



A PUBLICATION OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION • 2020

monitor on psychology

TOP TRENDS TO WATCH IN 2020

HOW PSYCHOLOGY IS
CHANGING—AND HOW
PSYCHOLOGISTS ARE
CHANGING THE WORLD



10 TRENDS TO WATCH IN 2020

Psychologists are raising their voices and sharing their expertise on some of the country's most pressing issues, including gun violence and climate change. Meanwhile, the field is becoming more diverse, and technology is changing our research, teaching and practice.

Find out more about what's in store for psychology in 2020.

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People attend a candlelight vigil on Aug. 7, 2019, at a makeshift memorial honoring victims of a mass shooting that left 22 people dead in El Paso, Texas.

1

RAISING OUR VOICES ON GUN VIOLENCE

Psychology is taking a comprehensive public health approach to addressing this crisis

By TORI DEANGELIS

MARIO TAMA/GETTY IMAGES

EACH YEAR, FIREARMS CLAIM THE LIVES of some 40,000 Americans through homicides, suicides, mass shootings and accidents, according to the Centers for Disease Control and Prevention (CDC). And those numbers are rising: Between 2014 and 2017, gun deaths increased by 16%, while six of the nation's 10 deadliest mass shootings have occurred over the past 10 years. ¶ Through a range of efforts—in the community, in the media and in research—psychologists have escalated their work on gun violence prevention. ¶ “APA and psychology are working on a number of fronts to help move the gun violence debate beyond political arguments and into the realm of public health and safety,” says APA CEO Arthur C. Evans Jr., PhD. “Psychologists are prepared to rise to this challenge using our best science, data and practice, and to

collaborate with others to make these efforts even more effective.” Psychologists’ gun violence prevention efforts rely on evidence-based arguments to underscore that:

■ **Gun violence should be treated as a public health problem.** Like other public health epidemics—for example, tobacco use and car accidents—gun violence is best addressed through public health interventions. That’s because this approach is apolitical, based on science and data, designed to foster population-level health and tailored to specific subpopulations, says clinical and forensic psychologist and attorney Robert Kinscherff, JD, PhD, of William James

College. “An evidence-based public health approach allows us to specify what is likely to work, under what circumstances and with what populations,” he says.

■ **Suicides are the most common form of gun violence** (61%), followed by homicides (35%). Contrary to public opinion, mass shootings are extremely rare, comprising less than 1% of all gun-related deaths in the United States. Collectively, these factors suggest the importance of designing and funding interventions accordingly, Kinscherff and other psychologists say.

■ **Mental illness alone does not predict gun violence.** Studies show that mental illness

accounts for only a small percentage of gun violence, and that people with serious mental illness are much more likely to be victims than perpetrators of such attacks.

FURTHER READING

APA Policy and Action on Gun Violence

www.apa.org/advocacy/gun-violence

Preventing Gun Violence

www.apa.org/advocacy/gun-violence/misperceptions.pdf

Gun Violence: Prediction, Prevention, and Policy

www.apa.org/pubs/info/reports/gun-violence-prevention

IN THE MEDIA

Psychologists have been particularly vocal in the media about the need for commonsense gun violence prevention policies. In 2019 alone, APA officials and experts were quoted in thousands of news reports about the science of gun violence and the need for greater protections, including on CNN and in *The New York Times*. More than 2,800 news articles—potentially reaching more than 4 billion people—referred to APA’s position on gun violence.

As just one example, a statement on mass shootings by 2019 APA President Rosie Phillips Davis, PhD, ABPP, was cited by more than 300 news outlets. In August, she appeared on CNN to discuss the need to stop inaccurately blaming the nation’s gun violence crisis on mental illness—and to conduct more research into the more significant factors behind mass shootings, including fear, bigotry and social division.



“Saying that mental illness causes mass shootings is a simplistic argument, and it’s inaccurate,” she said. “We must focus on the full range of factors that contribute to mass shootings ... such as bigotry and hatred.”

APA also made gun violence prevention a priority at APA 2019 in Chicago during a powerful main stage event (see <https://convention.apa.org/2019-video>), which was followed by a town

hall in which psychologists shared their ideas for addressing this major societal challenge. “When we act boldly, when we are truthful, people listen,” said Evans. “The time for waiting is over.”

