APS Fellow **Tania Lombrozo** (Princeton University), and APS Fellow **Eric-Jan “EJ” Wagenmakers** (University of Amsterdam) joined the Board in June for terms lasting through May 2024.

With Gopnik becoming APS Board President-Elect, APS Fellow **Jennifer Eberhardt** (Stanford University) assumes the role of President, and APS Fellow **Shinobu Kitayama** (University of Michigan) moves to Immediate Past President.

Gopnik, Jack, Lombrozo, and Wagenmakers join Board Treasurer Richard Ivry (University of California, Berkeley) and Members-at-Large Michele J. Gelfand (Stanford University), Ann M. Kring (University of California, Berkeley), Seth Pollak (University of Wisconsin-Madison), and Janet F. Werker (University of British Columbia, Canada). Serena Zadoorian (University of California, Riverside) is President of the APS Student Caucus and an ex-officio member of the APS Board of Directors.



Alison Gopnik

*University of California,
Berkeley*

APS President-Elect
2021-2022

Alison Gopnik is a professor of psychology, affiliate professor of philosophy, and member of the Berkeley Artificial Intelligence Research (BAIR) group at the University of California, Berkeley, where she has been on the faculty since 1988. She received her BA from McGill University and her PhD from Oxford University. ➔

A leader in cognitive science and the study of children's learning and development, Gopnik was a founder of the field of "theory of mind," or the ability to attribute mental states to ourselves and others, and an originator of the "theory theory" of children's development, which says that children develop and change their intuitive theories of the world in much the way that scientists do. She also introduced the idea that probabilistic models and Bayesian inference could be applied to children's learning. Continuously supported by the National Science Foundation, she is an elected member of the American Academy of Arts and Sciences, the Cognitive Science Society, and the American Association for the Advancement of Science and a 2020 Guggenheim Fellow.

In addition to her teaching and research, Gopnik has written more than 120 journal articles and several books including bestsellers such as *The Scientist in the Crib*, *The Philosophical Baby*, and *The Gardener and the Carpenter*. She has written widely about cognitive science and psychology for *The New York Times*, *The Atlantic*, *The New Yorker*, *Scientific American*, *The New York Review of Books*, *New Scientist* and *Slate*, among other publications. Her 2011 TED Talk "What Do Babies Think?" has been viewed nearly 4.9 million times. She has frequently appeared on TV and radio programs including *The Colbert Report*, *Radio Lab*, and *The Ezra Klein Show*. Since 2013 she has written the "Mind and Matter" column for the *Wall Street Journal*.

Additionally, Gopnik has consulted with governments and nongovernmental organizations about the importance of child development and caregiving—an issue whose political moment has finally arrived, she believes, and where she hopes to see science and APS play an important role. She has also been a strong advocate for better and broader science communication, another APS focus.



Rachael E. Jack

University of Glasgow
APS Board Secretary

Rachael E. Jack is a professor of computational social cognition and director of the FACESYNTAX laboratory in the Institute of Neuroscience & Psychology at the University of Glasgow, Scotland. Her research focuses on understanding human social perception, with a specific emphasis on the dynamic communication system of facial expressions. She was selected as an APS Rising Star in 2016 and now serves as chair of the APS Globalization Committee.

In the lab, Jack's team uses a novel interdisciplinary approach that combines psychophysics, social psychology, dynamic 3D computer graphics, ethology, and information theory. This work has formally characterized cultural similarities and specificities in facial expressions, including their dynamic transmission over time, and their impact on cross-cultural communication. In addition to developing new methodological and theoretical frameworks for understand facial-expression communication, the research team has transferred its computational models of facial expressions to digital agents to synthesize culturally sensitive social avatars and robots.

Jack's work has been featured in publications including the *Annual Review of Psychology*, *Current Biology*, *Psychological Science*, *Proceedings of the National Academy of Sciences*, and *Trends in Cognitive Sciences*. Her laboratory has received funding from organizations including the European Research Council and the British Academy; she has also been featured in Emotion Researcher's "Young Researcher Spotlight" and recognized with a Spearman Medal from the British Psychological Society, the New Investigator Award from the American Psychological Association, and an Innovation Award from the Social & Affective Neuroscience Society.

Jack is associate editor at the *Journal of Experimental Psychology: General*, the *Journal of Experimental Social Psychology*, and *Affective Science* and has served on committees and boards for organizations including the Society for Affective Sciences, the International Society for Research on Emotion, the International Conference on Computer Vision, the Association for the Advancement of Affective Computing, the International Conference on Affective Computing and Intelligent Interaction, the IEEE International Conference on Automatic Face and Gesture Recognition, the Association for Computing Machinery's

See this article online for links to related content, including profiles of Jennifer Eberhardt, Seth Pollak, and Janet Werker, who joined the APS Board for the 2020-2021 year.

International Conference on Intelligent Virtual Agents, and the Vision Science Society.



Tania Lombrozo

Princeton University
APS Board Member 2021-2024

Tania Lombrozo is the Arthur W. Marks '19 Professor of Psychology at Princeton University, where she directs the Concepts & Cognition Lab. A recipient of the 2012 APS Janet Taylor Spence Award, she is also a faculty associate of Princeton's Department of Philosophy and University Center for Human Values.

Lombrozo's research aims to address foundational questions about cognition using the empirical tools of cognitive psychology and the conceptual tools of analytic philosophy. Her work focuses on explanation and understanding, conceptual representation, categorization, social cognition, causal reasoning, and folk epistemol-

ogy. In addition to the Spence Award, she has received numerous early-career awards, including the Stanton Prize from the Society for Philosophy and Psychology, an Early Investigator Award from the Society of Experimental Psychologists, a Distinguished Scientific Award for an Early Career contribution from the American Psychological Association, the Joseph B. Gittler Award from the American Psychological Foundation, a CAREER award from the National Science Foundation, and a James S. McDonnell Foundation Scholar Award in Understanding Human Cognition.

Widely published in academic journals, Lombrozo regularly writes for a general audience as well. From 2012 to 2018, she was a regular blogger for National Public Radio, covering topics in psychology, philosophy, and cognitive science. Lombrozo hopes to support APS's mission of engaging the public to promote a better and deeper understanding of science, including its role in decision making at individual and societal levels. She is also committed to improving research practices and reducing barriers to diverse participation in the field.



Eric-Jan Wagenmakers

University of Amsterdam
APS Board Member 2021-2024

Eric-Jan "EJ" Wagenmakers is a professor of psychological methods at the University of Amsterdam, where his current research interests center on cognitive modeling, Bayesian inference, and philosophy of science. He is also the founder and director of JASP (jasp-stats.org), a free and open-source software program for statistical analyses.

Wagenmakers is on the advisory council of APS's *Advances in Methods and Practices in Psychological Science* journal and has recently served in roles including guest editor for two special issues of the *Journal of Mathematical Psychology* and member of the editorial board for *Computational Brain & Behavior*. He has also been a member of the APS Annual Convention program committee, president of the Society for Mathematical Psychology, and an action editor for the *Journal of Mathematical Psychology*, *Psychonomic Bulletin & Review*, *Cognitive Psychology*, and *PLOS Biology*.

