

Observer

Vol. 31, No. 4 • April 2018

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The Study of Anonymity and Behavior

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Making and Remaking Memory:
Past, Present, and Future
LYNN NADEL
The University of Arizona



Bring the Family Address
The Paradox of Diversity:
Promise, Pitfalls, and
Implications for Racial Progress
JENNIFER RICHESON
Yale University



Presidential Symposium
Memory: From Neurons to Nations
SUPARNA RAJARAM
Stony Brook University,
The State University of New York (Chair)

DORTHE BERNTSEN
Aarhus University, Denmark

CHARAN RANGANATH
University of California, Davis

HENRY L. ROEDIGER, III
Washington University in St. Louis

QI WANG
Cornell University



Henry L. Roediger, III, will be featured in the Inside the Psychologist's Studio program at this year's convention. He will be interviewed by his former student, APS President **Suparna Rajaram**



APS-David Myers Distinguished Lecture On
The Science And Craft Of Teaching Psychological Science
Improving the Use of Psychological Science in K-12 Education

DANIEL T. WILLINGHAM
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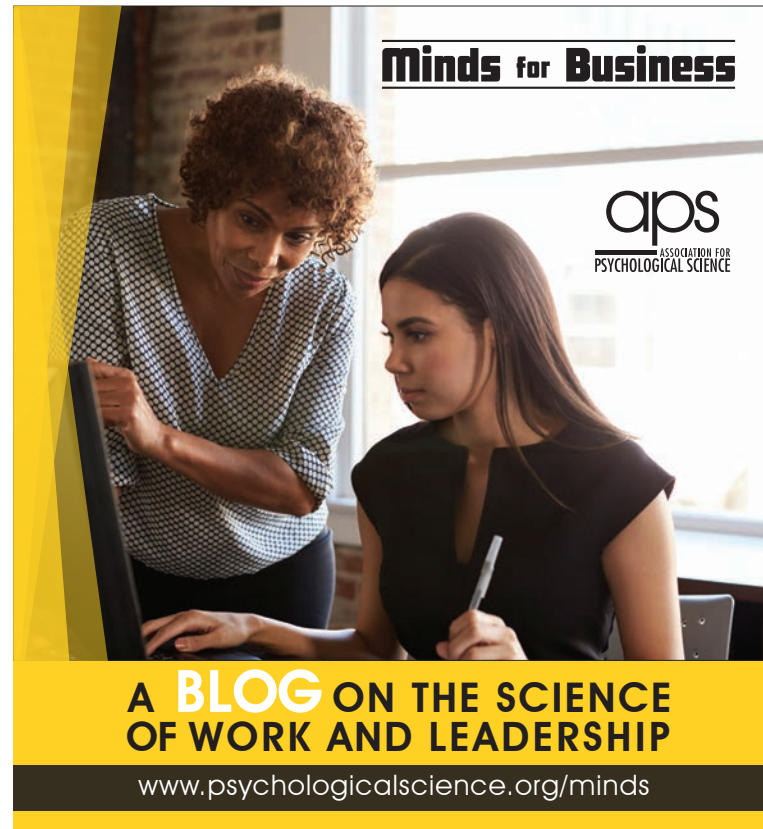
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FEATURES

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The Study of Anonymity and Behavior

A rich body of research has unmasked people's tendency toward abusive behavior when their identities are concealed, but recent studies have identified the positive features of anonymous interactions.

15**19***The Academic Observer****Anonymity in Scientific Publishing***

Is there room for anonymous submissions and reviews in the era of transparency in science? APS Past President **Henry L. Roediger, III**, provides some insights on that conundrum.

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**13***Science and Policy****Congress Stops NIH From Implementing New Clinical Trials Policy***

Responding to objections from APS and other stakeholders, US lawmakers have directed the National Institutes of Health to delay a new policy that would reclassify basic research involving humans as "clinical trials."

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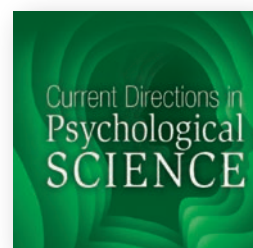


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On Collaborations: The Challenges

How do you establish independence in an era of growing collaboration?



Suparna Rajaram
APS President

Photo credit: Jeannine Neville

There are always going to be people who are experts in security or end-user devices or collaboration or databases. That's not going to go away. But what's the reason all of these professions come together? To help the business transform itself.

—Satya Nadella, CEO, Microsoft

In my March column, I wrote about how collaborations can offer exciting possibilities. These opportunities arise, for example, when collaborations advance independent, original lines of investigation or help test new integrative questions that emerge in each collaborator's own work. Or, when collaborations benefit several disciplines or investigators by providing access to expensive technologies as, for example, physicists have done so successfully. In this column, I want to share some thoughts on the challenges associated with collaborations, as I continue my conversation with early investigators.

In past issues of the *Observer*, thoughtful discussions have detailed not only the many gains from collaborations but also several important challenges that come up when we reach across areas of expertise and disciplinary boundaries. Many of these points remain salient even as we make strides toward an era of collaborative research. For example, deep and extended discussions among collaborators with different expertise sharply increase workload and time demands. It takes persistent work at the macrolevel to identify testable questions, and painstaking work at the microlevel to iron out the nitty-gritty details of varying methodologies. Collaborations also call for navigating different “cultural” practices across domains, interpreting findings from different perspectives, and aligning different vocabularies across areas of expertise. These are not easy problems to negotiate.

Beyond such challenges faced by collaborating teams, collaboration also poses some particularly thorny challenges for individual investigators. Scientists aim to make independent, original contributions to advance the field. Similarly, academic institutions pay particular attention to a scholar's independent record of original contributions and productivity

in tenure and promotion evaluations. Collaborations can potentially complicate the assessment of independent contributions. How can early investigators overcome this challenge?

Collaborations call for an important juxtaposition. We must be willing to learn and to teach. This means that we enter collaborations because we cannot answer a question based on our own expertise and tools — or at least cannot answer it as comprehensively as we could by partnering with colleagues. We need to learn from our collaborators. At the same time, in order for the collaboration to succeed, we must offer expertise that others do not possess.

The key then lies in acquiring knowledge in multiple areas of study while offering unique expertise in collaborative ventures. In other words, it is important we become experts in some areas of specialization even as we work on a collaborative vision. Such expertise could include fluency in multiple theoretical areas and methodologies, or it could be mastery over specific domains that are essential for advancing collaborative goals. This requirement — to establish unique expertise — is also crucial for success in the evaluation process for tenure, promotion, and related milestones.

There is also the matter of collaborating with senior investigators in the process of institutional evaluations. Reasonable people can offer sensible yet different views on this subject, but the opinions often go as follows: The opportunity to collaborate with a senior investigator is a clear vote of confidence. But this also makes it potentially difficult to assess credit due to the junior investigator. As psychological science becomes increasingly collaborative, these concerns are likely to diminish and departments are likely to become more experienced at assessing the nature of collaborations and contributions. Once again, establishing clearly defined expertise can help matters by making clear the unique contributions of individual scientists within the collaboration.

Collaboration with senior investigators can also pose a logistical challenge when it comes to the selection of referees for external evaluation in tenure and promotion cases. Collaborators are typically not included as objective sources of evaluation, and this can limit the pool of evaluators who fully understand the

candidate's research. Here too, as collaborations become more common and individual expertise becomes clearly known, better mechanisms can be put in place to achieve a 360-degree view of the candidate's work.

The question can be summed up as this: How do you establish independence in an era of growing collaboration? The answers will advance the growth of individual collaborators, the quality of collaborations, the goals of academic institutions, and the scientific process as a whole. ●

Further Reading

- Drew, A. (2017). 'Hello from the other side' at ICPS 2017: Editors answer researchers' questions about publishing integrative science. *Observer*, 30, 29.
- Jaffe, E. (2009). Crossing boundaries: The growing enterprise of interdisciplinary research. *Observer*, 22, 10–13.
- Sprunger, J. G. (2017). The benefits of engaging in collaborative research relationships. *Observer*, 30, 42–43.

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APS Celebrates 2018 William James Fellow Award Recipients

This year, APS is honoring pioneers in social and cognitive neuroscience alongside standard-bearers in language and development with the APS William James Fellow Award. 2018's class of recipients includes APS Past President **John T. Cacioppo** and APS Fellows **Jonathan D. Cohen**, **Barbara Landau**, and **Linda B. Smith**. The awards, which recognize a lifetime of intellectual contributions to the basic science of psychology, will be presented at the 2018 APS Annual Convention in San Francisco. Recipients will deliver award addresses at the convention.

Cacioppo, who passed away in March, was the Tiffany & Margaret Blake Distinguished Service Professor of Psychology and of Psychiatry and Behavioral Neuroscience at the University of Chicago. His work in social neuroscience synthesized fields from psychological science to neuroscience to biology. His research examined questions such as: "What defines the social process?" and "How do we know what we know?" During his career, Cacioppo explored the neural, hormonal, cellular, and genetic mechanisms involved in social lives and social behavior.

Cohen is the Robert Bendheim and Lynn Bendheim Thoman Professor in Neuroscience at Princeton University. His work in cognitive psychology and neuroscience includes his early work developing one of the first computational models of prefrontal brain function. His research provided the basis for new proposals on the role of dopamine in schizophrenia, one of the first contributions to what has come to be called computational psychiatry. Cohen also laid the foundations for modern fMRI research and helped establish the field of neuroeconomics with work in intertemporal choice, economic games, and self-control.

Landau is the Dick and Lydia Todd Professor of Cognitive Science at Johns Hopkins University. She studies human development of spatial cognition and language and examines how experience and genetic variation interact with the developmental process. She has studied sighted and congenitally blind children, along with children with Williams syndrome, to compare their visual and spatial development. Williams syndrome is a genetic disorder that impairs spatial cognition while leaving language intact. This work has revealed how some spatial concepts and related language can develop normally even in cases of visual deprivation and has informed Landau's proposed theory for atypical spatial representation and language development, which offers an explanation for the abilities and disabilities present in those with Williams syndrome.



John T. Cacioppo



Linda B. Smith



Jonathan D. Cohen



Barbara Landau

Smith is a Distinguished Professor and Chancellor's Professor of Psychological and Brain Sciences at Indiana University Bloomington. Her studies examine cognition and development through a complex systems view. She examines language learning and infants, looking specifically at the interactions of perception, action, and attention as they contribute to word learning. Smith has been a leader in incorporating techniques and technologies in her field, using head-mounted cameras, eye trackers, and motion sensors to find numerical patterns in infant and toddler behavior. These techniques have been used to study how objects, both named and unnamed, attention, and social interactions affect cognition and development in infants.

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No cost to ISIR attendees, with a joint reception that evening.

Please consult ISIR's website for submitting proposals for BSPID presentations, and for information about the BSPID meeting.

Lifetime Achievement Award Presentation

**Professors Camilla P. Benbow and
David Lubinski**
Vanderbilt University

Keynote Address

Professor Gregory Clark
University of California, Davis

*"Genetics Determines Social Status:
Evidence and Implications from an English
Lineage, 1750-2018"*

President's Invited Address

Professor Seth Grant
Edinburgh University

*"Madness, Genius and the Origin of the
Brain: Molecular Building Blocks for the
Behavioural Repertoire"*

Keynote Address

Professor Paige Harden
University of Texas at Austin

*"The Genetic Lottery: Genes, Education,
and Egalitarianism"*

Distinguished Contributor Interview

Professor Robert J. Sternberg
Cornell University

Holden Memorial Address for Distinguished Scientific Journalism

Dr Brian Boutwell
St. Louis University

*"Intelligence: The Easy Pieces (with
apologies to Richard Feynman)"*

Bryant, Hyde, Mayer Honored With James McKeen Cattell Fellow Awards



Richard A. Bryant



Janet Shibley Hyde



Richard E. Mayer

APS is honoring leading researchers in the areas of trauma, women's studies, and cognitive science with the 2018 APS James McKeen Cattell Fellow Awards. APS Fellows **Richard A. Bryant**, **Janet Shibley Hyde**, and **Richard E. Mayer** will be presented with the award — which recognizes APS members for a lifetime of outstanding research contributions that have addressed critical problems in society at large — at the upcoming 2018 APS Annual Convention in San Francisco.

Bryant, Scientia Professor of Psychology at the University of New South Wales in Sydney, Australia, is known for his innovative research on the behavioral, cognitive, genetic, and neurological mechanisms underlying posttraumatic reactions. His longitudinal studies on psychopathological responses to trauma have resulted in novel intervention protocols employed by governmental and private organizations worldwide in the wake of natural disasters, wars, and terrorist activities, in addition to personal losses and debilitating physical injuries. Bryant has received numerous awards both nationally and internationally for his research and clinical work and is a Companion of the Order of Australia. Bryant's award address, "Trauma and Society: Why Social Factors Matter for Coping With Trauma," will focus on how the strength and support of our social networks can influence how communities respond to trauma.

Hyde, Helen Thompson Woolley Professor of Psychology and Gender & Women's Studies at the University of Wisconsin-Madison, has shaped the field of psychology of gender throughout her career. Her psychology-of-women textbook, *Half the Human Experience*, came to define the field at large when it was first published in 1976 and is currently in its ninth edition. Hyde's integral research on the psychology of gender differences has resulted in the striking

finding that more than three-fourths of previously published gender effects were small or negligible, empirically countering beliefs about gender differences. She has been recognized by the Association for Women in Psychology with the Pioneer in the Psychology of Women Award, and by the International Council of Psychologists with the Denmark-Grunwald Award for outstanding contributions to the psychology of women and gender. Hyde's award address, "Men Are From Earth, Women Are From Earth: The Science of Gender Differences and Similarities," will outline how, contrary to popular media, scientific data continue to suggest that gender similarities are far more common than are differences.