To better understand how Americans are responding to gun violence, in August APA commissioned a Harris Poll. A full 71% of Americans said that mass shootings are a significant source

APA CEO Dr. Arthur C. Evans Jr., center left, speaks with other gun violence prevention experts at the APA 2019 main stage event on gun violence.

of stress in their lives, and a third said fear prevents them from going to certain places or events.

The findings—widely cited in the media—“sent an important message to policymakers that such tragedies have demonstrable impacts on our nation’s mental and physical health,” says APA Chief Advocacy Officer Katherine B. McGuire.

APA has also been advancing advocacy positions on Capitol Hill. Last year, APA supported congressional efforts to increase funding for research on gun violence prevention and for background checks, and sponsored congressional briefings on the damaging effects of gun violence on schools and communities. To amplify its message, APA joined forces with groups such as Giffords: Courage

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ROSIE PHILLIPS DAVIS, PhD, ABPP, APA 2019 PRESIDENT

to Fight Gun Violence, the Violence Prevention Network and the American Academy of Pediatrics.

“It’s going to take a diverse group of organizations working together to put a stop to these senseless tragedies,” McGuire says, “and psychology needs to be at the forefront of these discussions.”

RESEARCH MOMENTUM

One of the critical strides forward on gun violence prevention has taken place on the research front. Since 1996, research on gun violence had been forestalled under the Dickey Amendment, a rider to that year’s appropriations bill that disallowed the funding of any CDC-sponsored research related to gun violence that could be used for advocacy purposes. That finally changed in 2018, when Congress gave the CDC authority to resume such studies as long as they were not specifically advocating for gun control. Now, several important research projects are underway. Among them is work by Northwestern University

Feinberg School of Medicine psychologist Linda A. Teplin, PhD. She has received funding from the U.S. Department of Justice and the National Institute of Child Health and Human Development to extend the work of her Northwestern Juvenile Project, which has looked at mental health needs and outcomes of about 2,000 youth since they first entered the juvenile justice system in the late 1990s. The new research will investigate how participants’



firearm use as adolescents influenced their involvement with firearms during adulthood, as well as how parents’ firearm involvement during their own adolescence affects that of their teenage children.

Psychologists are working on a range of other projects related to gun violence, such as:

■ **A review** of 49 studies assessing the psychological effects of 15 mass shootings, which was conducted by psychologist Sarah R. Lowe, PhD, of the Yale School of Public Health, and Sandro Galea, MD, of the Boston University School of Public Health. Those most likely to experience depression, anxiety and post-traumatic stress disorder in the wake of a mass shooting were female, had previous psychiatric symptoms, were close to the attack, knew people who died in the attack and had low levels of social support, characteristics suggesting future areas for intervention

New research is looking more closely at the long-term psychological effects of mass shootings on survivors.

(*Trauma, Violence, & Abuse*, Vol. 18, No. 1, 2017).

■ **A longitudinal analysis** of 663 young Texas adults by Yu Lu, PhD, and Jeff R. Temple, PhD, of the University of Texas Medical Branch. It found that access to guns is a much stronger predictor of dangerous gun behavior than most mental health conditions, including depression, anxiety, post-traumatic stress disorder and borderline personality disorder (*Preventive Medicine*, Vol. 121, 2019).

As psychologists keep working in this complex and politicized area, a public health framework will continue to serve as a valuable guide, Kinscherff underscores.

“If we take an evidence-based public health approach and weigh that against people’s assertions of interests or even rights,” he says, “then we can have a real conversation about what’s really at stake here.” ■

KHONGWANGCHAO/GETTY IMAGES

Palestinian children attend a psychological release session at a family center in the Nuseirat refugee camp.