During his service on the Board, Wagenmakers wants to help APS solidify and expand its role in improving the quality and dependability of psychological science, perhaps through more opportunities for training, more quantitative modeling, and greater transparency. In addition, he would like APS to explore ways to highlight the contributions of early-career researchers at its annual convention. ●

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: OCTOBER 1, 2021

For details, go to www.psychologicalscience.org/smallgrants
Questions? Contact teachfund@psychologicalscience.org

DON'T SoTL FOR LESS: RESEARCHING, TEACHING, AND LEARNING FOR A POST- PANDEMIC WORLD



Regan Gurung, Oregon State University, delivered the APS–David Myers Distinguished Lecture on the Science and Craft of Teaching Psychology at the 2021 APS Virtual Convention.

In 1899, nearly a quarter century after he had pioneered the teaching of psychology in the United States, Williams James seemed unconvinced that the science of psychology might someday contribute to better teaching. “You make a great, very great mistake,” the American psychologist and philosopher wrote, “if you think that psychology, being the science of the mind’s laws, is something from which you can deduce definite programmes and schemes and methods of instruction for immediate schoolroom use” (James, 1899).

It turns out William James was the mistaken one. In fact, psychological science has made tremendous contributions to teaching and learning, explained APS Fellow Regan A. R. Gurung in the APS–David Myers Distinguished Lecture on the Science and Craft of Teaching Psychological Science at the 2021 APS Virtual Convention. In “Don’t SoTL for Less: Researching, Teaching, and Learning for a Post-Pandemic World,” Gurung, a professor of psychological sciences, associate vice provost and executive director at the Center for Teaching and Learning at Oregon State University, explored the past, present, and future of the scholarship of teaching and learning, or SoTL.

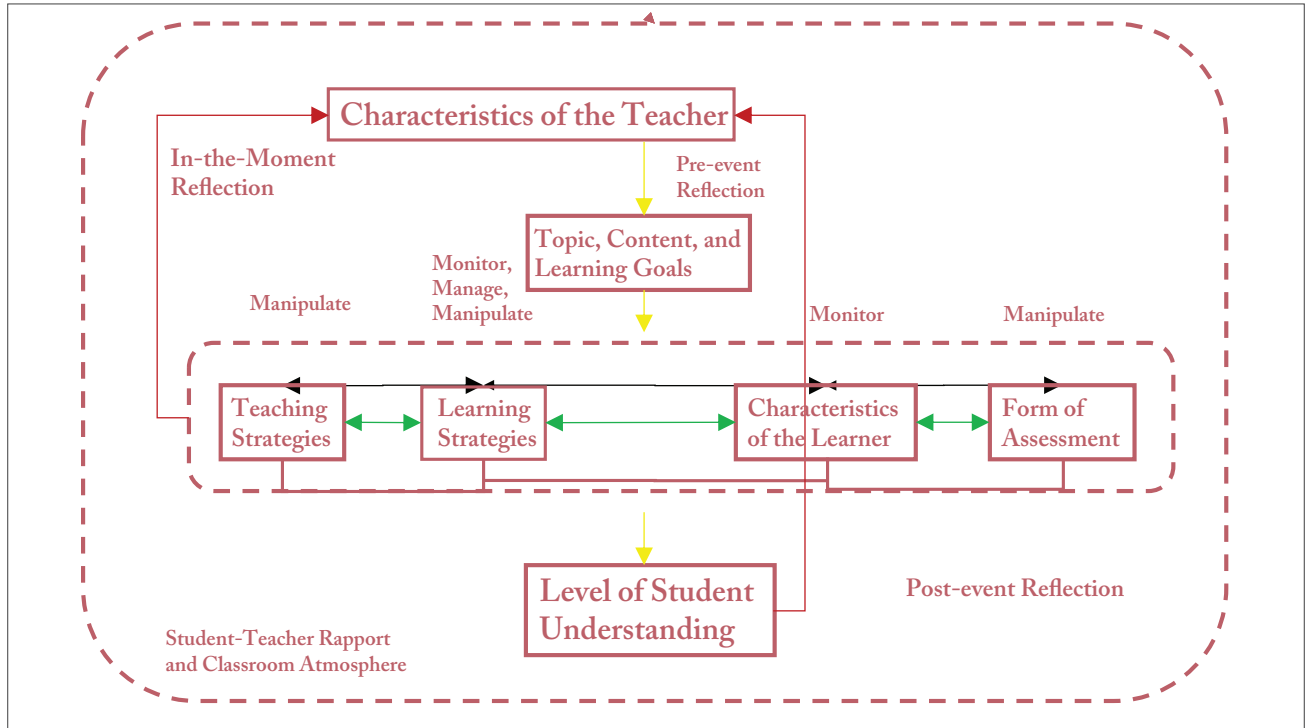
Theoretical underpinnings

Researchers’ understanding of SoTL has evolved significantly since the term was codified some 3 decades ago. Initially, it emphasized documenting teaching practices, Gurung said. Indeed, that was the mission of the *Teaching of Psychology* journal, launched in 1974 by the Society for the Teaching of Psychology, a division of the American Psychological Association (APA). It wasn’t until 2015 that APA followed with a more expansive quarterly journal, the *Scholarship of Teaching and Learning in Psychology*. Gurung and APS Fellow R. Eric Landrum, the founding co-editors of the newer journal, wrote in a welcome editorial that SoTL encompasses “the theoretical underpinnings of how we learn, the intentional, systematic modifications of pedagogy, and assessments of resulting changes in learning.” They called for practitioners to advance the application of theoretically driven lab work to the classroom, a unified understanding of how students learn best, and greater methodological and statistical rigor in SoTL.

This working definition of SoTL, Gurung said in the Myers lecture, reveals “the effort that goes into this enterprise.” This effort is undertaken not only in classrooms, he clarified, but in a “big tent” fashion across departments and, increasingly, universities and even higher education in general, reflecting a growing awareness of the importance of teaching.

The spirit of discovery is key to SoTL, Gurung added. “A lot of scholarship is about wondering.” He cited Ernest Boyer’s 1990 model of scholarship, which expanded the traditional academic definition (basic research to advance knowledge in a field) to include, among other things, research on mechanisms of teaching and learning that could advance scholarship across academic disciplines. “The neat thing Boyer was saying was, ‘All the effort that teachers put in needs to be recognized,’” Gurung said. And as instructors, “we’re invited into this big tent to examine our teaching,” to understand what works. “If you love teaching and you love your research, why not use your research skills to capture the effectiveness of your teaching.”

This appears to be particularly true for psychology instructors. In 2019, Gurung and colleagues published findings from an American survey that compared current perceptions of SoTL among faculty with those reported in a ➔



The spirit of discovery is key to SoTL, according to Gurung. He identifies Stephen Chew’s model for digging into theory as potential guide to focusing on the why and how of teaching and learning methods.

study published in 2008 (Gurung et al., 2019). “It’s mostly good news,” Gurung said, noting that psychology faculty in 2019 had more positive perceptions of SoTL in general and perceived more departmental support for SoTL work. Compared with faculty in other fields, they also perceived greater support for such efforts from their colleagues and departments. Asked to identify the most important research projects, respondents named peer-reviewed publications, followed by grants, presentations, workshops, and portfolios.

Gurung also explored the challenges facing SoTL, along with ideas for addressing them.

Turf battles among different disciplines, for instance, could be mitigated by greater interdisciplinary collaboration, Gurung said. He cited findings that scholars from many disci-

plines—including psychology, neuroscience, economics, educational technology, discipline-based educational research, and instructional design—contribute to the study and advancement of higher education. Learning from disparate fields will only help psychology instructors, he said, pointing to books such as *How We Learn* (Dehaene, 2020) and *Understanding How We Learn: A Visual Guide* (Weinstein et al., 2018) as useful sources. “Where can we pull from to do the best job possible?” he asked. “This becomes particularly important when you have something like a pandemic,” which forced educators to pivot to online learning in 2020.