Mayer, Distinguished Professor of Psychology at the University of California, Santa Barbara, has made foundational contributions to the cognitive science of multimedia learning. The most cited educational psychologist in Google Scholar, Mayer and his colleagues have identified 12 principles of design for online learning environments that have significantly influenced the course of computer-supported learning outside the classroom. He is currently investigating how video games and social cues, such as polite speech and gesture, can be used to enhance learning. In addition to being ranked the most productive educational psychologist in the world by *Contemporary Educational Psychology*, Mayer has received the Sylvia Scribner Award for outstanding research in learning and instruction from the American Educational Research Association and the David H. Jonassen Excellence in Research Award from the Association for Educational Communications and Technology. Mayer's award address, "Applying Psychological Science to Educational Computer Games," will explore how games can improve players' cognitive skills and aid learning in academic and conventional settings.

John T. Cacioppo, 1951–2018

APS Past President **John T. Cacioppo**, a cofounder of the field of social neuroscience and a 2018 recipient of the APS William James Fellow Award, died on March 5.

Cacioppo, the Tiffany & Margaret Blake Distinguished Service Professor of Psychology and of Psychiatry and Behavioral Neuroscience at the University of Chicago, studied the connections between the social and neural mechanisms underlying human behavior. He investigated how societal influences and personal relationships affect cognition and emotions.

Cacioppo's research focused on understanding the neural, hormonal, and genetic mechanisms that motivate humans to interact and their effects on the mind, behavior, and health. These pursuits all fall under the umbrella of the social neuroscience field that he founded in collaboration with APS Fellow **Gary Berntson** of Ohio State University. His most recent research focused on the adverse effects of social isolation and loneliness on our well-being.

APS named Cacioppo a recipient of the William James Fellow Award in recognition of his lifetime of significant intellectual contributions to the basic science of psychology. His other honors include the National Academy of Science's Troland Research Award, which he received in 1989 in recognition of his outstanding scientific achievement in experimental psychology.

As APS President from 2007 to 2008, Cacioppo authored a presidential column on psychological science as a hub discipline. That column continues to be among the most influential and widely read articles on the importance of collaboration and multidisciplinary research.

In 2013, Cacioppo was among some of the world's leading figures in psychological and economics research to gather at a White House workshop to discuss how to incorporate psychological empiricism into policymaking. APS was an organizer of the event, along with the White House Office of Science and Technology Policy, the National Institute on Aging, and the White House Council of Economic Advisers. The workshop, which included presentations from Cacioppo, Nobel Laureate and APS William James Fellow **Daniel Kahneman**, APS Past Presidents **Walter Mischel**, **Susan T. Fiske**, and **Elizabeth A. Phelps**, and APS Fellow **Robert B. Cialdini**, influenced the Obama Administration's creation of the Social and Behavioral Sciences Team to help the federal government translate scientific findings into solving practical policy problems.

Cacioppo founded the University of Chicago Center for Cognitive & Social Neuroscience and was the Director of the Arete Initiative of the Office of the Vice President for Research and National Laboratories at the University of Chicago. He and



Cacioppo presented his research in 2013 at a White House workshop organized by APS and US government officials.

his colleague, APS Fellow **Jean Decety**, played leading roles in the founding of the Society for Social Neuroscience in 2010.

Cacioppo served on various boards, including the President's Committee for the National Medal of Science; the Advisory Committee for the Directorate for Social, Behavioral, and Economic Sciences of the National Science Foundation; the National Institutes of Health Center for Scientific Review Advisory Council; the Expert Panel on Program to Reduce Social Isolation, Mary Foundation in Copenhagen; the Board of Directors of the Federation of Associations in Behavioral & Brain Sciences; the External Advisory Committee of the Beckman Institute for Advanced Science and Technology at the University of Illinois; and the US Department of Health and Human Services National Advisory Council on Aging.



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The Norms, They Are a Changin'

By Norman Gachia, PhD*

When APS asked me to write a short piece on changing Norms, I must say I was taken aback. Though I have been a part of it my whole life, I have never given the group of men named Norm much thought. What can psychological science gain from studying these Norms? Needless to say, I have grown fascinated with the Norm subculture since embarking on my journey.

The psychological scientific literature is full of descriptions of changing Norms, social Norms, and cultural Norms. I have only recently donned my academic hip boots and waded into these fascinating waters, but what I've found is sure to interest fellow Norms and non-Norms alike.

While cultural Norms have been shaping Western society for centuries, 1993 seems to have been the Golden Age for Norms on network TV. It was the swan song for Norm Peterson, "Cheers" regular. 1993 also saw the "Saturday Night Live" debut of deadpan dynamo Norm MacDonald. The number of Norms regularly appearing on network television peaked in 1993 but declined by 50% in 1994 and shrank to 0 in 1997, the beginning of the "Normcession." Thirteen years later in 2010, Norman Reedus's success on "The Walking Dead" marked the beginning of the "Norm Renaissance." The highest-rated cable show ever would no doubt suffer without its resident cultural Norm.

Some of our most prominent researchers in psychological science have realized the outsized effects of Norms. In a 2006 *Perspectives on Psychological Science* article, "Toward a Psychology of Human Agency," APS William James and James McKeen Cattell Fellow Albert Bandura writes that social Norms are one of the primary determinants of good and bad learning environments. If it falls to us Norms to do this, I'd say we're up to the challenge. I won't be the first Norm to set a good example for students of today and tomorrow, but I'm happy to play my part. After all, this Norm got a PhD. Don't that make you want to stay in school, kids?

A research report in *Psychological Science* from 2007, "The Constructive, Destructive, and Reconstructive Power of Social Norms," was coauthored by APS Fellow Robert Cialdini. "The research has clearly established that social norms not only spur but also guide action in direct and meaningful way," the researchers write.

If my understanding of this work is correct, social Norms have great power to make products and behaviors more desirable. Evidence of this phenomenon abounds. In the summer of 2004, I bought a pair of running shoes and pitched in a



Norman Gachia

dollar to get one of those yellow Livestrong bracelets. Pretty soon, they were everywhere. Direct and meaningful.

In "A Sex-Positive Framework for Research on Adolescent Sexuality" from a 2014 issue of *Perspectives on Psychological Science*, Paige Harden writes that people are often subject to negative social consequences when they violate sexual Norms. I should hope so!

My research has also led me to a disturbing conclusion, however. I have independently confirmed that numbers of Norms are dwindling. In the United States, popularity of the name Norman for boys peaked in 1937 but dropped out of the top 1,000 names in 2005. While they may be rarer these days, this April, I hope you will reflect on the Norms that have shaped your lives, and give thanks. ●

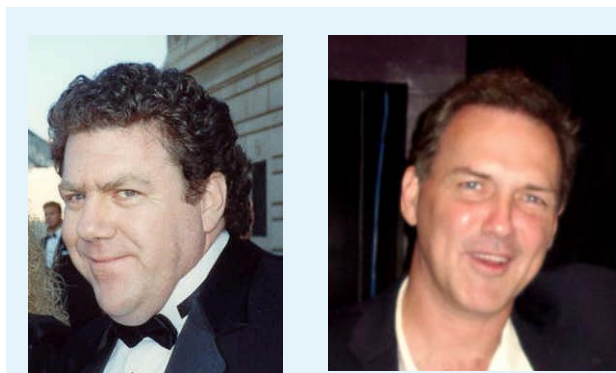


Figure 1. Cultural Norms of the Golden Era.

*Happy April Fool's Day!

Congress Stops NIH From Implementing New Clinical Trials Policy

The US Congress has directed the National Institutes of Health (NIH) to "delay enforcement" of a new policy that would reclassify basic research involving humans as "clinical trials." Lawmakers concluded that the research community was not adequately consulted about this change and that the policy could have "long-term unintended consequences," including unnecessary regulations and the inappropriate inclusion of nonclinical trials in NIH's clinicaltrials.gov database.

APS has been a leading voice in opposing NIH's redefinition of clinical trials, which would have brought basic behavioral and neuroscience research under the umbrella of clinical trials and would have subjected those areas to unwarranted, costly, and time-consuming administrative requirements.

Although the general outline of the new clinical trials policy had been proposed for some time, basic researchers were unaware of it until June 2017, when NIH developed its operational definition of clinical trials as "a research study in which one or more human subjects are prospectively assigned to one or more interventions (which may include placebo or other control) to evaluate the effects of those interventions on health-related biomedical or behavioral outcomes."

This definition, "coupled with the requirement that applications be submitted under a clinical trial-specific funding opportunity announcement ... will certainly have a negative impact on basic behavioral science," wrote Sarah Brookhart, APS Executive Director, in a June 6, 2017 letter to NIH Director Francis Collins. "The undue burden placed on researchers, institutions, and NIH in terms of the application process, conduct of research, and monitoring requirements is enormous."

Wider opposition to the new clinical trials definition was slow to build, in part due to the arcane nature of the issue. It really boiled down to a few words in a larger set of rule changes. Further, basic researchers initially didn't focus on the problem because something labeled "clinical trials" simply would not have been on their radar. That was the Catch-22 aspect of this issue. However, once the research community became aware of the issue there was unprecedented opposition, including a petition signed by more than 3,500 researchers, including many leaders of APS.

Opposition mounted throughout the summer of 2017. There was even news coverage of the community's concerns in *Science*. Unfortunately, in its responses to APS and others, NIH dismissed the community's concerns as unwarranted and too late — the policy would go into effect as planned, they said.

In early September 2017, APS first alerted Congress to the deleterious impact of NIH's redefinition of clinical trials, telling members of the House and Senate appropriations committees that "NIH has expanded its definition of clinical trials in order to increase participation of federal grantees in clinicaltrials.gov, a registry for presenting the findings of clinical studies. While this is intended to meet the laudable goal of increased transparency, this change will have a serious and negative impact on basic science and significantly increase the regulatory burden on Universities and researchers. There are other less disruptive ways to meet the goal of increased transparency."

In providing additional background, Brookhart indicated that "the inappropriate classification of basic science as clinical trials has the potential to set back scientific discovery because of its impact on individual investigations, on research institutions, and on NIH itself."

We are asking that NIH (1) set aside its new definition of 'clinical trial,' and (2) work with the scientific community to develop a means for allowing public access to research findings from basic studies without insisting the research be labeled as clinical trials," she added. "This would in no way prevent NIH from moving forward with efforts to increase participation by true clinical trials in clinicaltrials.gov and it will avoid the serious problems that we have outlined."

Fortunately, APS's message resonated with Congress, which has instructed NIH not to enforce the new policy except for studies that were clinical trials under the prior definition, and has told NIH to consult with the affected areas of science and to report back to Congress. These directives were conveyed as part of the Omnibus budget that the House and Senate passed March 22. President Trump signed the bill.

Excerpt from the Joint Explanatory Statement to the Consolidated Appropriation Act, 2018 (a.k.a. the Omnibus Agreement), section on the National Institutes of Health:

Clinical Trials Definition: The agreement appreciates efforts NIH has taken to increase transparency and improve oversight of its clinical trials and recognizes that the results of NIH-funded clinical trials have not always been reported in a timely manner, reducing the potential benefit from the findings. The agreement urges NIH to continue to address this problem through enhanced registration and reporting through ClinicalTrials.gov. There is concern, however, that in addressing this issue, many fundamental research studies

involving human participants are being redefined as clinical trials without sufficient notification and consultation with this segment of the research community. Fundamental research is critical to the NIH mission and of value to the public, and there is concern that policy changes could have long-term, unintended consequences for this research, add unnecessary regulatory burdens, and substantially increase the number of studies in the clinicaltrials.gov database that are not clinical trials. **For fiscal year 2018, the agreement directs NIH to delay enforcement of the new policy published in the Federal Register on September 21, 2017 including NIH's more expansive interpretation of "interventions" in relation to fundamental research projects involving humans.** [emphasis added] The new policy should go forward for research projects that would have been considered clinical trials under the prior policy. This delay is intended to provide NIH sufficient time to consult with the basic research community to determine the reporting standards best suited to this kind of research. The agreement directs NIH to provide the Committees on Appropriations of the House of Representatives and the Senate a plan and schedule for

soliciting comments and input from the research community within 30 days of enactment of this act, and brief the Committees on the results of these consultations and next steps by June 22, 2018.

Congress is very supportive of NIH as the world's preeminent health research agency, just as APS is a loyal constituent of NIH and works to strengthen support for its budget. However, as seen by the report language above, Congressional appropriators also recognized the community's concerns that there was a disconnect between the stated objectives of the proposed clinical trials policy and the move to include basic research under that policy. NIH still has not provided sufficient rationale for a change that had potential for such far-reaching negative consequences. However, APS will continue to work with NIH and Congress on this issue to help develop solutions that address NIH's objectives while advancing basic behavioral research relating to NIH's public health research mission. ●

Additional Background

NIH redefines clinical trials, attracting critics. *Science*, July 21, 2017.

Scientists hate the NIH's new rules for experimenting on humans. *Wired*, January 26, 2018.

Who Is That?

The Study of Anonymity and Behavior

In 1969, APS Fellow Philip Zimbardo of Stanford University dressed female students in lab coats, some plain with identity-concealing hoods and some with name tags and no hoods. He told the students to give an electric shock to a confederate. The hooded participants were twice as likely to comply.

Zimbardo's study was a formative piece of a rich body of research showing a link between anonymity and abusive behavior. Scientists have found a tendency for many people to act rudely, aggressively, or illegally when their faces and names are hidden.

More recent studies, however, have identified the positive features of anonymity, including digital interactions that might be overlooked in the midst of the attention that "trolls" and hackers receive. Just like face-to-face gatherings in support groups like Alcoholics Anonymous, the Internet has offered people a chance to self-disclose and offer support without showing their faces or giving out their real names.