2

ELEVATING MENTAL HEALTH ON THE WORLD STAGE

Psychologists are key to a global movement by governments and major health organizations to devote more attention, resources and political commitment to improving mental health in low-resource countries

By KIRSTEN WEIR

WISSAM NASSAR/PICTURE ALLIANCE VIA GETTY IMAGES

ALL TOO OFTEN, countries with the fewest mental health providers also have the most stressors, including violence, poverty, forced migration, social unrest and political instability. According to the World Health Organization (WHO), even though mental health and substance use disorders are the top cause of disability worldwide, only a quarter of the people who need mental health services get them. ¶ “Mental disorders are the most neglected of the global health problems,” says Vikram Patel, MBBS, PhD, a psychiatrist and professor of global health and social medicine at Harvard Medical School. ¶ That’s slowly changing as the field of global mental health gains prominence. Psychologists are among the health-care professionals working to improve mental health in parts of the world touched by poverty, disaster and war. To close the mental health treatment gap, they’re training community

health workers to deliver psychosocial interventions and developing new models for delivering care in low- and middle-income regions.

“In the last few years, evidence-based treatments [in global mental health] have been scaling up and gaining steam,” says Deepa Rao, PhD, a clinical psychologist, professor and associate director of the global mental health program at the University of Washington in Seattle. “There are a lot of success stories.”

EXPANDING ACCESS TO CARE

The global mental health field got a big boost in 2013, when

WHO launched the first global mental health action plan with the support of health ministers worldwide. “That plan was a landmark,” says psychiatrist Shekhar Saxena, MD, formerly of WHO and now a professor of global mental health at the Harvard T.H. Chan School of Public Health. Since then, there’s been an uptick in attention, resources and political commitment devoted to global mental health, he adds.

The field is undoubtedly interdisciplinary, but psychologists are essential to many of these efforts. Groups including WHO and the U.S. National Institute of Mental Health

FURTHER READING

Psychological Treatments for the World: Lessons From Low- and Middle-Income Countries

Singla, D.R., et al.
Annual Review of Clinical Psychology
2017

Challenges and Opportunities in Global Mental Health: A Research-to-Practice Perspective

Wainberg, M.L., et al.
Current Psychiatry Reports, 2017

Rethinking the Service Delivery System of Psychological Interventions in Low and Middle Income Countries

Murray, L.K., & Jordans, M.J.D.
BMC Psychiatry
2016

(NIMH) are spearheading many interventions on the ground, nonprofits such as United for Global Mental Health provide advocacy and funding support, and academic scientists are making strides on the research side, Saxena says. One of the most important developments has been the finding that lay health workers can be trained to deliver sophisticated psychological interventions to improve mental health, says Brian J. Hall, PhD, a clinical psychologist and global mental health researcher at the University of Macau in China. “People without extensive and specialist training in psychology are delivering interventions to members of their own community. This innovation expands access to care.”

In a systematic review of 27 trials, Patel and colleagues found that psychological treatments delivered by community health workers or peers in primary-care settings had moderate to strong effects in reducing the burden of mood disorders in low- and middle-income countries (Singla, D.R., *Annual Review of Clinical Psychology*, Vol. 13, No. 1, 2017).

When health workers can deliver treatments for common problems such as depression,



anxiety and post-traumatic stress disorder, they reach more patients—and free up the few mental health specialists to address more complex problems. “We’re not talking about substituting psychologists, but extending mental health care to people who aren’t getting any care,” Patel says.

SCALING UP

Now, organizations and governments are working to expand the availability of such interventions. NIMH has established

10 “Scale-Up Hubs” to study how to expand the reach of mental health care and foster evidence-based mental health policy in low-resource settings.

Rao, for example, is a principal investigator within the southern Africa hub. With psychologists Inge Petersen, PhD, at the University of KwaZulu-Natal, and Arvin Bhana, PhD, at the South African Medical Research Council, she is training nurses and other health-care workers in primary-care settings in South

Lay health workers are being trained to deliver psychological care to reach more patients and free up specialists for more complex problems.

Africa to deliver cognitive-behavioral therapies to treat depression in people with diabetes, HIV and other chronic diseases. Integrating mental and physical health care not only improves mental health, it also helps people with chronic illness engage in care and adhere to medications, Rao says. “We’re trying to build a sustainable model where psychotherapy is the norm in treatment.”

In another example of an NIMH-funded scale-up project, psychologist Kimberly

JEKESAI NUKIZANA/AFP/GETTY IMAGES

Integrating mental and physical health care not only improves mental health, it also helps people with chronic illness engage in care and adhere to medications.