Another challenge facing practitioners of SoTL is making sure the work is methodologically sound, Gurung said. His advice: Simply follow the same criteria for research in your own field. He pointed to Stephen Chew’s model for digging into theory as potential guide to focusing on the why and how of teaching and learning methods (Chew et al., 2010).

It’s important to get longitudinal as well, Gurung said. “There is very little longitudinal research on learning in real-world settings,” though there are some exceptions, including a recent study that tracked what college seniors remembered from a freshman-year introductory psychology course (Hard et al., 2019). “It’s the first study I’ve seen where the same group of students are actually followed up on many years later.” (For the record, psychology majors scored 81% on a 16-item quiz, compared to 69% among nonmajors.)

“There’s a big difference between learning and performance,” Gurung continued. “We’ve got to do a better job of measuring learning” over the long

 See a recorded video of Gurung’s lecture with this article at psychologicalscience.org/observer/dont-SOTL.

term, as compared to the performance students can achieve by cramming for an exam, for example. Promising practices include focusing on common integrative themes in psychology and exposing students to different study techniques—and having them write essays about them (Brown-Kramer, 2021).

Looking to the future of SoTL, Gurung underscored the importance of integrating and learning from other disciplines. “We’ve got to take off the blinders,” he said, pointing to the model of Raechel Soicher, who received Oregon State University’s first PhD in applied cognition. “For all practical purposes, Dr. Soicher is probably the first SoTL PhD.”

Gurung also noted the importance of identifying bottlenecks in learning (see Gurung & Landrum, 2013)—essentially, difficult topics “where, if a student doesn’t get it, they don’t get anything that follows behind it.” Greater study of mediators (e.g., self-efficacy) and moderators of learning will be instructive, as well as more multisite research, he said. “Yes, something might work in our classroom, but will it work in any classroom? Why not? What are the limiting factors?” He and Kathleen Burns explored this in a study of the interaction between two well-known and efficient teaching strategies—retrieval practice and spacing—across nine different universities (Gurung & Burns, 2019).

Finally, Gurung called upon psychology instructors to avoid the “file drawer” problem, when well-designed research is never shared because it shows a null effect or has some other limitation that makes it seem unlikely to be published. Two options for publishing this research, and potentially inspiring more research on similar topics, are the “virtual file drawer” categories for submissions to both *Teaching of Psychology* and *Scholarship of Teaching and Learning in Psychology*. He also encouraged use of an Oregon

Turf battles among different disciplines could be mitigated by greater interdisciplinary collaboration, Gurung said. “We’ve got to take off the blinders.”

State University project—which received initial funding from an APS Teaching Grant—that serves as a hub for pedagogical research. Available at hippr.oregonstate.edu, it connects researchers to potential collaborators, participant pools, and more.

“Work with others to get it done,” Gurung said. “It is exciting that so many of us from so many different areas—cognitive, social, educational, developmental, experimental psychologists—are getting together to study that common goal, teaching and learning.” ●

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PUBLIC SPEAKING AND SCIENCE OUTREACH

By Charles Blue, APS staff

From time to time, people who have a passion for science communication find themselves called upon to stand in front of a large crowd and talk about their research and its impact on society. For many science communicators, public speaking is an effective way to share information with a wide range of science enthusiasts. But for some, the prospect of being center stage is a fate best avoided.

During his stand-up days, actor-comedian Jerry Seinfeld observed that the two things people fear most in life are speaking in public and death... and death was number two. “That means if you’re at a funeral, you would rather be in the casket than giving the eulogy,” he quipped. Seinfeld’s clever observation was, in part, based on fact. In 2014, a Chapman University Survey placed public speaking at the top of its list of American fears. More recently, the number-one spot has gone to “corrupt government officials,” reflecting a change in the times.

Public speaking, however, is still a stumbling block for many aspiring science communicators. Though comfortable writing engaging articles and books or even recording podcasts or videos, some otherwise outspoken people prefer to avoid the limelight of public speaking. That’s unfortunate, because if the voice of science is missing from public events, that vacuum will quickly be filled by less scientific perspectives.

Effective public speaking

There is no compelling reason for your audience to be in attendance other than their innate interest in the topic. No one is graded at the end of your talk, and the content you’re presenting is unlikely to have any bearing on anyone’s career

or research. The burden is on you to capture and maintain the attention of your audience.

To be more effective public speakers, science communicators should use three seemingly intuitive tactics. First, understand your audience. Second, understand what your audience wants. Third, be a good speaker. The first two factors require some insights. The final one requires practice and awareness.

Understanding your audience starts with understanding there is no such thing as the general public. Every public presentation can draw together students, families, and science enthusiasts as well as potential naysayers and protestors. Such audiences can be easily distracted, and distracting. Tailoring your content and delivery to your audience is important. (For additional details on this, read my May/June column, in which I discuss the importance of avoiding scientific jargon.)

Understanding what an audience wants is surprisingly straightforward: They want to be entertained. If they are not entertained, it won’t matter what you say—no one will care, and no one will remember. Being entertaining does not mean being an “entertainer.” In the words of another actor-comedian, Rip Taylor, “This is it, folks. I don’t dance.” Know what you are good at and use it to your best advantage. Present engaging content and convey your passion for your research. If you can express that in an approachable way, then you will be entertaining.

Finally, the characteristics of being a good speaker are harder to explain. A well-written talk can leave an audience flat, while a poorly constructed talk can draw in listeners if it is presented with zeal and focus. If you want someone to emulate, you can’t do any better than children’s television pioneer Fred Rogers.

Mr. Rogers, as he was known to generations of American youngsters, effortlessly adopted virtually all the best practices in public speaking. Most importantly, he spoke directly to his audience, not to his peers. If you are an expert in something your audience is not, consider how they perceive things and the language that they use.

Mr. Rogers also spoke as if he were talking to an individual, not to a group. In the words of leadership strategist Chet Wade in his article “Ten Lessons From Mr. Rogers on How to Make Yourself Heard”: “It does not matter how many people are sitting in the audience or watching remotely. They take in the message individually. Speak to each one of them, not the group, and you will be more successful.”

Unconventional audiences

Frequently untapped opportunities for science outreach, especially in psychological science, are science fiction and fantasy conventions. From small fan-organized conferences to mega-cons that draw nearly 100,000 participants each year, fan-based conventions frequently attract the science-interested lay public. Remarkably, many attendees are well-versed in a variety of fundamental science topics and routinely ask insightful questions. This past July, I was invited to be a speaker at Shore Leave, an online convention typically held live in Baltimore. My talk (bit.ly/3Axndzs) focused on the latest discoveries in psychological science, and though conducted via Zoom, with all its limitations, interest was strong, and participation was vibrant. ●



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ILLINOIS

THE UNIVERSITY OF CHICAGO

INSTRUCTIONAL PROFESSOR

The Division of Social Sciences at the University of Chicago invites applications for appointment as Instructional Professor (IP) in the Department of Psychology (<https://psychology.uchicago.edu/>) and the College. This is a full-time, career-track teaching position. The initial two-year appointment will begin Autumn quarter of Academic Year 2021-22 and is renewable with opportunity for promotion.