Behavioral studies on the role anonymity plays in online interactions have yielded mixed results. Overall, researchers have found that anonymity can reveal personality traits that face-to-face interactions may hide, but that it also allows strong group rules and values to guide individual behavior.

Group Coverage

In 1981, social psychologist Leon Mann demonstrated how being in a crowd can lead people to behave not only offensively, but violently. Mann studied newspapers from 1964 through 1979 to examine reports of apparent suicide attempts — specifically cases where someone threatened to jump off a tall building, bridge, or tower. Mann narrowed the reports to 21 instances that included crowds at the scene and found that in 10 of the cases, people encouraged the suicidal person to jump, and in three of the instances actually jeered when rescuers prevented the death. Mann found one instance in which the crowd screamed obscenities and threw stones and debris at the rescue squad. Factors such as the crowd's physical distance from the potential jumper (enabling their jeers to be heard but leaving faces impossible to identify) and the cover of darkness made the onlookers feel anonymous in ways that wouldn't arise in different types of crowd settings.

This phenomenon can also play out on crowded city streets and highways. Psychological scientist Patricia Ellison-Potter of the US National Highway Traffic Safety Administration, for example, has demonstrated in driving simulation experiments that people are more likely to drive aggressively when they are less visible (e.g., when driving in a car with tinted windows)

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than when they can be seen by other drivers (e.g., driving an open-top convertible).

Such group behavior is alive and well on the web. 4chan is often considered the putrid basement of the Internet, serving as a hub of racist, sexist, homophobic, grotesque images and text. 4chan's mostly anonymous users are known for trying to one-up each other, disgust and "troll" new users, and show that they have the lowest threshold for decency. They have conspired to harass the parents of a teen who killed himself and to flood epilepsy message boards with images that flashed suddenly and included patterns intended to induce seizures. While the site originally operated without moderation or any policing, 4chan site operators had step in to block child pornography from being distributed on the site.

A 2012 study from Marek Palasinski at the University of Lancaster in the United Kingdom tested males observing a mock chatroom that they were led to believe was real. The men were less likely to intervene after seeing an "older male" ask a "minor female" for personal details and nude photographs when a chatroom was composed of strangers rather than acquaintances, and in a room with many other users rather than just a few.

In a revealing 2001 study, Dutch social psychologist Tom Postmes and colleagues found support for the idea that behavior is shaped by the social identity of the group. Groups were asked to brainstorm solutions for a hospital having trouble meeting the needs of patients. Some anonymous groups were unknowingly primed with efficiency ideas, and they came up with efficient solutions for the hospital. When primed with friendly, positive, and helpful ideas, other groups came up with patient-oriented solutions. When the groups were not anonymous, this priming effect disappeared. Turns out, the room you're in can matter a lot.

In 2016, Postmes joined a team of psychological scientists, including APS Fellow Russell Spears (University of Groningen), in writing a short letter on the topic of anonymous groups for the journal *Behavioral and Brain Sciences*. In their conclusion, they wrote, "a rounded survey of the evidence shows that the problems of 'bad' groups do not lie in a generic 'bad' group psychology but rather in specific 'bad' group norms. Violent groups normatively validate violent action. Conformist groups normatively invalidate critical comment."

These authors also offer a prescription: "The solution to problematic behavior of crowds and groups is to challenge and change toxic group norms." Fixing the problem of online aggression, then, may be a matter of figuring out how to mold the norms of a given environment.



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Anonymity and Social Cues

In a 2011 *Perspectives on Psychological Science* article, Jacob Hirsch, APS Fellow Adam Galinsky, and Chen-Bo Zhong write that people in anonymous settings tend to act on their natural disposition. Everyone can feel a sense of anonymity in a crowd, they say, but research suggests the aggressive individuals are the ones most likely to escalate violence.

Similarly, among Finnish spectators surveyed at a hockey game in 1997, individuals who self-reported that they would be more likely to break up a fight in the stands had lower measures of personality aggression than those who report they would not intervene.

Social cues, however, may also shape an anonymous person's behavior. In 2016, psychological scientists Adam Zimmerman of Florida International University and Gabriel Ybarra of the University of North Florida studied aggression in players of an unwinnable game. "Social modeling" was shown to have a large effect on their behavior. Anonymous participants responded more aggressively when they witnessed examples of aggression, and less so when they did not.

One-on-One

It doesn't take the protection of a group to unleash the nasty nature of anonymity. A 2016 study led by Christopher Bartlett of Gettysburg College surveyed college students and found that over the course of an academic year, people who felt that their identity was concealed online were more likely to report engaging in cyberbullying behavior and holding positive attitudes toward cyberbullying (e.g. "It's okay if someone deserves it.").

In Zimmerman's aforementioned 2016 study of player aggression, participants wrote about their experience playing the unwinnable game, and those with anonymous partners wrote more aggressively about those partners and rated themselves as being more tempted to humiliate or slap their partners on a survey compared to non-anonymous participants.

"It's very easy to take this shadowy image of this other person online and start using that to create this internal dialogue where you unleash all your stuff on this other person," says John Suler, a professor of clinical psychology at Rider University.

Suler, a pioneer in the field of cyberpsychology, published *The Psychology of Cyberspace*, a widely-used textbook on the psychology of the Internet, in 2001. He followed that book up in 2016 with *Psychology in the Digital Age*, which focuses on improving well-being in the context of our computer-centric lives.

When researchers have dug into the source of toxic behavior on the Internet, they have found it may not be anonymity itself, but the degree of obscurity, that influences an individual's conduct. In 2012, psychological science researchers in Israel found that partners communicating by computer exhibited high rates of verbal aggression, what they called "flaming," in many anonymous or semianonymous conditions. When they were completely anonymous in a computer chat, when they used their real names, and when they could see each other's bodies from the side, verbal aggression was high, but not when a video put the two partners in eye contact. This suggests that eye contact may mark a major

factor that separates aggression and cordiality — even when two strangers are locking eyes on screen.

Safe Sharing and Support

While anonymity may make it easy for people to act antagonistically, unprofessionally, or unethically, research has shown it can also make people unusually forthcoming and helpful. A 2010 study by University of Toronto researchers Vanessa Bohns and Zhong found that, in dark rooms versus bright ones, people were more likely to point out that strangers' pant zippers were undone or that they had food in their teeth, saving the strangers from possible embarrassment.

Sharing personal information and divulging secrets more frequently than in face-to-face communication is one of the most consistent findings of anonymity studies. Experiments and longitudinal studies in teens show that relationships started and maintained online are as stable and deep as relationships offline and that instant messaging and other communication technologies help people maintain relationships.

Clinical psychologist Sara Erreygers of the University of Antwerp in Belgium led a 2017 study looking at patterns of behavior in over 2,000 adolescents. She and her colleagues followed a cohort of 13-year-olds and found that being a cyberbully or being bullied doesn't reliably predict future bullying behavior, but positive behavior does have a "positive spiral" effect. Good deeds online beget future good deeds.

And this benign behavior isn't limited to completely anonymous contexts. A study in Switzerland found that sharing and self-disclosure about self-harm, depression, death of a parent, bisexuality, and other sensitive topics were high on YouTube video blogs, where users are not face-to-face, but are visually identifiable and occasionally use their real names.

Suler finds some paradox in such findings.

"On one hand, you feel protected and safe because your identity is unknown to the other person," he says, "but then you want to reveal all sorts of intimate things about yourself."

This type of Internet behavior doesn't seem to depend on the same aspects of communication as toxic online behavior does. The same researchers who tested which aspects of computer communication cause rude behavior ran a similar study on benign ones. They found that eye contact, which was a key variable in determining "flaming" online, wasn't the lynchpin for disclosure and prosocial behavior. ●

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Anonymity in Scientific Publishing

By Henry L. Roediger, III

We are entering a new age of transparency and openness in science. New scientific practices that would have been unthinkable to most of us even a decade ago are now becoming commonplace. One of my recently completed projects was fully preregistered on the Open Science Framework website, complete with predictions, reasons for possible exclusion of data, the analytic techniques to be used, and so forth. Well, yes, I am fourth author on the project and one of my recent PhD students, Adam Putnam, did all the work, but I will still bask in being part of the new wave in science.

Even though I have not been at the forefront of writing about all the new practices in science, I followed along from my perch as chair of the APS Publications Committee. (I stepped from that position a year ago, once *Advances in Methods and Practices in Psychological Science* (AMPPS) had been established.) I was edified by the various articles and e-mails I received, and then by the collection of blog posts and tweets forwarded by others, about the pros and cons of the new practices. I think the concept of “open science” and its transparent practices have a strong toehold in our field, at least, and are gaining momentum in all of science. The Center for Open Science (and its Open Science Framework) is one of many exciting developments. Transparent practices seem here to stay.

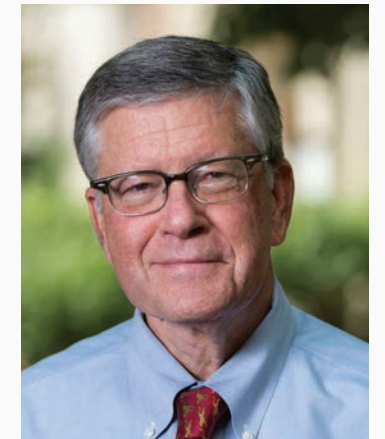
With one glaring exception: Transparency in publication practices. Some journals, such as the *Journal of Educational Psychology*, have initiated a “masked review policy, which means that the identities of both authors and reviewers are masked. Authors should make every effort to see that the manuscript itself contains no clues to their identities” (from the website). Other journals do the same. This procedure can present a problem for those people with a sustained record of research on the topic of the manuscript. Do you leave out self-citations from the references? I have seen that happen with a citation of “Author, 2011,” but of course that can itself be a clue to identity. Also, this practice of masking the authors conflicts with the idea from the open science movement of posting one’s paper for comments (free reviews)

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on a website before submission to a journal. Other journals permit authors to submit anonymously but do not require it, and other models are possible. I am not sure if the practice of anonymous submission is increasing, and I cannot seem to find data on the issue.

Should Reviews Be Signed? What About Action Letters?

Once a paper arrives in the editor’s office, it is either triaged (see, especially, *Psychological Science* in our field) or sent out to review. Most reviewers choose to be anonymous. I don’t, and I know other cognitive psychologists who sign their reviews, too, but I have been told that the practice is rare in other disciplines.



Henry L. Roediger, III

Why did I change? I edited a journal in the 1980s and became used to signing my action letters, so I saw no reason to change that practice for reviewing. I thought, and still think, that signing encourages me to write more thoughtful and respectful reviews. Of course, the practice leaves me open to receiving critical responses from recipients of my reviews. A year ago, I reviewed a paper on an old issue in the psychology of memory that did not cite relevant research, so I took a few paragraphs to provide a tutorial review that I thought might be helpful. One of the authors wrote to me and the action editor to say that he found the tone of review offensive; in particular, he found my review “condescending.” I wrote back an apology and said I thought I was being “educational.” But I went back to my review and, sure enough, the reviewer had a point regarding the tone of the review. In my defense, I was annoyed at reviewing a paper on an issue (not even one that I studied) by authors who showed little appreciation of the literature. The hazard of signing reviews is having your reviews reviewed, but that’s fine with me. Transparency. Why snipe at others from behind a rock?

I recently was asked to serve as an editor for two papers for the *Proceedings of the National Academy of Sciences* (PNAS). Authors are identified to the editor when they submit papers. The editor-in-chief (or maybe a senior staff person) assigns it to a more specialized associate editor. If the paper is not triaged at these early stages (50% are), the associate editor asks someone more specialized (me, in this case) to serve as action editor for the paper. In the most recent case, I chose several reviewers, and rather quickly the reviews came back. PNAS does not permit identification of reviewers to authors, but they are put on a tight deadline — 10 days — for submission of reviews. I had read the paper, so when the reviews came in, I read them a couple of times, read the paper again, and wrote an action letter.

I asked to see how the eventual package looked when it was returned to the submitting author. I found what I had been told to expect: The entire set of information came from PNAS, but neither the reviewers nor I were identified. From the authors' perspective, some shadowy presence emerging from PNAS had made pronouncements about the publishability of their paper. In my experience, this takes anonymity to a new level, but perhaps this practice is common in some fields of science. If the paper is eventually accepted and appears in PNAS, I will be identified in a footnote as the action editor who handled it.

I wondered why there has been so little discussion of anonymity in submission and reviewing in the new transparency movement, so I wrote to several friends who have been more deeply involved in the open science movement, and I asked them. Had I just missed the relevant articles? I was told that their entire community is having heated debates about the merits and demerits of transparency in submission and reviewing, but more on Twitter, blog posts, and the like that I don't read. Let me consider some of the issues, even if briefly.

Anonymous Submissions

Concerning submissions, the argument is that anonymous submission (assuming it works) aids researchers who are starting out, who are not at the most well-known universities, who may be from another country, and so on. Making submissions anonymous may give such investigators a shot at a fairer process than they might otherwise receive. I think this is a reasonable argument, but there are counterarguments. For one, many reviewers really bend over backward to help young researchers or ones who are not native English speakers, especially if they see a reasonably good paper that needs some reshaping. If the reviewer does not know who submitted the paper, she or he might just write a short negative review without trying to be particularly helpful. Also, sometimes knowing the author might make a difference. Suppose a paper arrives in the editor's inbox and its message is that several experiments have provided devastating rebuttal of Snerdley's important theory of something-or-other that he has been pushing for years. It might be worth knowing if Snerdley, rather than Snerdley's long-time critic, is the author.

Yet the bias can go in the other direction. A famous researcher may get a mediocre paper accepted simply based on reputation, as if the logic is, "Oh, it's a paper by X, so it must be a good paper." This may be less likely to occur with anonymous review — except that, of course, the editor knows who the author is and is the one making the decision about publishability. I have heard of cases in which, when a paper was triaged, the editor gets a note that essentially says, "Don't you know who I am?" And the answer is yes, and I just desk-rejected your paper.