Hoagwood, PhD, at New York University Grossman School of Medicine, and colleagues are studying family group interventions for children with disruptive behaviors in several African countries, comparing the effectiveness of group programs led by family peers versus community health workers (Kivumbi, A., et al., *BMC Psychiatry*, Vol. 19, No. 1, 2019).

Global mental health professionals are also trying to make mental health care more accessible by distilling interventions down to their essential components and finding ways to deliver them in as few sessions as possible. “There’s a big push to understand how short we can get these treatments and what the key mechanisms of action are,” says Laura Murray, PhD, a psychologist and professor in the department of mental health and international health at the Johns Hopkins Bloomberg School of Public Health.

Mental health problems often go hand in hand with poverty, interpersonal violence and substance use, Murray notes, so it’s more efficient to target multiple problems at once. She and her colleagues developed a multiproblem approach called the Common Elements Treatment Approach (CETA), which can be customized to

address symptoms of depression, anxiety and traumatic stress, as well as substance use and violence. It’s usually delivered in eight sessions but can be made longer or briefer as needed. In initial trials, Murray and her team found CETA effective in Ethiopia, Iraq, Thailand and Zambia, among other countries (*Cognitive and Behavioral Practice*, Vol. 21, No. 2, 2014; *Global Mental Health*, Vol. 5, article e16, 2018). The intervention is now being rolled out and evaluated in other locales. “One rarely ever sees one mental health problem alone,” she says. “We developed CETA to address multiple problems.”

CULTURAL SENSITIVITY

While Western psychotherapies often form the basis of mental health treatment programs, global mental health workers take care to adapt them in culturally sensitive ways. Health workers using a tool like cognitive reprocessing—in which people learn to identify and reframe unhelpful thoughts—might have to take a storytelling approach in some African countries or draw on biblical examples in religious communities. Whereas psychologists help local providers understand the core elements of a psychotherapeutic intervention, local

team members take the lead on shaping those elements for their population. “You don’t have to invent entirely new treatments to be culturally sensitive, but you have to be flexible and adjust the implementation,” Murray says. Psychologists have a lot to offer the field, says Hall, who is working with WHO to culturally adapt and test digital mental health innovations for migrant workers in China and Chinese adults. But to excel, he adds, psychologists need to practice cultural humility and embrace working in multidisciplinary settings with psychiatrists, primary-care physicians, public health experts and other health-care workers from different cultures and backgrounds.

Most opportunities for global mental health training at U.S. institutions are found in departments of public health, and aren’t always well integrated into psychology training, says Murray. But more psychologists are getting involved, and dedicated training opportunities are helping them dive in—including the APA–International Union of Psychological Science (IUPsyS) Global Mental Health Fellowship, which provides an opportunity for a psychologist to contribute to the work of WHO’s Department of Mental Health and Substance Abuse for one year.

And psychologists’ contributions to the emerging field are vital—in research, diagnostics, training, treatment and policy advice, says Saxena. “Psychologists can and should play a very large role in global mental health.” ■

The climate crisis is a threat to people's mental health, with natural disasters and rising temperatures leading to increases in anxiety, stress, trauma and more.



3

INCREASING ACTION ON CLIMATE CHANGE

As the human toll of climate change becomes clearer, psychologists are working with the United Nations, national and local governments, and private companies to understand, mitigate and adapt to the crisis

By ZARA GREENBAUM

SHAUN/GETTY IMAGES



CONCERNS ABOUT CLIMATE CHANGE have grown into a full-fledged social movement, spurring climate activism worldwide and opening opportunities for virtually every discipline to address the crisis. ¶ Psychologists are among those stepping up to heed the call—through their work with the United Nations, policymakers, corporations and community groups—relying on psychological science to inform educational campaigns and behavior change efforts. They are aiding in both mitigation efforts to curb the causes of climate change and adaptation strategies for adjusting to its impacts. ¶ “We are all going to be affected by this problem,” says Susan Clayton, PhD, professor of psychology and environmental studies and chair of the psychology department at The College of Wooster in Ohio. “As psychologists, there are

ways for us to apply our professional skills and make a difference—and doing so can be extremely gratifying.”