The IP will annually teach 6 quarter-long undergraduate classes. Assignments may include intensive discussion courses in the Social Sciences Core curriculum, as well as introductory survey-level classes and upper level elective seminars in psychology. We are particularly interested in candidates who are qualified to teach a wide range of classes in different areas of psychological science, including undergraduate level courses in social, affective, and personality psychology. The IP will also participate in co-curricular and service activities that help support the undergraduate teaching mission of the department, including advising undergraduates seeking careers in psychological science. The IP may train and manage teaching assistants. The position includes time and support for professional development.

The position requires a PhD in experimental psychology or a related discipline focusing on basic research questions in psychology; the degree must be in-hand prior to the start date. Teaching experience with undergraduate courses focusing on basic research questions in psychology is required. The candidate's record must demonstrate potential to design and teach courses to undergraduate students at a selective university.

Applicants must apply online at the University of Chicago's Interfolio website at apply.interfolio.com/89126. Applications are required to include 1) a cover letter, 2) a current curriculum vitae, 3) a teaching statement, and 4) example course syllabi. In addition, if available, teaching evaluations from courses previously taught are strongly preferred. Also, three letters of reference are required to be submitted online. The search committee will begin reviewing applications on July 28, 2021, and will continue to consider new applications until the position is filled or the search is closed.

This position will be part of the Service Employees International Union.

We seek a diverse pool of applicants who wish to join an academic community that places the highest value on rigorous inquiry and encourages diverse perspectives, experiences, groups of individuals, and ideas to inform and stimulate intellectual challenge, engagement, and exchange. The University's Statements on Diversity are at <https://provost.uchicago.edu/statements-diversity>.

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Job seekers in need of a reasonable accommodation to complete the application process should call 773-702-1032 or email equalopportunity@uchicago.edu with their request.

MASSACHUSETTS

TUFTS UNIVERSITY

ASSISTANT PROFESSOR

The Department of Psychology at Tufts University is seeking applicants for a tenure-track assistant professor position in the psychology of systemic racism to begin September 1, 2022. Candidates should use experimental methodology and quantitative methods to examine psychological processes related to structures and institutions that contribute to racial inequality. The successful applicant will have a Ph.D. (or be ABD) in any area of psychology and an active research program capable of supporting extramural funding. Area of research specialization is open, but of particular interest are candidates who study racism as it is embedded within institutions (e.g., education system, healthcare, media, policing, legal system); use experimental methods to develop and assess anti-racist interventions or support community-based activism; analyze the psychological mechanisms that perpetuate systemic racism (e.g., motivated reasoning, moral cognition) or the psychological consequences of racism across the life course (e.g., effects of racial trauma); or employ traditions and methodologies that challenge and expand “mainstream” psychological science (e.g., Intersectionality, Decolonial Methods). We would be enthusiastic about candidates eager to teach courses that add new perspectives on the history and systems of psychology and/or that contribute to the methodological or statistical training of our students. Teaching load would be four courses per year, with opportunities for workload-related reductions.

Applicants should submit to <http://apply.interfolio.com/90431> the following: a C.V.; a statement of research accomplishments and future plans (our department embraces open and reproducible science, and candidates are encouraged to address how they pursue these goals in their work); a statement of teaching experience and approach; three letters of recommendation uploaded directly by recommenders to Interfolio; and copies of no more than 3 representative scholarly papers. Note that our department is committed to diversity, equity, and inclusion, and candidates should address, across their materials, how they will promote these priorities in their professional career.

Please contact Jessica Storozuk, Department Administrator, at jessica.storozuk@tufts.edu with any questions. Review of applications will begin October 15, 2021 and will continue until the position is filled. Tufts University is an Affirmative Action/Equal Opportunity Employer that is committed to increasing the faculty's diversity and providing an inclusive and supportive educational environment. Women and members of underrepresented groups are strongly encouraged to apply.

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CULTURAL AND PSYCHOLOGICAL DISTANCE: BEYOND WEIRDNESS

The “truths” psychological science has uncovered over the years may be those of very few people—those who live in Western, educated, industrialized, rich, and democratic (WEIRD) nations. Most psychological science research is conducted within these countries, making it difficult to generalize the findings to the rest of the world.

The obvious solution to this issue is to make psychological science more inclusive of non-WEIRD samples and non-WEIRD researchers. Beyond this, a systematic method for measuring how culturally and psychologically different societies are can also contribute to pushing psychological science beyond WEIRDness. In a 2020 article published in *Psychological Science*, Michael Muthukrishna, of the London School of Economics and Political Science, and colleagues presented a method and tool for measuring the psychological and cultural distance between populations.

“We hope that this technique and tool may guide researchers in selecting sites and samples that are sufficiently culturally different to test the generalizability of their hypotheses,” Muthukrishna and colleagues wrote. “A more general theory of human behavior requires a theoretical and empirical understanding of humans across the globe and across the life span.”

The need for knowledge about cultural distance

When researchers attempt to assess the generalizability of their findings, they often compare Western nations with East Asian nations (e.g., China, Japan). Although researchers are increasingly attempting to test their hypotheses in other societies (see, e.g., Henrich et al., 2010), psychological science remains mostly WEIRD. Moreover,

even WEIRD nations differ culturally, a fact not addressed by a science that has disproportionately used samples from the United States.

As Muthukrishna and colleagues wrote, citing the work of Boyd (2017), Gelfand (2019), and Henrich (2016), “A growing body of theoretical and empirical work in cultural evolution emphasizes that our species is fundamentally cultural, and thus, these cultural differences are also psychological differences: from norms and attitudes, to the degree to which these norms are enforced, to low-level perception of color and visual illusions.”

Thus, an important question to address is how psychologically different the nations of the world are, compared to each other and to overstudied WEIRD nations like the United States. A tool that allows researchers to systematically calculate cultural and psychological differences among nations can help to assess the generalizability of their findings and can indicate whether—and where—more testing is needed.

Development of the tool

Muthukrishna and colleagues’ tool for quantifying psychological and cultural distance between nations is available at culturaldistance.com (and also on a new website—world.culturalytics.com). Researchers can also use R code to

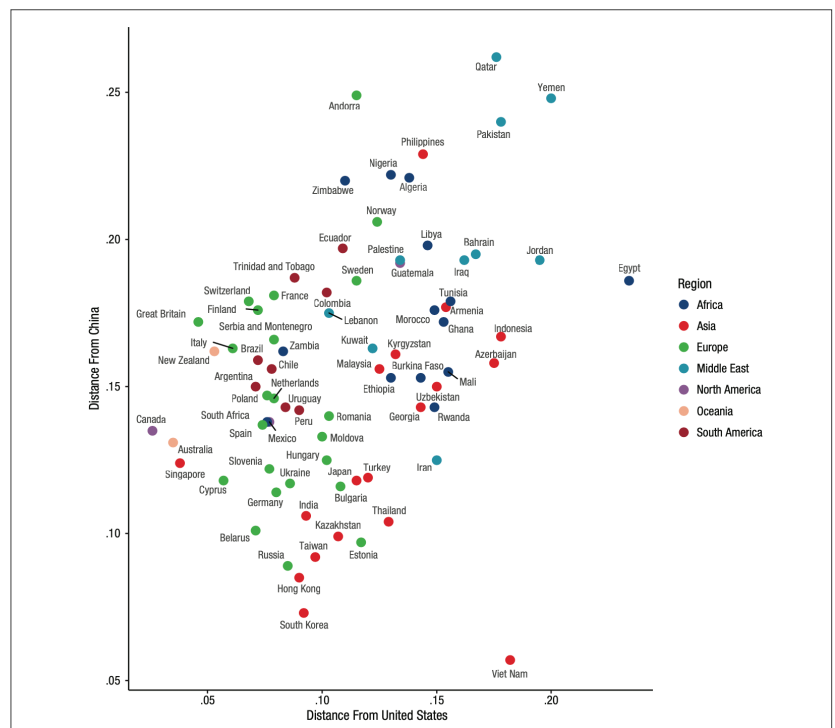


Figure 1. Scatterplot showing the relation between countries’ cultural distance from the United States and from China, based on cultural fixation index scores. Reprinted from Muthukrishna et al. (2020).



implement the tool (for details, see the supplemental material for their article at journals.sagepub.com/doi/suppl/10.1177/0956797620916782).