Another issue, raised by a commentator on this column, is that anonymous submission may encourage authors to submit essentially rough drafts of their paper, thinking, essentially, that the reviewers will not know who they are, so why go through those extra two revisions to comb out all those small problems? The reviewers will do that. That is not fair to reviewers or the editor.

At any rate, I can see the issue of anonymous submission either way. Pros and cons exist, and as usual it depends on how one weights them. Researchers can vote with their feet (as it were) by choosing to submit or not submit to journals requiring them to make their papers anonymous.

Signing Reviews

I used to encourage people to sign reviews, but after numerous discussions, I've backed off. Good counterarguments exist. Signing represents a danger to young scholars who might be advising rejection of a paper of someone senior who will later be asked to write a reference letter for the reviewer's tenure case. Or that senior person may later be editor and get even when the young scholar submits a paper. (Yes, we would like to think these things do not happen, but we know better.) That problem exists at the senior level, too. I do think signing reviews makes the reviewer read more carefully, think harder, and be more civil. Yes, when reviewers sign, perhaps they become too polite. One problem noted by editors is that a reviewer will write a lukewarm-to-warm review, but then in the checklist of recommendations and the private note to the editor, will say the paper should definitely be rejected. This makes the editor look like a jerk for rejecting the paper over slightly positive reviews. I try never to do that in writing reviews, and I usually do not write private comments to the editor; my review says what the editor needs to know. At any rate, I still always sign my reviews unless the journal prevents it, which some do. They take my name off, which is odd. One of my friends who also signs told me that he refuses to review any longer for a journal if they follow this practice.

In discussing the issue of signing reviews over the years, I have found some people who always sign, and some who at some point went from not signing to signing. However, I also discovered other people who used to sign reviews but now do not sign them, and they give good reasons. I have come to the conclusion that it is simply an individual choice. I wrote an earlier column about reviewing in which I provide

12 tips. Perhaps the most critical one is to have the goal of reviewing a paper using the same tone as if you were going to sign it and be identified. Also, never, ever choose to sign your positive reviews and not your negative ones!

The Editor's Role

What about the editor? Is there any reason for an editor not to sign his or her name, other than not wanting to get push-back? Not that I know of. *Psychological Science* has begun the practice of putting the name of the action editor accepting the paper with the publication, which I think is a good practice. *AMPPS* will do the same. Other journals should follow suit, in my view. Some journals publish reviewers' names, too, but that can be a fraught practice. If someone writes a negative review and the paper is accepted because of other positive reviews, the person's name appears with the paper as if he or she endorsed it, too.

One interesting model comes from the *BMJ*, formerly the *British Medical Journal*, which has the most open publication practices I have found (see <http://www.bmj.com/about-bmj/publishing-model>). Briefly, each article not triaged is considered by peer reviewers and several editors. Reviews are signed and are made public (with the authors' responses to reviews) when the paper is published. All people are identified in the process (editors and reviewers are identified). This process takes transparency to a new level, one at the opposite end of the spectrum from PNAS.

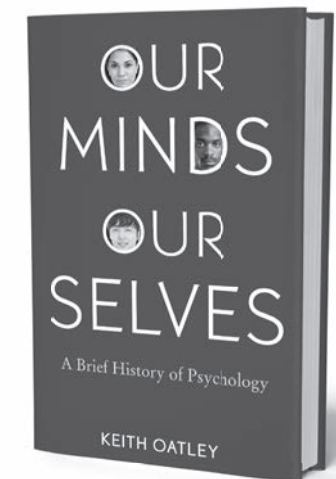
The editor has a critical role in the whole process. The obvious part is that the editor makes the decision about publishability. The less obvious role is that the editor selects the reviewers. When I was associate editor and then editor of the *Journal of Experimental Psychology: Learning, Memory and Cognition* in the 1980s, I felt as if I could strongly bias the eventual decision on a paper just by selection of reviewers. Editors get to know that some reviewers dislike most every submission, and others have a positivity bias. Selection of fair reviewers is a critical step, and editors tell me that it is getting harder to get good reviewers (perhaps due to the proliferation of journals).

A Thought Experiment Realized

Years ago, around 1990, Endel Tulving and I were chatting in my office at Rice University, discussing the issue of anonymity in science, the desire to make scientific submission and review anonymous "for protection." Endel proposed the thought experiment of having two types of journals. In the alternate universe of journals, authors would identify themselves to reviewers, reviewers would identify themselves to authors, and editors would of course identify themselves. These would be the set of journals for open, transparent editorial processes (although we may not have used those terms in 1990). He wondered if scientific progress might not be greater if we had this kind of transparency in science. The thought experiment was to set up journals of both types

and see which one researchers would elect to use and which one would win in terms of people signing up for one or the other approach, for submissions, and for the discovery of new knowledge. But we agreed that time that we will never know the outcome.

Now I think we might. Journals in our field and across science are experimenting with various degrees of transparency in the editorial process. While consulting people in writing this column, I learned about various journals in numerous disciplines. On the one end, there is the *BMJ* model, though not yet employed by any psychology journals that I know of. (*Collabra*, the journal published by the Society for the Improvement of Psychological Science, has some of these features. See <https://www.collabra.org>.) On the other end, there is the *PNAS* model. And we see (and will continue to see) journals experimenting with other kinds of practices, such as requiring that all submissions be vetted by being posted on a website. Some journals (as now) forbid it, whereas others might encourage it (even require it). In due course, over the decades, such experimentation may lead to new models of journal publishing. Which journals will receive the best submissions? What forms of publication will survive? I would like to bet on more open practices, but I am often wrong in my bets. ●



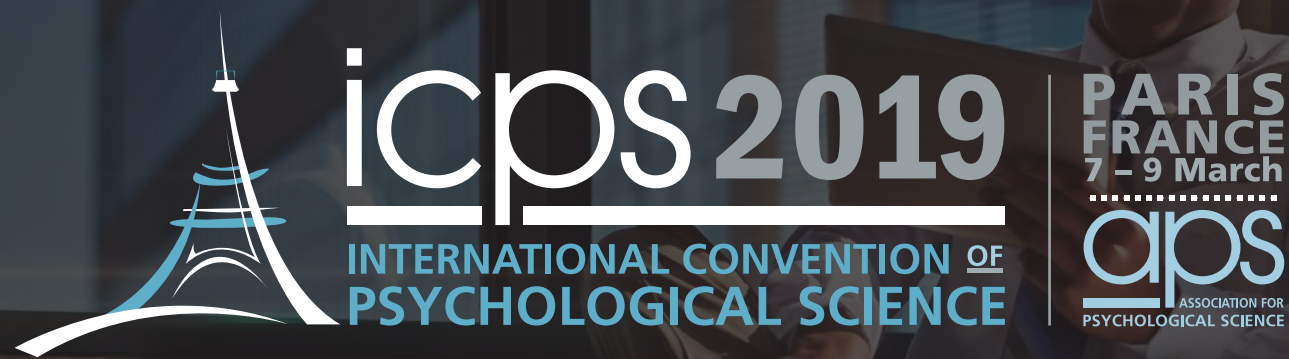
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APS Award Address

War and Peace and Stereotypes

Susan Fiske on How Income Disparities and Social Harmony Influence Intergroup Attitudes

How could the peaceful, egalitarian social fabric of Denmark have anything in common with the religion-based hostilities in Pakistan?

Although the living conditions that Danes experience may appear to be the polar opposite of those that Pakistanis face, both societies have cemented senses of friend and foe. Drug addicts and beggars are among the only outliers in Denmark's overall cohesive, homogenous society. In Pakistan, Muslims clearly stand as the in-group and Christians as the out-group.

APS Past President Susan T. Fiske is studying these extreme levels of peace, conflict, and income distribution as a way to expand on the stereotype content model (SCM) that made her a leading figure in social psychology. With her colleagues, she has applied her SCM — which she has empirically tested to explain the intricacies of bias, prejudice, and discrimination — to global measures of income disparities and social harmony. The results advance a new understanding of why cultural stereotypes and prejudices become so convoluted in pluralistic regions such as the United States and Latin America, yet so calcified in some of the most peaceful and war-torn regions on the planet.

Fiske, Eugene Higgins Professor of Psychology and Public Affairs at Princeton University, shared her findings in her APS James McKeen Cattell Award Address at the 2017 APS Annual Convention in Boston.

The Structure for Stereotypes

Fiske and her colleagues developed the SCM at the turn of this century. According to the theory, people are predisposed to evaluate other individuals, ethnicities, socioeconomic groups, vocations, and even corporations along the dimensions of warmth and competence: We favor people whom we see as trustworthy and competent, and snub those we see as suspect and inept.

"The first thing you need to know about another individual or about a new group ... is what their intentions are toward us," Fiske said. "Do they intend us good or ill? It's like the sentry who calls out in the night and says, 'Halt, who goes there? Friend or foe?' It's the first thing you need to know, and arguably it has survival mechanisms."

The second thing you need to know, Fiske continued, is whether or not a person can act on that intent — if they can't, they're inconsequential.



Susan Fiske

For certain groups and people, however, these judgments are not as one-dimensional. Although there are some variations from culture to culture, certain population segments (the elderly, people with disabilities) generally are found to arouse pity and fall into a warm yet incompetent category, while others (rich people, Ivy League scholars) may evoke envy and are regarded as cold but competent. Both envy and pity are ambivalent emotions. In contrast, pride (toward the middle class) and disgust (toward the homeless) are unequivocally positive or negative, Fiske noted.

"So the overall model is that the images of warmth and competence are caused by social structure — that is, people's perceptions of who is competitive and exploitative or cooperative determine who is seen as trustworthy and warm and, if they're high status or low status, that determines whether they're seen as competent or not," she said.

Fiske and her collaborators soon split these stereotype combinations into four quadrants:

- high warmth and competence;
- high warmth but low competence;
- low warmth and competence; and
- low warmth but high competence.

Two decades' worth of data collection from samples ranging from undergraduate students to respondents on Mechanical Turk to representative samples show this stereotype content applies to groups as disparate as immigrant populations (with variance from one country to the next), animals, and even corporations. Dogs and cats, for example, fall into the warm/competent quadrant, while cows and ducks sit in the warmth/incompetence space. Luxury brands such as Mercedes and Rolex score high on competence but low on warmth, while Amtrak is regarded as well-intentioned but inept.

In collaboration with researchers such as social psychologist Federica Durante, University of Milan-Bicocca, Fiske has begun examining sociopolitical factors that add more gradation to the SCM.

Mapping Global Valence

In a study published in 2013, Durante and Fiske collected and analyzed 37 datasets from 25 nations, encompassing SCM measures collected through questionnaires. They then combined all the data with the Gini index of income distribution of each nation.

The results showed a significant link between societal inequality and ambivalent stereotypes. In other words, people in economically unequal countries tend to place outgroup members in the warm/incompetent or cold/competent quadrants — as if unequal countries have more explaining to do.

The analysis also revealed two noticeable outlier groups — Israeli Arabs and residents of Northern Ireland.

“So what’s going on with that? How come they don’t fit the model?” Fiske asked. “Well . . . they’re both high-conflict countries. So maybe inequality is not the whole story. Maybe peace and conflict matter.”

The answers to those questions came in a separate study, the results of which were reported in 2017. Durante and Fiske led another international team that collected data, including warmth/competence ratings, from more than 4,000 people in 38 countries. They combined all the data with both the Gini index of income distribution of each nation and the Global Peace Index, a report produced by the Institute of Economics and Peace (an international think tank that measures the relative position of a nation’s peacefulness).

Matching the indices up with the SCM data, the researchers found that people in low-conflict, egalitarian countries such as Switzerland share a strong national identity but view outcasts such as undocumented immigrants or the nomadic Roma people with disgust. In extremely conflict-riddled regions, groups or factions share a common cause in their clashes with other groups. In Pakistan, for example, Muslims and educated people elicit positive stereotypes, while beggars, illiterate people, and Christians arouse intensely negative reactions.

“The extremes of peace and conflict predict unity — and univalent stereotypes,” Fiske said.

So what about pluralistic societies that deal with only moderate conflict, such as those in North and Latin America? Data showed that people tend to carry ambivalent stereotypes about groups in their own in countries where income gaps are wide and conflicts are moderate or subtle.

“There’s more ambivalence in places like the US and Mexico and Peru, where there’s a fair amount of income inequality and moderate

peace–conflict,” Fiske explained. “I think it’s not a coincidence that the Americas have a very long history of receiving immigrants, and so we have a complex story to tell about how our society works and how inequality works, about who’s us, who’s not us, who’s partially us, and on what dimension. So the ambivalence tells a story about the mixed-up soup that our society is.”

Fiske and Durante noted a few limitations of the research, including some difficulty encountered in collecting data from more than a few high-conflict countries. The results do not show causality, they added.

Nevertheless, the work reveals how stereotypes go beyond valence and are heavily influenced by income distribution and civil or multilateral relations, Fiske said in her award address. In the intermediate areas of income distribution and political stability, outgroups elicit a mix of positive and negative stereotypes. But the dividing lines between ingroups and outgroups harden when income imbalances are at their worst and when a nation is at an extreme of either peace or strife.

These measures can also predict the type of hostile or discriminatory behavior that certain groups endure from country to country, Fiske said. Much of that can be reversed by changing people’s image or understanding of the social structure, she added.

“For example, if you say there are immigrants coming to our country from the dregs of their society and they’re trying to exploit Americans and take away jobs, then you’re going to think those groups are disgusting,” Fiske said. “If you say the immigrants coming to our country are . . . very tough, determined, and competent to get here in the first place because we make it so difficult, and they grow the economy because they want to send money home, that’s a different structural narrative about why they’re here. Different stereotypes follow and different emotions follow.”