A CRITICAL REPORT

In one of their most far-reaching efforts, psychologists are on the international team of experts developing the sixth U.N. Intergovernmental Panel on Climate Change (IPCC) assessment report, which will inform climate change policies worldwide. In the IPCC’s massive international network of authors—including climatologists, economists and environmental scientists—psychologists are more involved than ever before. While just one psychologist contributed to the

IPCC’s fifth report, at least five are authors on the upcoming document.

For example, as one of several lead authors on a chapter covering how climate change affects health and well-being, Clayton is summarizing the extensive literature on how the climate problem may threaten people’s mental health.

She has identified three potential causes of such harm. First, scientists now know that climate change increases the risk of major natural disasters such as hurricanes, floods and wildfires—and psychological research shows that such disasters lead to increases in post-traumatic stress disorder, depression, anxiety and domestic

FURTHER READING

Meta-Analyses of Factors Motivating Climate Change Adaptation Behavior

van Valkengoed, A.M., & Steg, L. *Nature Climate Change* 2019

Meta-Analysis of Pro-Environmental Behaviour Spillover

Maki, A., et al. *Nature Sustainability* 2019

Special Issue: Climate Change and the Human Factor

International Journal of Applied Psychoanalytic Studies 2019

Mental Health and Our Changing Climate

APA and ecoAmerica 2017

abuse (Mental Health in Emergencies, World Health Organization, 2019).

Second, more gradual changes associated with climate change can also worsen mental and behavioral health. Increasing temperatures, for instance, have been associated with poor cognitive performance (Laurent, J.G.C., *PLOS Medicine*, Vol. 15, No. 7, 2018) and mental health problems (Obradovich, N., *PNAS*, Vol. 115, No. 43, 2018), while rising sea levels and changing precipitation patterns may force people to migrate, leading to additional stress and trauma.

Finally, psychologists are beginning to explore whether simply knowing about climate change can cause psychological distress such as anxiety or ecologically driven grief (Cunsolo, A., *Nature Climate Change*, Vol. 8, 2018)—and may even alter personal decisions such as whether to have children. Though concrete evidence is still limited, more than half of the 3,458 American adults who completed APA’s 2018 Stress in America survey said they feel stress about climate change.

“People have this idea that climate change will impact the poles, but they’re less aware of

the effects it will have on our mental health and our stress levels,” says Janet Swim, PhD, professor of psychology at Pennsylvania State University and a contributing author on the upcoming IPCC report. “Talking about those outcomes seems to motivate people across the political spectrum and may lead to a better overall response.”

CHANGE FROM WITHIN

In addition to their expanded efforts on the IPCC report, psychologists are increasingly working with government agencies to craft effective climate change mitigation policies. The Welsh government, for example, has partnered with Lorraine Whitmarsh, PhD, professor

of environmental psychology at Cardiff University in Wales and director of the U.K. Centre for Climate Change & Social Transformations, and applied insights from her research to better engage citizens on issues surrounding climate change.

Whitmarsh found that narratives emphasizing family values and the community benefits of reducing emissions, as well as messages that came from friends and family members, were most effective in stimulating behavior change. For conservatives, messages promoting frugality and national energy sufficiency were particularly effective—and the Welsh government used such insights to shape its climate change engagement strategy

A firetruck heads toward flames during the Kincade Fire near Geyserville, California, on Oct. 24, 2019. Climate change is contributing to an increase in the frequency of catastrophic fires like this one.

(*Global Environmental Change*, Vol. 42, 2017).

Psychologists are working with municipalities, as well. Amanda Carrico, PhD, a psychologist and assistant professor in the environmental studies program at the University of Colorado Boulder, for example, worked with the Metropolitan Planning Organization in Nashville, Tennessee, on a campaign aimed at minimizing air pollution and its health risks. Insights from her research on motor vehicle idling, an environmental behavior she found to be more malleable than such actions as carpooling or taking public transportation, have also informed behavior change campaigns in multiple cities.

JOSH EDELSON/AFP VIA GETTY IMAGES





Brian Bon assesses the damage in Panama City, Florida, after Hurricane Michael made landfall along Florida's Panhandle on Oct. 10, 2018.