The tool measures cultural distance using the cultural fixation index (CF_{ST}). The CF_{ST} is calculated in the same manner as the fixation index (F_{ST}), a measure of genetic variance used in population biology. Instead of reflecting variance in alleles within a genome, the CF_{ST} reflects variance in answers to questions from large surveys of cultural values (Bell et al., 2009).

The CF_{ST} can be used to identify regional, national, or other cultural groupings (e.g., class differences) and to determine the distance between two groups with respect to cultural dimensions such as politics, social relations, or beliefs.

As examples, in their 2020 article, Muthukrishna and colleagues used an American scale to calculate countries' cultural distance from the United States and a Chinese scale to calculate countries' cultural distance from China (see Figure 1).

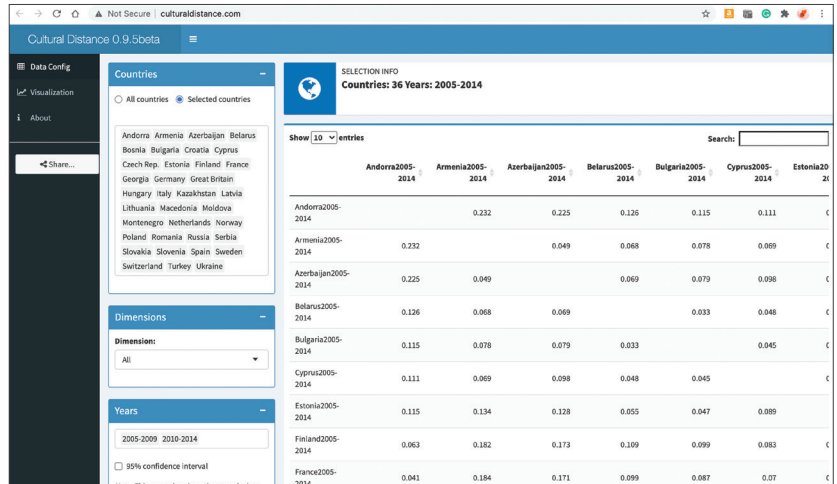


Figure 2. Screenshot of the culturaldistance.com webpage, with the country menu highlighted. Users can select up to 63 countries to compare.

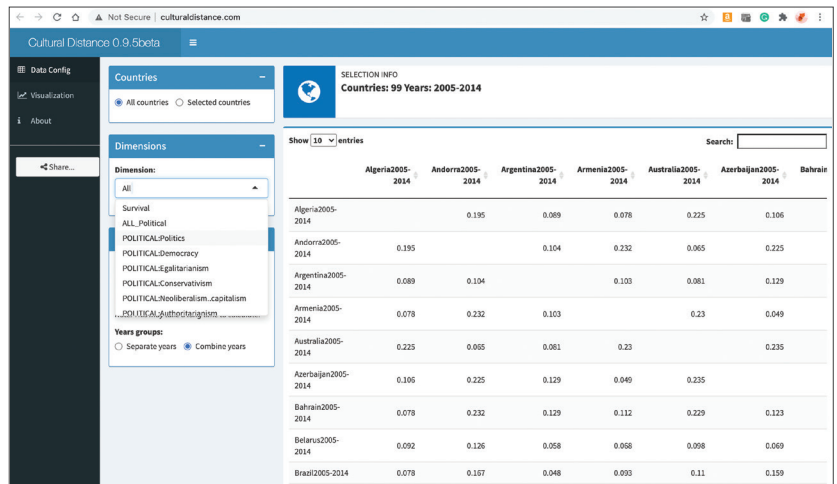


Figure 3. Screenshot of culturaldistance.com, with the dimensions menu highlighted. Users can select as many dimensions or aggregates of dimensions as they would like to use as a basis for comparison between countries.

How to use the online tool

Computing the cultural distance between countries on www.culturaldistance.com is fairly easy. The user needs only to select the countries they would like to compare (Figure 2), the dimensions or aggregates of dimensions they would like to compare those countries on (Figure 3), and the years of the comparisons (Figure 4). The result is a table that can be downloaded and analyzed in Excel. The website also offers data visualization in the form of stackable histograms and density graphics (Figure 5).

The dimensions addressed in the tool pertain to seven major categories: political (nine dimensions), group membership (four dimensions), beliefs (four dimensions),

social relations (four dimensions), law (three dimensions), financial (two dimensions), sexuality (two dimensions), and a miscellaneous category that includes consumerism, leisure/recreation/hobbies, arts and creativity, and science and innovation. •

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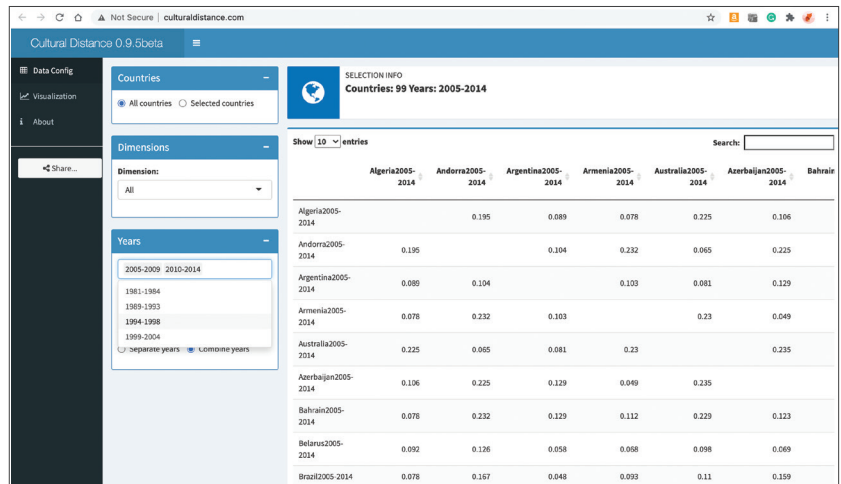


Figure 4. Screenshot of culturaldistance.com, with the years menu highlighted. Users can select intervals of years from 1981 to 2014 and choose to obtain distances for separate or combined years.



Figure 5. Screenshot of culturaldistance.com. The image shows two types of data visualization available on the website—stacked histogram (top) and density graphic (bottom). Users can choose to visualize data at the subdimension (i.e., aggregated questions contributing to a dimension) or question level.

HOW TO FORM HEALTHY HABITS TO PREVENT COVID-19

By C. Nathan DeWall

Harvey, A., Armstrong, C., Callaway, C., Gumpert, N., & Gasperetti, C. (2021). COVID-19 prevention via the science of habit formation. *Current Directions in Psychological Science*, 30(3), 174–180.