—Scott Sleek

To watch the video of Susan T. Fiske's award address, visit psychologicalscience.org/r/stereotypes.



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Integrative Science

The WEIRD Science of Culture, Values, and Behavior

Values and behavior go hand in hand — while ideals often move us to action, observing the actions and expectations of others can in turn inform our ideals. Values can vary widely across cultures, however, and the question of how those values translate into behavior remains.

“These are age-old questions, and yet continue to provide interest both in the general public and in the research community,” said Qi Wang, a professor of human ecology at Cornell University, during an Integrative Science Symposium at the 2017 International Convention of Psychological Science in Vienna, Austria.

Alongside four experts on human behavior, symposium cochairs Wang and APS Past President Walter Mischel (Columbia University) discussed the social, developmental, and anthropological perspectives on how individual preferences, societal norms, and multiculturalism shape our moral codes.

Between Two Worlds: Culture and Personal Preference

When Chi-yue Chiu, a professor of psychology at the Chinese University of Hong Kong, was pursuing his PhD in social psychology at Columbia University, he focused primarily on how individuals make decisions and influence their reality through their own actions. Since then, Chiu said, his conceptualization of the relationship between values and norms has evolved to account not just for personal choice, but for the unconscious influence of cultural context.

This phenomenon of corruption in Mainland China illustrates the power of unconscious normative influence on decision-making, Chiu said. When asked if they prefer to live in a corrupt society, most Chinese, predictably, said no. When asked how many people would pay a doctor a small sum of money in exchange for higher priority in treatment, however, the same participants said they believed most people in China would do it — and further, most said they would do the same.

“That is against the personal preference of the individual,” Chiu said. “Nobody wants a corrupt society, but they know that if they don’t do it, then they will be disadvantaged, because they expect other people will.”

When there is this kind of discrepancy between personal preference and social norms, people may only follow the cultural law when they feel their behavior is public, he added.

In a study of traffic behavior in Singapore conducted by Chiu and Letty Kwan, for example, analysis of a week’s worth of driving records from 600 city-dwellers found that, on aver-

age, even car owners who considered themselves ecologically aware only chose to use public transportation when they were traveling alone. These green impulses, Chiu said, appeared to be snuffed out in the company of others, perhaps due to the shared perception that those who drive are smarter, more educated, and higher class.

Thus far, the efforts of car-clogged cities such as Singapore, Beijing, and Los Angeles to alter citizens’ driving habits have borne little fruit, Chiu continued. When Singapore introduced a tax that significantly increased the cost of buying a car, it made driving an even greater symbol of wealth; meanwhile, when Beijing introduced a law allowing a given car to be driven only every other day of the week, commuters simply bought a second vehicle.

“We have tried to solve it using the principles of economics, we have tried to solve it through administrative procedures, and none of them worked,” Chiu said.

Perhaps Singapore will become a greener country by incentivizing taxi companies’ use of electric cars, he added, but the question of how best to champion individuals’ environmentally friendly attitudes over the ecologically destructive norms of their societies still calls for further study.

How Socialization Goals Shape the Brain

While the dominant norms of a society may shape our behavior, children first experience the influence of those cultural values through the attitudes and beliefs of their parents, which can significantly impact their psychological development, said Heidi Keller, a professor of psychology at the University of Osnabrueck, Germany.

Until recently, research within the field of psychology focused mainly on WEIRD (Western, educated, industrialized, rich, and democratic) populations, Keller said, limiting the understanding of the influence of culture on childhood development.

“The WEIRD group represents maximally 5% of the world’s population, but probably more than 90% of the researchers and scientists producing the knowledge that is represented in our textbooks work with participants from that particular context,” Keller explained.

Keller and colleagues’ research on the ecocultural model of development, which accounts for the interaction of socioeconomic and cultural factors throughout a child’s upbringing, explores this gap in the research by comparing the caretaking styles of rural and urban families throughout

India, Cameroon, and Germany. The experiences of these groups can differ significantly from the WEIRD context, Keller notes, with rural farmers — who make up 30% to 40% of the world's population — tending to live in extended family households while having more children at a younger age after an average of just 7 years of education.

Keller's surveys of mothers, fathers, and grandparents' socialization goals for the children in their immediate family unit found that while families of all backgrounds emphasized the importance of sharing, those from less industrialized parts of India, Cameroon, and Germany expressed primarily hierarchical socialization goals. These included a desire to impress the value of social harmony, obedience, and respect for the elderly on the next generation. Urban Indian and German families, meanwhile, placed greater emphasis on encouraging autonomy through developing personal interests, with families in Germany placing far less value on parent and grandparent authority overall.

“The WEIRD group represents maximally 5% of the world's population, but probably more than 90% of the researchers and scientists producing the knowledge that is represented in our textbooks work with participants from that particular context.”
Heidi Keller
University of Osnabrueck, Germany

These differing priorities were also accompanied by differences in parenting style, with German families exhibiting a preference for distal parenting — that is, interacting face to face with their child (for example by playing with a mobile or on a gym mat) — and Indian and Cameroonian families engaging in more frequent body contact, or proximal parenting, by keeping the infant with them throughout the day. Keller's observation of children in both groups found that these parenting styles led children down different developmental paths: distal parenting was found to enhance children's self-recognition, while proximal parenting aided social regulation in infants.

To test these findings, Keller and colleague Bettina Lamm (University of Osnabrueck) employed Mischel's famous marshmallow experiment, a measure of self-control in which children are promised two sweets if they can resist eating the first for a short period of time.

While German 4-year-olds struggled to resist temptation, rolling, hitting and even licking the candy in an effort to delay

gratification, experimenters in Cameroon had to bang on the door to the exam room at times to prevent drowsier children from falling out of their chairs.

In the end, 70% of Cameroonian children waited patiently to receive their second treat, while less than 30% of German youth managed to do the same. This suggests that early cognitive differences can significantly influence behavior as children age, Keller said.

“The socialization goals of the [Cameroonian] families, the values — to be obedient and to respect what the elderly tell you to do — is so much higher that they can wait,” she explained.

The psychological mechanisms responsible for children's development appear to be universal, she continued. Rather, it is the cultural emphasis on autonomous and hierarchical socialization goals that seem to result in this divergence in cognitive abilities and behavior.

Interdependent in an Independent World

Quick — your house is on fire. In one room, your mother. In the other, your spouse. You only have time to save one person — what do you do?

According to APS Fellow Hazel R. Markus, a professor of psychology at Stanford University, participants' answers to this seemingly impossible thought experiment often depended on which country the burning house was built in.

“The Americans, in the large majority, say they would save their spouse because their spouse was their choice, and is, of course, the parent of their children,” said Markus, reporting a study by Tsui-feng Wu, Susan Cross, and Chih-Wen Wu.

The majority of Taiwanese respondents, on the other hand, said they would prioritize their mother's life.

“It's obvious from the ideas and practices of filial piety that pervade the society,” Markus explained. “Mothers give you life, you're fundamentally connected to your mother, you begin with her. You have only one mother, you can get another spouse.”

Understanding the reasons for this cultural disconnect requires an awareness of how interdependent societies, which emphasize relationality and a pervading awareness and responsiveness to others, operate. While individuality and personal choice are valued highly in independent-minded cultures, this is far less common outside of the WEIRD context, even within the United States, Markus notes.

People require both independent and interdependent selves to accomplish the tasks of being human, but most have more experience with one way of being than the other. Women, people of color, and working class individuals, people under threat and those with less power in a given context are all more likely to have more practice and familiarity with behaving interdependently, Markus said, yet the majority of research still neglects interdependent agency— she refers to this blind spot as psychological science's “fundamental attribution error.”

“Psychological science ... is still dominated by a focus on individual preferences, goals, motives, and attributes as the

primary drivers of behavior and as a field we are still much less tuned in to obligations toward others — the expectations and attitudes of others, to the power of norms and to other-regulation as drivers of behavior,” Markus said.

This cultural bias against interdependence permeates the United States' educational and criminal justice systems. Independent agency is strong, valued, and scaffolded. Interdependent agency, on the other hand, is often dismissed as “weak” and “deficient,” and sometimes vilified as “nepotism,” “cronyism,” or “immorality” in a Western context, Markus said, but these patterns of behavior can have many normatively positive outcomes in environments that emphasize interdependence.

First-generation college students, for example, have been found to earn lower grades, have higher dropout rates, and to make fewer friends on average despite meeting the same entrance requirements as their continuing-generation peers. Most universities are “saturated” with independence, Markus noted. While WEIRD students may view college as a time for personal exploration, those from interdependent working class backgrounds — which tend to emphasize fitting in, observing hierarchy, and tradition — are faced with a cultural mismatch.

To ease this transition, Markus described several brief intervention studies that outlined the opportunities for interdependence on campus. One year later, first-generation students who participated in these interventions got better grades and were more integrated into university communities through close friendships, mentorships, and extracurricular activities than those who did not.

“We were encouraged by some simple tweaks that would allow universities to present themselves as places where students who are relatively more familiar and practiced with interdependence could feel comfortable,” Markus said. “If we're going to engage in instigating cultural change, or making a positive difference, we need to recognize and accommodate for interdependent agency.”

Sacred Values and Identity Fusion

It can be difficult to conceive of how an individual could come to condone, much less commit, the kind of mass violence encapsulated by events like the 2015 Paris attack or 9/11. There is a tendency, particularly among the parents of Western perpetrators, to depict the attackers as “brainwashed” or completely nihilistic, convinced that life holds no meaning, but that is not the case, said Scott Atran, a professor of anthropology at the University of Oxford and the University of Michigan.

“In fact the opposite is generally the case. They're often very deeply moral people, just as many National Socialists were. They actually believe in what they're doing, just as any truly revolutionary group does,” Atran explained. “Their claim is they're doing it because Western society is nihilistic: ‘They have no more rules, they have no more red lines, even for deciding who is a man or a woman.’”

Despite its reliance on violent terrorism, Atran, cofounder of ARTIS International and the Centre for the Resolution of Intractable Conflict at Oxford, said he considers the Islamic State a “classic revolution,” much like the Bolsheviks.

“History will only judge it a ‘terrorist’ group in the long run if it fails in the short term,” he said.

The attacks on civilian targets are designed, he explained, to “eliminate the gray zone between infidels and true believers in which most of humanity lives, including other Muslims,” forcing people to take a stand either for or against the Islamic State's otherwise indefensible actions.

“I don't like the word ‘terrorism.’ It's mostly just a method, of hitting ‘soft’ undefended civilian targets to undermine people's faith in government's basic responsibility to provide security” he said. “Without a claim to moral virtue, it's almost inconceivable to wish mass murder or to kill thousands innocent, of wanting to harm others.”

The kind of unyielding conflict present in the Middle East is best understood through a “devoted actor framework” that integrates research on nonnegotiable “sacred values” and identity fusion, a visceral sense of oneness and invulnerability within a group, Atran said. During his interviews with ISIS and al-Qaeda fighters on the frontlines in Mosul, Iraq, Atran presented them with a series of tasks intended to measure their perceptions and values.

In one case, participating fighters were asked to rate both the United States' and the Islamic State's physical and spiritual strength by manipulating the scale of personified versions of the American and ISIS flags. Fighters identified the US as a physically formidable, but spiritually middling, opponent, while portraying their own organizations as relying almost entirely on spiritual might.

The sacred values these fighters referred to are distinguishable from everyday morality, Atran said, in that they are immune to material tradeoffs, they blind believers to potential exit strategies, motivate them to abandon their families, and generate action independent of prospects for success. His team's brain scans of supporters of Lashkar-e-Taiba, an Al-Qaeda affiliate in Pakistan, have found that a willingness to fight and die for these beliefs is accompanied by a lessening of activity in areas of the brain associated with utilitarian reasoning in favor of rapid rule-bound responses.

“Civilizations rise and fall on cultural ideas, not materials assets alone, and most societies have sacred values for which their people would be willing to commit that ultimate measure of devotion,” Atran said.

Unlike mundane values, he added, sacred values are, for the most part, logically absurd and empirically unverifiable, imbuing them with a transcendental quality that can't be rejected through reasoned debate. This is true for religious ideas like those that motivate the Islamic State, as well as for secular transcendental ideologies, like those that motivate the Marxist-Leninist Kurds of the Kurdish PKK, he continued.

“I think one of the biggest mistakes in public diplomacy is the idea that you're going to have counter-narratives and



somehow this is going to oppose the ideology of jihadism,” he explained. “It’s much more important to be counter-engaged in working with the particular interdependent social networks that give life to ideas, of these actors themselves. Resistance to the spread of noxious ideas is built within a community of interdependent social networks.”

Recruitment by the Islamic State, like Al Qaeda, “still relies most heavily on penetrating into pre-existing social networks of friends, family, and fellow travelers” throughout the radicalization process. Women also play a key role, supporting these networks “completely under the radar,” and operating — intentionally or not — as central connectors and social bridges in radical networks without ever interacting with the criminal justice system.

While Atran said he views the defeat of the Islamic State as strategically inevitable, he stressed that the symptoms that led to the rise of the Islamic State, as well as the populist movements emerging throughout Europe and the United States, aren’t going to disappear on their own.

“The great majority of the world has been left in the lurch, their longstanding traditions having collapsed in the forced gamble of global market competition. They’re on the dark side of globalization,” Atran said. “Above all, what is needed is a transcendent message and meaning that gives individual existence significance beyond death, binds people together beyond perceived self-interest, and creates enduring and peaceful progress toward a common good.”

-Kim Armstrong

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To celebrate the 30th anniversary of APS, the March issue of *Perspectives on Psychological Science* features a special symposium with a collection of insights reflecting on the past of psychological science and looking forward to the future. The authors of the 30 most-cited articles in APS journals reflect on the origins of their work, consider their hypotheses, and examine the impact their research has had on the field.