Others are partnering with energy companies to apply research insights on a larger scale. Psychologists already know that providing feedback can aid behavior change, but P. Wesley Schultz, PhD, professor of psychology at California State University San Marcos, also found that including a normative frame—for instance, comparing a customer's energy or water consumption to that of similar households in the neighborhood—triggers particularly durable behavior change (*Environment and Behavior*, Vol. 48, No. 5, 2016). Now, utility companies around the world include such insights on monthly bills sent to tens of millions of customers.

To begin coordinating such efforts internationally, APA partnered with the Order of Portuguese Psychologists to co-convene the International Summit on Psychology and Global Health: Climate Change, held in Lisbon in November. Leaders from more than 40

psychological associations convened for presentations on the psychology of climate change and working sessions geared toward developing tools, advocacy statements and media messaging around psychologists' growing role in climate change prevention, mitigation and adaptation.

Opportunities also exist in the private sector—for instance, through greening the supply chains of major corporations. Swim says consumers are increasingly concerned with the impacts of their consumption and are often willing to pay more for items produced responsibly, but they need to know whom to trust. Psychologists can help by studying how consumers establish trust in the context of climate change mitigation, the kinds of information they use to assess companies' sustainability efforts and how they conceptualize their own impact.

Schultz, for instance, has partnered with Keurig to help the company develop and

market a recyclable container for its single-use coffee pods. He's studying customer behavior—for instance, whether people prefer to recycle pods through a mail-back, drop-off or curbside recycling program—to inform the new product's development.

FUTURE DIRECTIONS

One essential way psychology can contribute to addressing the climate crisis is by gaining a more nuanced understanding of behavior change and applying such insights to policies and messaging that drive significant and sustained change, says Ezra Markowitz, PhD, associate professor of environmental decision-making at the University of Massachusetts Amherst and president of APA's Div. 34 (Society for Environmental, Population and Conservation Psychology).

For example, Carrico is exploring whether conservation behaviors are maintained over weeks, months and years following an intervention. Schultz, Whitmarsh and others are exploring the concept of behavioral spillover—does changing one behavior shift how people act in other domains—for instance, if people plan to recycle items, will they consume more? And how might the popular practice of nudging individual behaviors change how people view the larger problem of climate change?

"These are new areas that are becoming increasingly important to explore," Markowitz says, "now that climate change is the background against which all sorts of decisions are going to be made for decades to come." ■



4

DESIGNING PEOPLE-FRIENDLY TECHNOLOGY

Demand for “UX” psychologists is increasing as industries of all kinds work to improve how people interact with products and services

By TORI DEANGELIS

THEERAPAN BHUMIRAT/LAMY

ANYONE WHO'S TRIED NAVIGATING a poorly marked hospital wing, a cluttered website or a seemingly endless phone tree can appreciate the value of designing systems and products with the user in mind. ¶ That's where psychologists involved in user-experience (UX) research come in. Their job is to make interactions in these domains as easy, safe, intuitive and enjoyable as possible, employing psychological knowledge to design and test products and systems to enhance users' satisfaction. ¶ "It's all about understanding how people think about, perceive and behave in the world, and designing products and systems that match that," says Colton Turner, PhD, a human factors specialist at Priority Designs, a product development consultancy in Columbus, Ohio.

This skill set is becoming increasingly hot, as more and more organizations, institutions and companies see the importance of providing a good experience for their customers, says psychologist Barbara Chaparro, PhD, head of the Research in User eXperience (RUX) Lab at Embry-Riddle Aeronautical University in Daytona Beach, Florida.

"It's no longer just big tech companies that are hiring these people—it's everybody," Chaparro says. "There's a growing awareness that it's important to understand end users in whatever products [companies] are creating."

UX jobs can now be found in nearly every arena, including technology, academia, education

and medicine, adds psychologist Susan Weinschenk, PhD, chief executive officer of The Team W, a UX consulting firm in Wisconsin. Her clients include Target, Best Buy, the Walt Disney Company and other Fortune 500 companies, as well as government entities including the European Commission, medical facilities such as the Mayo Clinic, colleges, universities and more. "The work is so interesting, and so much fun, and I think it's really useful to our clients," she says.