The COVID-19 pandemic continues to wreak havoc on the world. Worldwide, more than 4 million people have died from COVID-19 (World Health Organization, 2021). Within the United States, more Americans died during the first 18 months of the COVID-19 pandemic than were killed in both World War I and World War II. Despite these widespread losses, some people refuse to take safe and effective vaccines. Others ignore laws that require them to wear face masks indoors. Why won't people take precautions that could save their lives?

One possible reason is they haven't formed effective habits, according to Allison Harvey, Courtney Armstrong, Catherine Callaway, Nicole Gumpert, and Caitlin Gasperetti (2021). Before the pandemic, few people had protected themselves from a novel coronavirus. With little warning, people were thrust into a new world, one where they needed to develop new habits but, unlike in past attempts to change their behavior, could not afford to delay: Pandemics have no patience. To increase their chances of survival, people needed to quickly and

Eight Habit-Formation Strategies

1. **Identify and address incorrect beliefs:** What beliefs are incorrect? How can you increase the motivation for accuracy and critical thinking?

2. **Set goals:** Make specific, challenging, and realistic goals that you can share with family and friends.

3. **Devise an action plan:** Set up implementation intentions (“if...then” plans) to increase your indoor mask-wearing. For example, you may say, “If I leave my apartment, then I will put my mask in my pocket to wear indoors.”

4. **Establish contextual cues:** What locations do you attend frequently that might require mask-wearing?

5. **Add reinforcement:** What rewards could you earn every time you fulfill your indoor mask-wearing goal?

6. **Engage in repetition:** Keep track of how often you successfully achieve your goal of wearing a mask indoors.

7. **Aim for automaticity:** Over time, do you find that you need to exert more or less effort to achieve your goal?

8. **Change is difficult:** Realize that behavior is difficult to change.

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effectively form the habits of wearing face masks and social distancing.

Harvey and colleagues (2021) applied the science of habit formation to inform interventions for COVID-19 prevention. They identified eight strategies that people may use to change their behaviors to reduce the spread of COVID-19 (see the table on the facing page). These strategies draw on dual-process models, learning, motivation, and social psychology. To be sure, no studies have directly supported or refuted Harvey and colleagues' conceptual framework in the context of COVID-19 transmission. Time will tell whether the science of habit formation can help reduce the spread of COVID-19. ●

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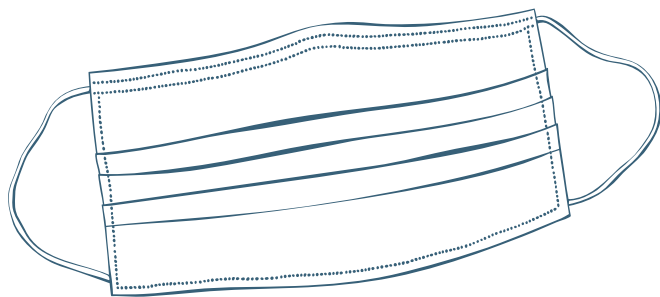
STUDENT ACTIVITY: MAKING MASKS A HABIT

This activity encourages students to use the science of habit formation to prevent COVID-19. Working in small groups, the class will develop a program to encourage people to wear face masks indoors, which reduces the spread of COVID-19 (Howard et al., 2021).

Divide the class into small groups of two to four students. Share psychologist Allison Harvey and colleagues' (2021) definition of habit as “a learned action that is performed with minimal cognitive effort” (see also Lally & Gardner, 2003; Wood & Neal, 2007). Ask students to share some of their habits, such as how they remember to keep their smartphones nearby, brush their teeth regularly, or travel to and from class without getting lost.

Instruct students to imagine that a local community center has asked psychologists to meet individually with residents who want to develop habits to increase their indoor mask-wearing. Harvey and colleagues (2021) identified eight elements of habit formation that may help encourage behaviors that prevent COVID-19, including mask-wearing (see the table on the previous page). Tell the students their group will use these eight habit-formation strategies to design a program to increase mask-wearing indoors. Encourage them to keep in mind that the individuals participating in the program are motivated to wear masks indoors, and to be as creative as possible.

Give students at least 10 minutes to develop their habit-formation program. Time permitting, students can share their program with the class. Which strategies were the easiest to implement? Which were the most difficult? Why?



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.

THE SOCIABLE SCIENCE OF SPEAKING WITH STRANGERS

By David G. Myers

Van Lange, P. A. M., & Columbus, S. (2021). Vitamin S: Why is social contact, even with strangers, so important to well-being? *Current Directions in Psychological Science*, 30(3), 267–273.

We are social animals, as Aristotle surmised long ago, and as Paul Van Lange and Simon Columbus (2021) illustrate anew. Our distant ancestors, having survived by collectively hunting, sharing, and protecting, endowed us with a need to belong. Separated from those we love, by a foreign sojourn or ostracism or death, we feel the loss. Small wonder that mental health suffered during the COVID-19 pandemic's social isolation (Abbott, 2021). Blessed with social support from caring attachments, we tend to live with greater health and happiness.

That much you already know, and know to teach. But what about our fleeting interactions—brief hallway chats, blathering with a rideshare driver, bantering with our baristas? Do these fleeting micro-connections also pay social-emotional dividends?

Yes indeed, say Van Lange and Columbus. They support this assertion with three propositions:

1. *Most interactions with strangers are benign.* As in a clerk/customer encounter, the transaction commonly engages complimentary interests, mutual dependence, and equality of power—situations that are conducive to prosocial behavior (Columbus et al., 2021).



2. *Most strangers are benign—or even benevolent.* If a hotel buffet has several cold cuts left, but only one ham slice remains, many folks, being “socially mindful,” will leave it for others. With Niels Van Doesum and Dion Van Lange, Paul Van Lange (2013) simulated such kindness in experiments that invited people to choose one of three available items, such as pens or baseball caps, as a gift. When a set included two identical items (say, two black pens and one blue pen), people usually selected one of the duplicates—to preserve the same choice for a stranger who followed them.

3. *Most interactions with strangers enhance well-being.* Strong ties with family and friends support our health and well-being, but even fleeting, weak ties are socially adaptive and induce happiness. Such is the clear and consistent result of simple experiments in which some people but not others have to socially engage a stranger—to smile, chat, and make eye contact with a barista (Sandstrom & Dunn, 2014); to strike up a conversation with a fellow commuter-train or bus passenger (Epley & Schroeder, 2014); to offer unexpected compliments to a passerby (Boothby & Bohns, 2021); or to smile and say a friendly word to a campus shuttle driver (Gunaydin et al., 2020). In each case, the friendly interaction brightened the participants' moods (and, in Epley and Schroeder's study, did so equally for extraverts and introverts). ●

APS Fellow **David G. Myers** is a professor of psychology at Hope College. His scientific writing has appeared in three dozen academic periodicals, and he has authored or coauthored 17 books, including *Psychology*, *Exploring Psychology*, and *Social Psychology*. Myers can be contacted via his website at davidmyers.org.

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STUDENT ACTIVITY: MICRO-FRIENDSHIPS

This science of micro-friendships could make for an inspiring class.

As an activity, students could be assigned to replicate the experience of those in the micro-interaction experiments. When interacting with a store clerk, crossing paths with a building custodian, or entering the dining hall, pause to (as in the barista experiment) “smile, make eye contact to establish a connection, and have a brief conversation.” Take note: Having done so, how did you feel? How did the recipient of your attention seem to feel?