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Competing for Attention

Distractions in Young Children’s Learning Environments

By Lucy Erickson

The world is a bustling place for babies and young children, filled with many different things to see and hear. Children must master the ability to decide where to focus attention as they take in the world around them and tune out surrounding sights and sounds — a particular challenge for young people whose attention spans and mental abilities are still developing.

Focusing on learning may be especially difficult for children today given that they spend their early stages of development in environments that may hamper learning more than nurture it. Daycare facilities, schools, and even living rooms are filled with distracting noises and sights that can draw children’s attention away from the parents and teachers who represent their main source of knowledge. And learning materials are often designed with little regard for what science has shown about early cognitive abilities.

Research sheds lights on the various distractions children face during a period when they have some of their most important learning to do.

Noise & Reverberation

A good deal of children’s early learning comes from listening to their caregivers and teachers. At a minimum, children must be able to hear and understand these adults over other sounds in the environment. Although the auditory system matures quite early in many ways, infants and children still struggle to understand and learn from speech when background noise competes for their attention, especially when that background noise is caused by others talking. The energy from background speech can actually block out or make a target signal inaudible because both signals come from similar frequency ranges. Speech may be particularly attention-grabbing because of its inherent meaning, which is difficult to ignore. Because adults are more adept at listening when other people are talking nearby or when the television blares in the background, they may not realize these conditions are too challenging for children.

Difficulties with noise are not limited to situations that require listening. Research suggests that background noise can have negative effects on infants’ and toddlers’ ability to learn visual information. This suggests that at least a portion of children’s difficulties with background noise stems from cognitive factors beyond auditory distractions. It also indicates that minimizing back-

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ground noise, such as turning off the television, could be important even in situations when caregivers are not asking their children to listen to them.

Unfortunately, there is ample evidence that daycares and schools are noisier than recommended by the American Speech-Language Hearing Association. Given that noise measurements generally are taken when the classrooms are empty, they’re likely only capturing artificial sounds such as the steady hum of HVAC equipment and not the chatter, cries, and laughter of the children who are in the room during the day.

An acoustic phenomenon called reverberation can create additional difficulties, especially when combined with loud background noises. Reverberations are prolonged soundwaves that bounce around the hard surfaces in a room, essentially smearing sound. Incorporating soft surfaces such as curtains, pillows, and tapestries into classroom design can help to reduce reverberation. However, attempts to optimize listening conditions in a room may have the unintended consequence of creating visual distractions.

Visible Distractors

Growing evidence suggests that aspects of the visual environment can also distract infants and young children when they need to learn. Toddlers struggle to learn new words for unfamiliar objects labeled by a caregiver when other visible objects vie for their attention, particularly in situations where the labeled object appears less central in their field of view.

In one research paradigm cameras are mounted to infants’ heads so that researchers can see their field of view when their mothers or fathers name an unfamiliar object. Later, the researchers compare the visual characteristics of the environments in which the babies appeared to learn the word to those where they did not. For example, a group of researchers at Indiana University Bloomington’s Cognitive Development Lab used this paradigm to discover that toddlers were more likely to learn new labels when there were no objects visible other than the object that was being named.

In another study designed to assess what children learned from picture books, APS William James Fellow and



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psychological scientist Cynthia Chiong used a joint adult-toddler reading task and discovered that alphabet letter learning was worse when the books contained visible manipulative features (e.g., flaps, levers, textures) compared with relatively plain books. Although more complex pop-up or touch-and-feel books may seem more engaging, these findings suggest that parents and teachers may want to select simple picture books for infants and toddlers to facilitate learning.

Visual clutter and overloading seem to have similar effects on learning in preschoolers and older children. University of Sussex investigators reported, for example, that preschoolers had difficulty learning words in a storybook context when two illustrations were presented simultaneously in a reading activity as opposed to when only one illustration appeared. Similarly, a team of psychology researchers from Kent State University and Carnegie Mellon University used eye-tracking methods to investigate where elementary-school-aged readers directed their gaze during reading. They found that when text and illustrations were presented in close proximity, children often shifted their gaze away from the text and ultimately showed diminished reading fluency.

In another laboratory study, a trained experimenter delivered an age-appropriate mini science lesson to a small group of children in a room that was either decorated with a high degree of visual clutter or a room that was relatively bare. The children's answers to multiple-choice questions about the lesson revealed that those who were taught in the visually sparse room learned more than did those taught in the visually cluttered room, even though the clutter consisted of educationally relevant items commonly found in real classrooms. A separate research team replicated these effects in a group of elementary school-aged children, signaling that the visual environment affects learning even in later childhood years.

Clinical Populations

It's important to note that children with hearing, attentional, and cognitive impairments are likely to struggle even more with visual and audible diversions than typically developing children do. Distractions may be especially costly to children with hearing problems, who may find listening to and learning from speech to be especially taxing and effortful. A child with a learning disability may need to exert extra effort to attain the same level of learning as a typically developing child — for such a child, environmental distractions could divert needed cognitive resources from the task at hand. In addition, some research suggests that children with autism often have heightened noise sensitivity and show more pronounced learning impairments in visually cluttered learning environments compared with typically developing children. Taken together, the findings suggest that noise and visual clutter may have especially dramatic effects on learning in children who have sensory impairments or other special needs.

Conclusions

In an ideal world, the best learning environments and materi-

als would account for the interaction between auditory and visual factors. But designing classrooms around children's cognitive development must also be balanced with fulfilling their socioemotional needs. Many potentially distracting items, like colorful posters or artwork the children created themselves, make children feel happy, comfortable, and open to learning. After all, a frightened toddler who spends the bulk of instructional time in tears is unlikely to make dramatic learning gains.

Technology represents one potential avenue for bringing cognitive and socio-emotional concerns into balance. For example, Smartboards could be used to project colorful patterns and photos of children's artwork on the walls at some moments, but also to create a calming, plain backdrop for key moments of instruction that require their full attention. But technology can also be misapplied in ways that hinder attention and learning. In one study, toddlers' electronic books with "bells and whistles" and other extraneous sound effects impeded children from understanding of the story. APS James McKeen Cattell Fellow Kathy Hirsh-Pasek and colleagues recently noted that many of the so-called educational apps for infants and young children on the market include added features and trappings that actually hamper the learning experience they purportedly foster.

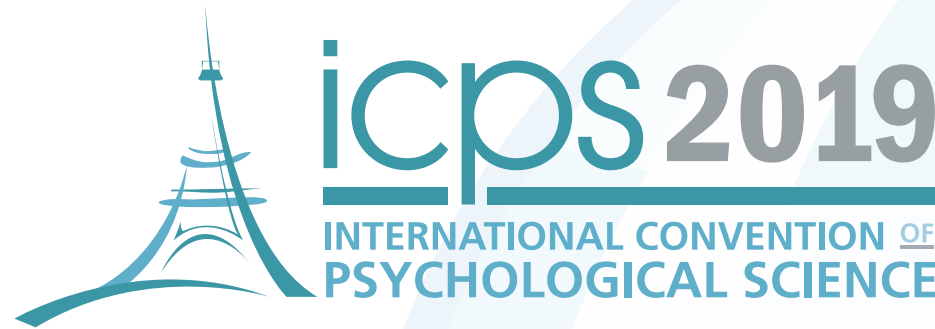
Ultimately, low-tech solutions may be as good if not better than electronic ones. For example, rooms could be designed to contain unadorned walls with artwork and other potential distractors stored only in prescribed places. A plain curtain could be used instead of a Smartboard to temporarily shroud a wall covered in artwork and posters. Curtains and other soft surfaces can be used to help dampen noise and decrease reverberation. Lawn mowing and other noisy maintenance activities can be timed to occur outside instructional hours.

Overall, the science is sending a strong message to parents and educators: Children learn best in calm, clean, and quiet settings. So turn off the TV and keep the wall art in check. ●

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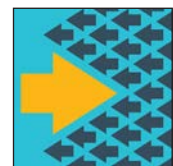


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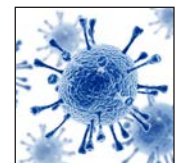
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Our Minds Are Not Our Own: The Role of Guts and Germs

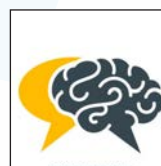
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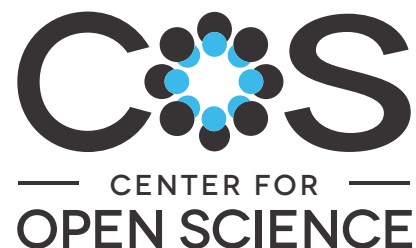
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Understanding the Financial Impact of Open Resources

By Robert Biswas-Diener



Robert Biswas-Diener coedited a volume about open resources and how they are reshaping every corner of psychological science.

In 2012, dozens of psychologists banded together to create Noba, a platform for open psychology resources. When I joined Noba as senior editor, I thought the benefits of open resources would be both obvious and attractive to instructors everywhere. Instead, we were met with resistance. We encountered skepticism about quality and raised eyebrows about the cost, although all the resources are free. I realized that instructors generally did not understand the concept of “open” that well.

For this reason, I applied for and received a grant from the APS Fund for Teaching and Public Understanding of Psychological Science to edit, alongside Rajiv Jhangiani, a volume about open resources and how they are reshaping every corner of psychology. We brought together the voices of 32 contributors from 28 institutions. The topics they discussed include the history of the open movement, an explanation of the Creative Commons license that governs open resources, and chapters on the use of open science, open journals, open

Robert Biswas-Diener is a subjective well-being researcher who works with groups who are traditionally overlooked by researchers such as tribal people, the Amish, and sex workers. He is senior editor of *Noba*, an open publisher that saves psychology students 3.5 million dollars a year.

textbooks, and open pedagogy in psychology classrooms.

Open resources are appealing to me in part because they address economic inequality by reducing the costs of education. Unfortunately, a college education is out of reach for most people. A 2017 report reveals that 20% of community college students are “food insecure,” and 14% have experienced homelessness. Although 40% of students work 30 hours a week, they also spend \$1,200 dollars per year on textbooks. A 2011 PIRG study revealed that 70% of students decided against buying at least one book because of its cost. Reduced costs may mean more students availing themselves of more resources, less pressure to juggle work and school, and increased graduation rates.

Completing college is profoundly important: College graduates enjoy better health, live longer, and are more likely to vote, volunteer, and donate to charity (Trotsel, 2015). Instructors can play a social justice role by “opening” their courses and removing financial obstacles to learning for students of all backgrounds.

This idea was the impetus behind making our APS grant-funded book freely available. The results speak for themselves: It has been downloaded 4,500 times in the last 8 months. Feel free to read, share, or revise it yourself. ●

USING PSYCHOLOGICAL SCIENCE TO MAKE BETTER PSYCHOLOGY TEXTBOOKS

BY DANNY OPPENHEIMER AND GRADY KLEIN

SURVEYS SHOW THAT TRADITIONAL TEXTBOOKS...

...DON'T ALWAYS LIVE UP TO THEIR ENORMOUS PROMISE.

THIS BOOK IS FILLED WITH RICH NUANCE AND CLASSIC INSIGHT!

LESS THAN HALF OF STUDENTS REPORT READING THEM REGULARLY. AND THOSE THAT DO, DON'T PERFORM ANY BETTER IN CLASS.

FORTUNATELY, MANY OF THE SOLUTIONS TO THIS PROBLEM...

...ARE SUPPORTED BY GOOD PSYCHOLOGY RESEARCH.

LET'S MAKE TEXTBOOKS INTERACTIVE...

...AND CHEAPER...

...AND LIGHTER...

...AND LET'S MAKE THEM FUNNY AND GRAPHICAL...

...BECAUSE THOSE THINGS HELP EDUCATION!

FIRST OFF, NUMEROUS STUDIES HAVE FOUND THAT HUMOR HELPS MOTIVATION AND LEARNING.

WHEN R.L. GARNER ADDED POINTED JOKES TO VIDEO LECTURES ON STATISTICS...

...STUDENTS REMEMBERED 10% MORE OF THE MATERIAL.

HOW MANY STATISTICIANS DOES IT TAKE TO CHANGE A LIGHTBULB?

WHAT DEGREE OF CERTAINTY DO YOU WANT?

WHEN AVNER ZIV TRAINED TEACHERS TO INCLUDE TOPICAL JOKES IN THEIR CLASSES...

...STUDENTS DID MUCH BETTER ON THEIR FINAL EXAMS.

THAT WAS SODIUM FUNNY!

I SLAPPED MY NEON THAT ONE!

AND WE HAD FUN!

BUT IT'S NOT JUST GOOD HUMOR THAT HELPS.

OTHER EXPERIMENTS SHOW THAT IT CAN HELP TO PRESENT INFORMATION GRAPHICALLY.

PEOPLE ARE MORE LIKELY TO REMEMBER IMAGES THAN WORDS!

VISUAL REPRESENTATIONS CAN HELP CLARIFY DATA.

THEY WORK BETTER THAN WORDS ALONE AT GUIDING US THROUGH ABSTRACTIONS.

THIS MANY STUDENTS BOUGHT THE TEXTBOOK...

...BUT ONLY THIS MANY STUDENTS READ IT.

WELL, YOU GO NORTHEAST FROM PIRATE'S COVE, THEN MAKE A SLIGHT LEFT AT THE BULGE IN THE BEACH, THEN VEER TO THE RIGHT AT ANGRY MONKEY MOUNTAIN, BUT NOT TOO FAR TO THE RIGHT OR...

NEVERMIND! JUST DRAW ME A MAP.

TO SEE HOW, JUST TRY TO DESCRIBE A KNOT...

...WITHOUT REFERRING TO A DRAWING.