While not all UX practitioners have degrees in psychology—they come from areas as diverse as visual design, computer programming and interaction design—a psychology background, particularly in

User-experience research is becoming increasingly hot as more and more organizations, institutions and companies see the importance of providing a good customer experience.

human factors, is a significant advantage, Chaparro adds. In fact, UX is considered a subspecialty of human factors, which applies knowledge of human capabilities to the design of systems, processes and products. UX, meanwhile, focuses specifically on the end users' experience with a product or system, and includes measures of their attitudes and emotions, she explains.

Thanks to their training, many psychologists enter UX positions as researchers rather than designers, applying their extensive knowledge of human capabilities and propensities to user testing, Chaparro adds.

"Cognition, perception, sensation, motivation, attention, emotion—all of it comes into play in this work," she says. "It's all about understanding people."

PRODUCT DEVELOPMENT AND SYSTEMS DESIGN

UX psychologists can facilitate people's ability to easily, safely and pleasurably use almost any conceivable product. At Priority Designs, for example, Turner evaluates home goods, medical devices, sporting goods, construction equipment, hardware and soft goods—items such as soft luggage and carrying



cases—both for in-house designers and for external clients.

His first step in any project is talking with designers, engineers or project managers to learn about the initial product design or prototype and to glean ideas about the intended customer base. In evaluating the design of medical devices, for example, Turner focuses on the users' unique needs and challenges, such as cognitive, physical or environmental limitations that may impact their ability to use the device safely and efficiently. Next, he gathers data on potential users, which often means conducting surveys and interviews. This may include

on-site visits to get a sense of users' task demands—for example, those of nurses who will be using the device in a hospital setting. Finally, he tests prototypes with potential users and shares the resulting information with designers and engineers, who refine the design based on his findings.

In a similar vein, Mikki Phan, PhD, heads a research team at Google that helps to design high-tech products like smart speakers and smart thermostats. Drawing on her UX and human factors backgrounds, Phan and her team evaluate these products in terms of task difficulty, the time it takes to complete a task and other usability factors.

With their deep knowledge of human behavior, UX psychologists can improve people's interactions with almost any product or service.

"Smart-home devices are a fast-growing tech area," she says, "but there are still a lot of research gaps in how to make these devices 'smarter' and integrate more seamlessly into people's daily routines. So, the area is ripe for UX and human factors researchers to contribute our knowledge and experience."

Another growing arena for UX practitioners is working within or for systems. At Children's Mercy Hospital in Kansas City, Missouri, for example, Sarah Fouquet, PhD, works as a human factors scientist and program director, helping to address UX issues affecting the hospital's two diverse user groups: pediatric patients and

their families, and hospital staff. Her projects have included helping to reconfigure an emergency room to create better flow for medical personnel working in a tight, chaotic space and testing the user-friendliness of electronic medical forms with providers and patients.

In one such project, Fouquet and her team had physicians complete a new computerized medical form in the presence of staff who were playing the role of patients and their families. Physicians were frustrated at having to divide their attention between their computers and patients, she found, and the staff playing the patient/family role picked up on that. As a result of this feedback, the hospital is rethinking the form's design and including the opportunity to fill in some of the form outside of the patient's room.

"You can design the world's greatest form," says Fouquet, "but if it frustrates providers and alienates patients, it's not going to be a great experience for anyone."

In another systems-related project, Weinschenk is helping a community college address a growing concern for many institutions of higher education: how to retain students. One way to do this, she finds, is by making the student experience easier and more enjoyable. To this end, Weinschenk is helping the college develop a systemwide strategy to incorporate UX into the wide range of projects and services that students access, including software apps to sign up for classes and a website with detailed



descriptions of course offerings. Her overall goal is to infuse a UX mindset throughout the college. "I'm not just helping them do one little thing," she says. "I'm opening them up to the idea that this is something important for the organization as a whole."

A BOOM AREA

UX psychologists find the work gratifying because they can use their psychology background to work on interesting projects that reduce people's frustration and enhance their enjoyment and safety—often while earning a great living, says Weinschenk. According to the job-review site Glassdoor, the average base pay for a UX researcher is \$93,152. And there's no shortage of these jobs: In October alone, the employment site Indeed posted 4,400 UX researcher jobs and 8,998 UX designer jobs.