Alternatively, instructors could pair students for a here-and-now connection, asking each to choose one or two nonthreatening but revealing questions to answer. Here are some possibilities from the 36 used by Arthur Aron and his colleagues (1997) to create closeness between strangers: For what in your life do you feel most grateful? What would constitute a “perfect” day for you? What is your most treasured memory? Again, afterward, invite students to report how they expected to feel before they asked the question (awkward?) and how they actually feel now.

Or instructors could ask students, as I did my Facebook friends: Can you recall happy experiences of humanizing brief interactions—either as a giver or a receiver?

In response, dozens of examples flowed in. People recalled, as students surely could as well, the gratifying results of reaching out to homeless people, taxi drivers, restaurant servers, and fellow hikers, dog walkers, and campers.

Some recalled being blessed by another's reaching out. One woman, stressed by managing a clinic at the beginning of the COVID-19 pandemic, stopped by a convenience store to console herself with “a family-sized bag of chocolate.” The cashier, “a young 20-something man, asked me if I'd come all the way to the store just for chocolate. I said yes, it had been a bad day. He then asked me why and I just burst into tears. His genuine interest and compassion were so validating and humanizing that the floodgates broke. He probably thought he made my day worse . . . but he really made my day better and I think I will never forget the kindness of this young guy toward a hot mess 40-something mom.”

Others recalled being blessed by another's response to their reaching out. One man recalled that “When I was a college student, I used to smile and greet the only other dark-skinned Mexican on campus (a small California college). The other students used to mock him for his [older] age, quirky personality, and appearance. We never had classes together so I never really got to know him. But at graduation he approached me tearfully and thanked me for my frequent smiles and greetings. He told me that often it was the only kindness he would experience for long periods at the college, and that it helped him get through.”

The bottom line: The simple story of the micro-friendship experiments can combine with students' own real-life experiences to instill an important lesson: Our reaching out to strangers—micro-prosociality—brightens others' days. And it brightens our own.



Henry Ho, an assistant professor at The Education University of Hong Kong, researches the psychosocial and emotional factors that support well-being at work and at home.

HENRY HO ON BUILDING PSYCHOLOGICAL CAPITAL

Henry Ho *Spotlight*

Current role: Assistant professor of psychology at The Education University of Hong Kong, 2017–present

Previously: Postdoctoral fellow at the School of Public Health of the University of Hong Kong, 2014–2017

Terminal degree: PhD in industrial and organizational psychology, City University of Hong Kong, 2014

Recognized as an APS Rising Star in 2019

Henry Ho is an assistant professor in the Department of Psychology of The Education University of Hong Kong (EdUHK). He conducts multidisciplinary research to address and optimize people’s psychosocial and emotional functioning in work and family domains by identifying protective factors and developing effective interventions to promote well-being.

Landing the job

To say that academia is a difficult career path would be an understatement, but I am fortunate that my academic career has gone smoothly so far. After I completed my PhD, I was employed in a postdoctoral position at the School of Public Health of the University of Hong Kong, where I led a large-scale randomized controlled trial. After almost 3 years of postdoctoral training, I felt that I was ready for the next adventure as an independent academic and started looking for faculty positions in psychology. When I saw that the Department of Psychology of EdUHK was hiring an assistant professor, I was eager to apply because there was no knowing when another opening would appear. I feel blessed that I was immediately offered a faculty position.

Cultivating personal strengths at work and home

My research synthesizes the knowledge obtained from positive psychology with industrial and organizational psychology as well as family psychology.

When I received the APS Rising Star Award, most of my existing research was focused on developing, implementing, and evaluating community-based positive-psychology interventions for families. Our research team collaborated with more than 100 social service units and schools and recruited more than 4,000 participants from all 18 districts in Hong Kong. This series of intervention studies and randomized controlled trials demonstrated that positively oriented individual capacities such as gratitude and savoring can be integrated with family activities to promote family well-being and health.

Recently, I applied this knowledge to the work context to identify personal strengths and virtues that enable employees to lead meaningful, enjoyable, and fulfilling lives despite facing challenges and adversities. For example, my recent work focuses on stereotypes and discrimination against workers on the grounds of their age, family status, or mental illness. I emphasize not only the factors associated with vulnerability to these workplace stressors but also the resilience factors and self-regulatory strategies that promote higher levels of well-being and performance.

Collective practices in the organization that promote compassionate support, caring, forgiveness, and dignity or respect can foster a positive work environment and, in turn, lead to desirable work outcomes. I disseminated my research findings with practical recommendations to enhance mental wellness in the workplace in the form of research reports for different industries, including social workers and secondary school teachers.

Uncovering career paths

I teach both undergraduate and master's-level courses, as well as supervise student research projects. In one of my courses, I present undergraduate students with the different types of jobs that psychologists do, the qualifications required, and the professional issues and practices involved. The objective is to engage students early in the career decision-making process.

My approach to helping students become independent researchers is to be compassionate and supportive but at the same time give them enough autonomy to experience the research process. Moreover, I am very keen to nurture my research assistants as early-career researchers. It is important to me that they join the team because they have a passion for research and that they have a clear career goal. In several of my recent publications, I have included my research assistants as coauthors to not only recognize their contributions but also give them a sense of ownership in the projects.

Becoming a H.E.R.O.

Findings from my own research suggest that psychological capital, which encompasses hope, efficacy, resilience, and optimism (HERO), is one of the most potent personal resources for confronting challenges, resolving problems, and promoting well-being in the workplace. Therefore, I would recommend that early-career researchers remain hopeful by considering multiple pathways to success, foster self-efficacy by building confidence in your skills, develop the resilience needed to bounce back from setbacks, and be optimistic that your hard work will be rewarded. Psychological capital is one of the necessary ingredients that enable researchers to flourish and thrive despite challenges and adversities.

A positive outlook

I enjoy conducting research about the challenges and difficulties that we face in our work and family life; the strategies that we use to regulate, cope with, and resolve them; and our psychological and emotional responses to these experiences. Testing hypotheses, generating new findings, and publishing in journals are the rewarding parts of my work. I also appreciate being able to apply my research findings to guide my own actions and outlook on life.

Pressure to excel

The most challenging part of my career has been, and continues to be, the need to multitask. As a faculty staff member, my primary roles involve a combination of teaching, research, and service. We are expected to excel in all three aspects, and there is no room for "average" performance. The pressure is immense.

Looking ahead

People working in urban areas experience various work-related stressors, such as long working hours, high work pressure, work-life interference, and social maltreatment, to name a few. I will continue to investigate the organizational- and individual-level factors that enable employees to flourish and clarify the underlying mechanisms of this process. Through disseminating research findings to the general public and engaging the practitioners, I wish to promote job satisfaction and well-being among employees across organizations and industries. ●

BACK YOURSELF

Reimagining graduate school skills for diverse careers

By Sally Larsen

We've all seen the stories: postdoc positions with hundreds of applicants, PhD-qualified university instructors remaining in adjunct positions for years, dwindling career opportunities for graduates with PhDs (Notman & Woolston, 2020). Add to this the feeling that as a graduate student, you haven't quite started life yet. While peers from high school have long since graduated into professional jobs and are now getting promoted and buying homes, we graduate students stare down the tunnel of years of remaining study and a very uncertain job market when we do eventually graduate. It can be dispiriting to find yourself apparently behind everyone else in the game of life and simultaneously at the bottom of the hierarchy in the academic world. In this hypercompetitive domain, it can seem as though only the very fortunate go on to those coveted tenured positions many graduate students hope for. We'd be forgiven for feeling that gaining a PhD is an extended exercise in painting ourselves into a corner: Yes, we are experts in our content domains, but if that expertise doesn't translate into future employment, we might wonder what all the hard work was really for.