AS INCOMING APS PRESIDENT BARBARA TVERSKY HAS NOTED, THIS EFFICIENT DESCRIPTIVE POWER...

...IS PART OF WHAT MAKES COMICS SO USEFUL FOR DESCRIBING SCIENCE.

"DIAGRAMS SHOW RATHER THAN TELL... DIRECTLY AND BRIEFLY."

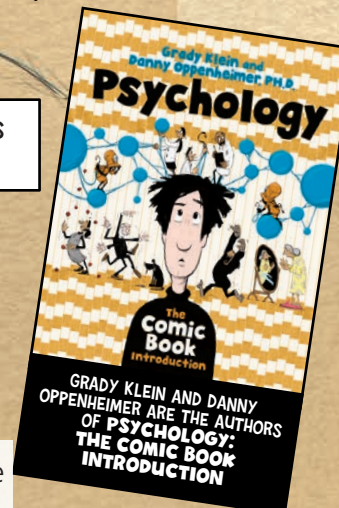
"THE COMICS GENRE, JUST LIKE CONVERSATION, ARTFULLY INTERLEAVES WORDS AT THEIR BEST AND DEPICTIONS AT THEIR BEST."

IT'S ONE OF THE MANY REASONS PSYCHOLOGICAL SCIENTISTS ARE NOW USING COMICS FOR PSYCHOLOGICAL INTERVENTIONS AS WELL AS EDUCATION.

WHAT CONCLUSIONS CAN BE DRAWN FROM THIS RESEARCH?

THAT WE SHOULD DRAW MORE CONCLUSIONS!

Danny Oppenheimer is a cognitive psychologist and a professor at Carnegie Mellon University. Grady Klein is an illustrator, designer, and animator.



Teaching Current Directions in Psychological Science

Edited by C. Nathan DeWall and David G. Myers

Aimed at integrating cutting-edge psychological science into the classroom, *Teaching Current Directions in Psychological Science* offers advice and how-to guidance about teaching a particular area of research or topic in psychological science that has been the focus of an article in the APS journal *Current Directions in Psychological Science*. *Current Directions* is a peer-reviewed bimonthly journal featuring reviews by leading experts covering all of scientific psychology and its applications and allowing readers to stay apprised of important developments across subfields beyond their areas of expertise. Its articles are written to be accessible to nonexperts, making them ideally suited for use in the classroom.

Visit the column online for supplementary components, including classroom activities and demonstrations: www.psychologicalscience.org/teaching-current-directions.

Visit David G. Myers at his blog "Talk Psych" (www.talkpsych.com). Similar to the APS *Observer* column, the mission of his blog is to provide weekly updates on psychological science. Myers and DeWall also coauthor a suite of introductory psychology textbooks, including *Psychology* (12th Ed.), *Exploring Psychology* (10th Ed.), and *Psychology in Everyday Life* (4th Ed.).

Can There Be Racism Without Racists?

Beth Morling

Salter, P. S., Adams, G., & Perez, M. J. (2017). Racism in the structure of everyday worlds: A cultural-psychological perspective. *Current Directions in Psychological Science*. Advance online publication. doi:10.1177/0963721417724239

Recently, Cleveland announced they would stop using a cartoonish depiction of an Indigenous American on their Major League Baseball team uniforms, a practice that had been denounced by tribal, civil rights, and educational organizations for some time. Other teams, however, continue to feature Indigenous Americans as mascots. Many Americans argue that fans themselves are not racists, so the mascots should stay. Their argument leads to the question: *Can racism exist without racists?*

The answer, according to Phia Salter, Glenn Adams, and Michael Perez (2018), is yes. Racism resides inside the heads of individuals in the form of prejudice and bias. But it also lives "out there," in everyday practices, institutions, and cultural products — and even in baseball logos (Salter, Adams, & Perez, 2018).

Consider where your own beliefs on the nature of racism



Beth Morling is Professor of Psychological and Brain Sciences at the University of Delaware. She attended Carleton College and received her PhD from the University of Massachusetts at Amherst. She regularly teaches research methods, cultural psychology, a seminar on the self-concept, and a graduate course in the teaching of psychology.

fall, using the line below:

Racism is about:

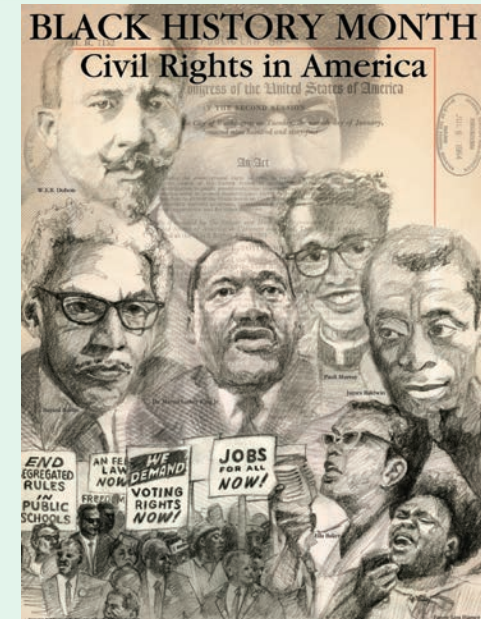
Social-structural forces of oppression

Prejudiced beliefs by biased individuals

Salter and colleagues (2018) argue that the structural forces and the individual beliefs constantly influence each other. People's beliefs are shaped by interactions with racist institutions and products. After being shaped by these interactions, people continue to construct racist worlds as they endorse familiar perspectives and products and reject others.

Given the field's disciplinary focus on the individual over the social system, psychology textbooks emphasize an individualistic approach to racism by focusing on prejudiced beliefs rather than racist systems. However, while White Americans feel most comfortable with individualistic constructions, minority groups tend to endorse the systemic oppression view. If we emphasize individual prejudice over systemic oppression, we can unwittingly privilege the majority's construction (Adams, Edkins, Lacka, Pickett, & Cheryan, 2008). Without a cultural approach, we perpetuate the more comfortable belief that racism depends mainly on individual racists.

Students welcome the chance to discuss prejudice and racism in the classroom, so how might we convey the full



Do your school's Black History displays emphasize overcoming oppression (top left) or Blacks' individual achievements (top right)? Photos courtesy of DEOMI. Public Domain.

cultural psychological framework? Start with the 2017 Pew Research poll at <http://pewrsr.ch/2wFVBe2>, in which White Americans (52%) were less likely than Black Americans (81%) to agree that racism is a "big problem" today. Students can write privately about why Whites and Blacks disagree.

Second, display the continuum above and ask students to consider where their own understanding of racism is positioned. Discuss their views.

Then, mimic past research by asking students to rate their familiarity with historical facts. In one study, after reading statements about racial oppression (e.g., "*Dred Scott, a slave, sued for his freedom in 1847. The Supreme Court ruled that he was property and could not sue in federal court*"), Whites became more likely to endorse the systems view and perceive structural racism in society. After reading statements about Blacks' achievements (for example, "*Mae Jemison was the first African American woman to enter outer space*"), Whites maintained individualistic views (Salter & Adams, 2016).

In class, try reading the previous statement about the Dred Scott decision and follow it up with these:

Rather than integrate after the 1954 Brown vs. Board of Education decision, large urban areas in Virginia closed all public schools. White students transferred to private schools, but Black students had to improvise or not attend school at all.

Starting in the 1930s, the United States government's "redlined" maps outlined neighborhoods where minorities lived, rating them as high-mortgage risk. Redlining excluded Black people from getting mortgages and owning homes.

Blacks are more likely to be wrongfully convicted of murder, sexual assault, and drug crimes than are Whites.

Students may adjust their position on racism, just as participants in Salter and Adams's (2016) study did. Instructors can explain that when people are reminded of historic oppression, they are more likely to acknowledge racist systems today. Students can also discuss whether holding individualistic constructions of racism makes people less likely to notice (and potentially change) racist institutions.

Finally, bulletin board displays for Black History Month (see figure) depict how these different views of racism become tangible in the material world. Displays that emphasize overcoming oppression were more common in majority-Black high schools (Salter & Adams, 2016). In contrast, displays depicting individual achievements were more common in majority-White high schools and also were preferred by Whites.

A cultural psychological framework can help us work constructively with students who ask about "reverse racism," by which they mean racism by minority groups against Whites. In this framework, prejudice is a negative belief, so anybody can harbor individual prejudices. However, racism is defined as systemic oppression. Economic, educational, and political data contradict the idea that Whites face systemic reverse racism in the United States.

By demonstrating a cultural construction of racism that emphasizes both individual and systemic elements, we can teach in ways that resonate with students of color and help move majority students forward in their understanding of social justice.

The Net Result: Do Social Media Boost or Reduce Well-Being?

David G. Myers

Clark, J. L., Algoe, S. B., & Green, M. C. (2018). Social networking sites and well-being: The role of social connection. *Current Directions in Psychological Science*, 27, 32–37.

As social animals, we thrive on connection. Mark Zuckerberg, a former psychology student, understands this. In 2012, he recalled founding Facebook “to accomplish a social mission — to make the world more open and connected.” Later, in 2018, he affirmed studies summarized by his research team (Ginsberg & Burke, 2017) showing that, when we use social media to connect with people we care about, it can be good for our well-being. We can feel more connected and less lonely, and that correlates with long-term measures of happiness and health. In contrast, passively reading articles or watching videos — even if they’re entertaining or informative — may not be as good.

In their timely and student-relevant essay, Jenna Clark, Sara Algoe, and Melanie Green (2018) recap the research that apparently swayed Zuckerberg to prioritize “more meaningful social interactions [among] friends, family, and groups” on Facebook’s News Feed. The first wave of research revealed the time-sucking social costs of Internet use. After acquiring computers and Internet connections, people’s face-to-face interactions diminished and their depression and loneliness increased (Kraut et al., 1998; Nie, 2001). Social psychologists also worried that the Internet might exacerbate social polarization, as people network with like-minded others and reinforce their shared biases.

But these observations are from that long-ago time before Facebook had more than 2 billion active users and before Twitter, Snapchat, Instagram, WhatsApp, and YouTube existed. In today’s world, argue Clark, Algoe, and Green, social network sites can either enhance or diminish well-being; it all depends on whether social network use “advances or thwarts innate human desires for acceptance and belonging” (p. 33).

- The downside. “Social snacking,” the phenomenon of passively lurking on others’ feeds without interaction, can breed isolation. Lurking can also feed demoralization as one socially compares one’s own “mundane” life with others’ seemingly more exciting ones. Students



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* (11th ed.), *Exploring Psychology* (9th ed.), and *Social Psychology* (12th ed.). Myers can be contacted via his website at www.davidmyers.org.

who see others as having richer social lives than their own — as most students do — report lower well-being (Deri, Davidai, & Gilovich, 2017; Whillans, Christie, Cheung, Jordan, & Chen, 2017).

- The upside. Social media engagement can also be more active. It can be a vehicle for mutual self-disclosure that has benefits similar to face-to-face disclosures and can increase our sense of supportive connection with others. Zuckerberg’s advocacy for active over passive Facebook use echoes Clark et al.’s report that “research has empirically distinguished between passive Facebook use (defined as consuming information without direct exchanges) and active Facebook use (defined as activities that facilitate direct exchanges with others)” — and reinforces that only passive Facebook use has been linked to a decline in well-being.

In *iGen*, Jean Twenge (2017; Twenge et al., 2018) affirms the benefits and pleasures of social media, but also — for adolescents (and especially for early teen girls) — the psychological costs of excessive use. As smartphone use soared post-2011, fewer teens were out drinking, having sex, and getting in car accidents, but more were experiencing sleep-deprivation, depression, and loneliness, and more were committing suicide. In both correlational and experimental studies, more screen time (beyond 2 hours daily) entailed increases in these mental health issues. Alternatively, more time spent on face-to-face relationships (for which nature designed us) equaled greater happiness and development of social skills. Other researchers have likewise confirmed that time on social media (across active and passive use) increases depression and social isolation, and that a social media fast can diminish social comparison and increase feelings of well-being (Arad, Barzilay, & Perchick, 2017; Babic et al., 2017; Kross et al., 2013; Lin et al., 2017; Primack et al., 2017; Shakya & Christakis, 2017; Tromholt, 2016).

Assessing Smartphone Use

All but 4% of entering US collegians use social networking sites (Eagan, 2017). Taking this into account, instructors might, a week in advance of the class discussion, invite students to respond to two simple questions:

1. Do you have a smartphone? ____ If yes, about how many times a day do you check it? (Make a guess.) ____
2. About how many minutes of smartphone screen-time do you experience in an average day? ____

After students make their estimates, invite them to download a free screen-time tracker app, such as Moment for the iPhone or QualityTime for the Android. A week hence, have them add up their actual total screen time for the prior

7 days and divide by 7 to compute their daily average.

Did your students underestimate their actual smartphone use? In one small study of university students and staff, participants estimated they checked their phones 37 times a day, but actually did so 85 times per day (Andrews, Ellis, Shaw, & Piwek, 2015). In another small study, Asian students underestimated their screen time by 40% (Lee, Ahn, Nguyen, Choi, & Kim, 2017).

Instructors could also ask students about their prior week’s hours of sleep and assess whether (as in other studies) more screen time predicts less sleep time.

Self-Managing Smart Smartphone Use

So how might students manage their social media time to optimize their life? In small groups, invite students to share their experiences and their aims:

1. Is their screen time optimal for their academic and social success? Too little? Too much?
2. To what extent is their screen time passive rather than active? What are examples of active screen use? Do they recall feeling any different after, say, passively reading others’ Facebook posts versus interacting with people online or in person?
3. How do they — or how might they — manage their time spent on social network sites and responding to messages and emails? What strategies can they share? Do they:
 - a. monitor their use so that it reflects their goals and priorities?
 - b. hide the news feeds of distracting friends?
 - c. disable sound alerts and pop-ups?
 - d. study or sleep away from their phone?
 - e. use social media as a study-break reward?
 - f. install an app that limits total daily engagement?
 - g. plan for ample face-to-face time with friends?