An interesting comparison can be made between how we perceive the capabilities of students who complete college and go into professional careers and how we perceive the capabilities of graduate students. On completing a college degree, the former are considered employable: They have domain-relevant knowledge and a bunch of skills that can be applied and refined on the job. In short, they are professionals



capable of doing the jobs for which they were trained as students. Graduate students, on the other hand, despite following similar undergraduate pathways, are seen as trainees: perpetual students in need of guidance and instruction, rather than professionals with the skill to do the jobs we've signed up for.

Even graduate students themselves may start to believe this. A lack of experience in professional careers can sometimes hinder our perspective on what we are capable of doing and can diminish our perceptions of the value we have attained. I would argue that the many and varied skills that graduate students already have can be applied in many careers and, indeed, are highly valued outside the cloistered walls of academia.

We are self-starters.

It takes substantial intrinsic motivation and tenacity to even make it through the application process for graduate school, and the success of this process ultimately comes down to the student. Some of us have encouragement and help from prospective supervisors and mentors, but many of us don't and are instead motivated by our own desire to pursue an education at this level. Furthermore, graduate research degrees are not like undergraduate education. In undergrad, we gain knowledge through training: We are provided content to learn, and we learn it. Grad school, by contrast, comes with the expectation that we have the capacity to define and pursue our own projects, that we can identify our own knowledge gaps and work to fill them ourselves. Completing a PhD is a

Sally Larsen is a PhD student in educational psychology at the University of New England, Australia. Her research examines longitudinal patterns of literacy and numeracy development from middle childhood through adolescence. Before graduate school, Sally worked as a high school English teacher and a research project manager.

demonstration that we are capable of complex, independent work.

We are project managers.

Not only do we conceptualize our own graduate research projects, we also work on tight timelines in order to complete them. We often manage our own research or aspects of larger research projects. We problem-solve when research doesn't go as planned (and when does research ever go as planned?). We juggle multiple competing deadlines for multiple projects, grant applications, conference and paper submissions. We prioritize effectively to get all this done—and often we work long hours. Try applying corporate language to what we do as graduate researchers: We report progress, we achieve outcomes, we get results. This shift in perspective can help us identify our skills and underline how valuable and broadly applicable they are.

We can write!

Finishing grad school is all about writing: We spend inordinate amounts of time writing a dissertation and often several articles for academic journals. Over years, we refine the craft of writing suited to these academic formats. Clear and precise writing is not a skill to be sniffed at—all grad students know how difficult it is to get it just right. Some of us also spend time writing for different domains and audiences: science communication pieces for more general audiences, blog posts, or articles for the *Observer*, to name just a few. Presenting your work to nontechnical audiences is one way to help refine the art of writing, and it can help get your work out into the world in a way that's not possible in a dissertation or journal article format.

We are spectacularly good with technology.

Undergraduate training can provide some foundational skills in statistical

programs, but graduate students more often gain programming expertise during their PhD program. Many of us train ourselves in multiple programs. Not only do we learn how to run complex statistical analyses, but we also establish and maintain data sets, merge data, make figures for publications or presentations, and write code to document it all. More recently, we've also become experts at online communication: recording presentations via platforms such as Zoom, setting up remote meetings, and sharing workflow tasks via apps such as Trello. All these tasks, because they are so embedded in our day-to-day work, may seem like nothing, but technological skills are an integral part of all workplaces. This technological expertise and flexibility is highly valued, making us eminently employable.

Finally, we have serious levels of commitment, versatility, and perseverance.

We contribute to the positive culture of our workplaces via our participation in committees and mentoring of more junior students. We can speak in front of an audience, communicating complex information in engaging and relevant ways. We've thought carefully about the ethical implications of our work and can extrapolate these ideas to other domains.

Yes, graduate school is a long, hard slog, but completing a doctoral program says something about our ability to see projects through to the end and to persist in the face of seemingly insurmountable obstacles. The academic employment market is challenging in these times of uncertainty and ever-more-restricted budgets (Heffernan, 2020), and it remains true that not all graduate students who complete their PhDs will find employment in academia (Larson et al., 2014). With this reality in mind, it is worth taking a new perspective on the skills you've developed, or will go on to develop, in graduate school. Doing this one small thing can underline how very capable and qualified you are for your future career.

For more information on psychology doctorates making the switch to industry positions, see White and Stewart (2021). ●

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PITCH PERFECT: EXPLORING BLACK WOMEN'S EMOTIONAL COPING STRATEGIES



Okie Nwakanma
Fordham University

APS Graduate Student Affiliates put their persuasive powers to the test during the Pitch Perfect Three-Minute Thesis Competition at the APS 2021 Virtual Convention. Held for the first time in 2021, Pitch Perfect (sponsored by the APS Student Caucus) invited Graduate Student Affiliates to record a 3-minute video presentation on their current or proposed thesis or dissertation research that would demonstrate its significance to a nonscientific audience. Finalists, selected before the convention by a panel of judges, delivered their presentations before a live virtual audience on May 27.

Okie Nwakanma (Fordham University), who received first prize, spoke about how her upcoming research will spotlight the coping strategies Black women use to

Okie Nwakanma is a graduate student studying clinical psychology at Fordham University. She received her undergraduate degree in the history of science from Harvard University and has a master of arts in teaching from Relay Graduate School of Education.

deal with gendered racism, the simultaneous experience of racism and sexism.

“While we work to dismantle racist and sexist systems that perpetuate inequality, those of us that are most affected must protect our psychological and emotional health right now,” Nwakanma said during her pitch, adding that some coping strategies may be more effective than others. Internalizing a “Superwoman schema” that emphasizes strength, self-reliance, and self-sacrifice, for example, may improve self-efficacy, but it has also been linked to depression and anxiety, she explained. Certain emotion-specific strategies such as rumination and avoidance have also been shown to have harmful long-term effects.

Instead, Nwakanma said, emotional-approach coping, which involves intentionally processing and expressing emotions, may help Black women deal with gendered racism in a way that protects their psychological well-being. Despite this potential, little research has focused on Black women’s use of emotional-approach coping in response

to discrimination, a gap that Nwakanma aims to address through her thesis project. This study will investigate how emotional-approach coping impacts the relationship between gendered racism and psychological distress using survey data in addition to in-depth interviews with participants, she said.

“This approach grounds statistical results in Black women’s real-life experiences, which is particularly important given their limited inclusion in the existing literature,” she said. In addition to spotlighting how Black women may already use emotional-approach coping in their day-to-day lives, this work could also help to inform future therapeutic interventions.

“This research emphasizes the oft-forgotten truth, eloquently stated by Dr. Nyasha Junior, that Black women are human—we need love and care like everyone else,” Nwakanma said in closing.

Nwakanma’s first-place prize includes a \$200 travel stipend as well as free registration to the 2022 APS Annual Convention in Chicago. ●



See a recorded video of the Pitch Perfect Competition with this article at psychologicalscience.org/nwakanma.

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