As Steven Pinker (2010) has noted, “The solution is not to bemoan technology but to develop strategies of self-control, as we do with every other temptation in life.” ●

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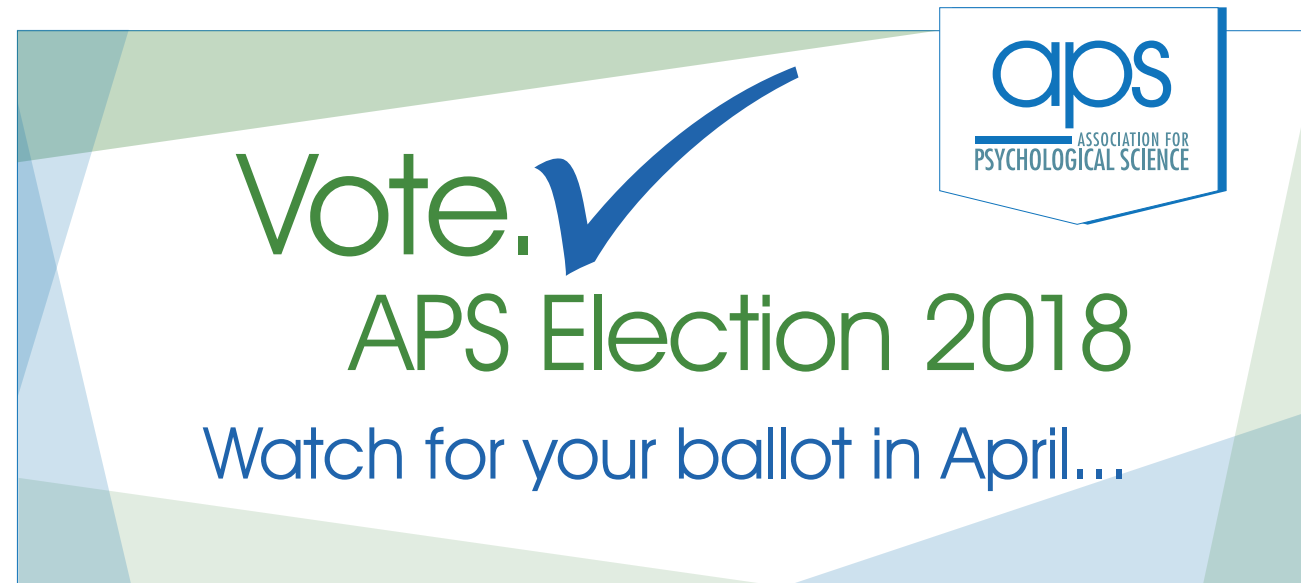
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Going Global With Your PhD

Examining International Opportunities

By Bethânia Monteforte Sasseron

Research in the field of psychological science provides many opportunities for personal and professional growth. One way to take advantage of these opportunities is to study abroad, where you can find new scientific perspectives and research methods as well as improve your career options. Leaving home is about going outside of your comfort zone and broadening your horizons, allowing you to foster knowledge of a new culture — sometimes in a new language — and forcing you to think outside the box. Working toward your doctorate in another country also allows you to build an international CV, which in turn provides more opportunities for employment, scholarships, training grants, project funding, international visibility, and business collaboration in the future.

There are, however, significant obstacles to pursuing your PhD abroad. There are several considerations you should address before you start packing your bags:

1. *Evaluate your stress potential.* Although individual experiences vary, composing a doctoral thesis is most often a long and time-intensive commitment. This can be even more stressful in another country, where you are far from your usual social network. There will be moments of distress, stress, and loneliness, all of which may impact your time abroad. Before you go, it is important ensure that you can manage your time well, meet deadlines, avoid procrastination, and handle frustration healthily.
2. *Think carefully about where you want to live.* Going abroad for your PhD will allow you to experience a new culture with local practices that probably are different from your own. You will need to develop alternative ways to debate and negotiate your perspective with your advisor and other researchers, as well as get used to new rules, laws, and bureaucracy.
3. *Start your search for the university at least 6 months in advance.* After you identified your potential research field, it is important to select institutions with doctoral programs in departments that have current professors engaged in your research topic. Ask for information about the documenta-

tion, supervisors, funding, degree requirements, and fees before you begin planning your research proposal.

4. *Build a good relationship with your supervisor.* Although cultural differences and language barriers may complicate your relationship, it is important to make sure that your supervisor is aware of your struggles, ideas, and goals. Your supervisor should know how to manage expectations and anxiety and guide you through academic life at your new university.

Once you are accepted by a doctoral program abroad, there is still much to do. Below are some basic requirements to help with your preparations:

- *Academic record, resume, and personal statement:* You will need official copies of all relevant diplomas, certificates, and transcripts. If these documents are not in English, you should obtain official translated versions. You may be required to submit your resume and a personal statement specifying your objectives and determination to do your PhD. Focus on describing your research area and how your experiences and qualifications will contribute to the field. Recommendation letters are essential and should be provided by your previous academic advisors, university tutors, or people who supervised you in a work or volunteering setting.
- *Proficiency language exams:* You may have to present evidence of language proficiency. The most common official language for international doctoral programs is English. If English is not your first language, you may be required to take a language proficiency exam such as the TOEFL or IELTS tests. English-speakers may also be required to take proficiency exams in other languages. Make sure that if you take an exam, it is accredited by a national authority such as a foreign office or ministry of education.
- *Visa:* Visas typically include limits on the duration of a student's stay. You should contact the immigration bureau of your host country and ask how you can increase your stay as well as find out which documents you need. Besides the national identification documents, the consulate may ask for travel insurance, your address abroad, justification of the trip (this can be a letter of acceptance from the university along with your airplane ticket), and a letter of economic dependence (this can be written by a relative and must be stamped in a notary's office) or proof of means of subsis-

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tence. Whether you receive a visa as a researcher, student, or worker may vary depending on the national legislation.

- **Healthcare:** If you become ill in a foreign country, remember that the medicines and health services are different from those in your country. Before you leave, familiarize yourself with the private and public services of your host country and search for an international health insurance plan.
- **Finances:** Check with your bank to learn about the best options for international transactions, especially how to avoid high costs with exchanging currencies. It is also advisable to look into how public finance and social security work in the country where you will be living. Foreign citizens may have to pay taxes based on their visa. Be prepared to have unexpected costs and issues with bureaucracy. It is also important to budget for rent, food, transportation, and overall economic conditions of the host country.
- **PhD funding:** This is available from a range of sources, but it is important to know where to look. Consider applying for research fellowships, university scholarships, international

PhD funding (e.g., Erasmus+, a European Union program that supports education, training, youth, and sport in Europe), or loans. The majority of universities have funding and bursaries available to support students; these may include merit-based academic scholarships, need-based scholarships, and international scholarships. You can sign up for PhD newsletters and PhD funding blogs (e.g., <http://postgraduate-funding.com>; www.topuniversities.com; www.phdportal.com) to learn about opportunities. Additionally, you can support yourself by working while you pursue a PhD. This will provide an additional source of income, but be aware that it can also decrease your productivity and affect your schedule.

All the challenges you confront as you work toward a PhD in a new country help to make it worthwhile. Living abroad is a life-changing decision, but the knowledge and real-world experiences you will gain while you expand your professional network, develop friendships, and open borders into the globalized world is priceless. ●



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GRANTS

Behavior, Energy, and Climate Change Conference

The Behavior, Energy, and Climate Change (BECC) conference invites psychological scientists to submit presentations, posters, or panels for its upcoming conference October 7–10, 2018, in Washington, DC. BECC is a conference focused on understanding the behavior and decision making of individuals and organizations and using that knowledge to accelerate a transition to an energy-efficient and low-carbon future. The theme of the 2018 BECC conference is “Building Bridges,” which emphasizes the role that the behavioral sciences can play in achieving solutions to climate change. Visit <https://beccconference.org/> and submit by April 15, 2018.

Funding Opportunities for Research on Methodologies for STEM Education

The National Science Foundation (NSF)’s Directorate for Education and Human Resources (EHR) Core Research Program has released a new letter detailing opportunities supporting psychological scientists and others who wish to study methodologies supporting inferences in STEM (science, technology, engineering, and math) education. Interested scientists should visit the NSF EHR Core Research Program site for more information on how to submit a grant proposal. Full proposals are due September 13, 2018; however, researchers can submit for conference grants as well as the EAGER funding mechanism (designed to support exploratory work) throughout the year. For more information, visit nsf.gov/funding.

NIH Funding Announcement for Methodology Research

The National Institutes of Health (NIH) has released a new funding opportunity announcement designed to support research on methodology and measurement in the behavioral and social sciences. NIH is supporting research on methodology and measurement via the R21 grant mechanism, which is a 2-year grant for exploratory or developmental research providing up to \$275,000 in direct support. NIH encourages applicants to contact one of the many NIH Institutes or Centers participating in the funding announcement which matches the research focus of the proposed project before applying for funding. The participating Institutes and Centers are: Office of Behavioral and Social Sciences Research, National Cancer Institute, National Eye Institute, National Institute on Aging, National Institute on Alcohol Abuse and Alcoholism, National Institute on Deafness and Other Communication Disorders, and the National Center for Complementary and Integrative Health. Applications are due February 16, June 16, or October 16, 2018, depending on the proposed project.

MEETINGS

2018 Cognitive Aging Conference

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cac.gatech.edu

7th International Congress on Interpersonal Acceptance and Rejection

May 15–18, 2018
Athens, Greece
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30th APS Annual Convention

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Joint CAMBAM/NSERC-CREATE in Complex Dynamics Summer School

June 18–29, 2018
Montreal, Canada
www.medicine.mcgill.ca/physio/khadralab/public_html/summer.html

Administration for Children and Families’ National Research Conference on Early Childhood

June 25–27, 2018
Arlington, Virginia, USA
nrcec.net/

25th Annual RAND Summer Institute

July 9–12, 2018
Santa Monica, California, USA
rand.org/labor/aging/rsi.html

Biennial International Seminar on the Teaching of Psychological Science

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bistops.org

41st Annual National Institute on the Teaching of Psychology

January 3–6, 2019
St. Pete Beach, Florida, USA
nitop.org

3rd International Convention of Psychological Science

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icps2019.org

FROM POLICE OFFICER TO PROFESSOR



David Chan, Director of the Behavioural Sciences Institute and Professor of Psychology at the Singapore Management University.

What specific values or knowledge did you take away from joining the Singapore Police Force more than 3 decades ago that you still use today as a professor, researcher, and scientist?

My time as a police officer, which spanned 9 years prior to entering academia, put me in diverse practical situations as they occur in people’s lives, involving people from all backgrounds in Singapore. Through these experiences, I learned the importance of fairness and trust perceptions, empathy, adaptability, and situational-judgment ability, all of which are distinct from formal authority, academic abilities, and technical expertise.

I came to appreciate how important it is to be sensitive to contextual factors and see things from another’s perspective, to handle practical situations in a principled and pragmatic way, and to respect people’s dignity. I also learned that one can use different types of power effectively and use opportunities efficaciously to make a positive difference in people’s lives.

All of these experiences significantly affected my judgment and decision-making in terms of what issues to focus on and how to approach them. It could be choosing a research topic, mentoring a student or junior faculty, working with experts from diverse disciplines and different cultures, advising the government or an organization on a policy or program, consulting for a television documentary series, writing an op-ed for a newspaper, or volunteering for a cause.

One of your current lines of research focuses on perspective-taking. Why has that received much attention from policymakers and the public?

Studies have shown that we don’t see things as they are; we see things as we are. We make interpretations according to our beliefs and past experiences, and also in the context of the circumstances we find ourselves in.

We need to recognize that some of the differences in viewpoints across individuals or groups, or between citizens and policy makers, are probably due, in part, to differences in life experiences. We cannot live someone else’s life experiences. But if we all take time to put ourselves in someone else’s shoes before we advocate a position or react to differing views, it is more likely that we can move forward constructively, even if disagreements still occur.

So I think the attention that my work received is quite natural, in the sense that disagreements are not uncommon and are often

unpleasant. Perspective-taking offers an adaptive approach to solving problems and making decisions in the real world.

Are there specific strategies we can use to activate perspective-taking when talking to someone who is different from us?

There are evidence-based approaches to enhance our perspective-taking abilities and tendencies in an adaptive way — for example, guarding against our confirmatory biases by learning to be inclusive and to honestly consider other perspectives very different from our own.

But don’t just imagine possible perspectives in an armchair. Get into the action and interact with others to find out their concerns and circumstances. When these interactions are naturalistic as opposed to contrived, people are more likely to tell each other what they truly think instead of what they think the other wants to hear.

Over time, quality interactions build mutual trust, reciprocity norms, social cohesion, and possibly even shared values on some core issues. All these will motivate people to see things from each other’s perspective and facilitate conflict resolution and collaboration.

Based on your experiences as a scientist, professor, consultant, and public intellectual, what are some lessons you think would benefit students and early-career researchers?

Psychological science has so much to contribute to solving real-world problems and improving people’s lives. When we learn how to address apparent contradictions and when to move away from a zero-sum, trade-off mindset, we will see many commonalities and complementarities in goals between science and practice.

Two points are worth reiterating — they are often preached but seldom practiced. First, our research can solve real problems and improve people’s lives when they are based on scientific rigor and practical relevance. Rigor and relevance are not merely abstract values that we profess; they are operating principles to guide actual decisions in the research process and in the communication and application of the findings.

Second, the translation from scientific knowledge to practical applications is critical. As psychologists, we will have much greater impact if we develop the skills to effectively integrate science and practice. ●

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