And the area is only likely

Testing prototypes with potential users allows UX psychologists to see what might confuse people as they navigate the design.

to keep burgeoning, Chaparro predicts, as more and more companies become interested in what she calls the "end-to-end" experience—the user experience from start to finish.

"It's no longer just, 'Is our store arranged correctly, or does our website have the right information on it?'" she says. "It's more about the whole process: 'How did the customer hear about it? How did they first get to it?'" Growth is also expected in the medical field, as the need for safer, more user-friendly equipment and systems continues to expand, she and others say.

The bottom line: UX is a fortuitous job domain that combines identifying universal, ongoing needs and finding new and creative solutions for them.

"The way I think of it is, if people ever stop using things, UX will go away," Turner says. "And I don't think people will ever stop using things." ■



The largest increases in diversity of psychology students were among those who identified as Hispanic or multiethnic.

5

ENTICING NEW FACES TO THE FIELD

Today's psychology graduate students are more racially and ethnically diverse, admission to PhD programs is more competitive and master's degrees in industrial-organizational psychology are hot

By **DEBORAH BAILEY**

ELEMENTS DIGITAL/UNSPASH

EFFORTS TO RECRUIT diverse students into psychology look promising: The percentage of racial- and ethnic-minority psychology graduate students grew from 27% in the 2006–07 academic year to 35% in 2016–17, with increases for every ethnic-minority category tracked, according to a new analysis of data from APA’s annual Graduate Study in Psychology survey of psychology graduate programs. ¶ The largest increases were for students who identified as Hispanic or multiethnic, and master’s students were slightly more diverse than doctoral students. Moreover, about 40% of first-year psychology students identified as a racial or ethnic minority. ¶ “Greater diversity in the field translates into more perspectives informing our research and clinical work,” says Zewelangi Serpell, PhD, director of graduate studies in psychology at Virginia Commonwealth University.

But while diversity is increasing overall, the APA data also reveal some gaps. For example, although blacks make up 13% of the U.S. population, they account for only about 5% of the psychology workforce and 10% of psychology students. The ratio of psychologists and Hispanics is even more uneven: While Hispanics make up 18% of the population, they represent only 4% of the psychology workforce and 12% of psychology students.

Among the factors driving the increased diversity are the diversity competency adopted in 2002 by the National Council of Schools and Programs of Professional Psychology

(NCSPP) and APA’s adoption of diversity as a guiding principle for programs starting in 2009. “They help programs to be intentional and explicit in their strategies to recruit and support diverse students,” says Amy Mezulis, PhD, chair of Seattle Pacific University’s clinical psychology department. APA also provides resources about diversity issues in graduate education at www.apa.org/education/grad/diversity.

Individual programs and faculty are also working to bring in more diverse students. “If we say that diversity and inclusion are important and we want to increase diversity, we have to

really be intentional about it,” says Enrica Ruggs, PhD, an assistant professor of management and the director of the Center for Workplace Diversity and Inclusion at the University of Memphis. “That means going to places and trying to recruit students that may not otherwise know about psychology.”

Some program directors are reaching out to historically black colleges and universities, Hispanic-serving institutions and other diverse undergraduate programs. Also key is ensuring that undergraduate students get the mentoring and advice they need to apply for graduate school.

Other efforts include holistic admission procedures that use multiple indicators rather than focusing on just GRE scores, hiring faculty who are diverse themselves or otherwise invested in diversity and staying connected with diverse alumni after they graduate. “They can help recruit new applicants, offer insights for current students and build connections to support each other as they grow in their careers,” says Georita Marie Frierson, PhD, dean of the D’Youville College School of Arts, Sciences and Education in Buffalo, New York.

FURTHER READING

More application, acceptance and enrollment data at www.apa.org/education/grad/survey-data

Graduate Enrollment and Degrees 2008 to 2018, Council of Graduate Schools
cgsnet.org/graduate-enrollment-and-degrees

Indeed, these new psychologists are changing the field's makeup. Between 2007 and 2016, the percentage of psychologists who were racial or ethnic minorities almost doubled—from 9% to 16%, according to APA's Center for Workforce Studies.

MORE COMPETITION

A surprising finding of the APA survey analysis is that it's become harder to get accepted into a psychology doctoral program: Acceptance rates dropped between the 2003–04 and 2015–16 academic years in most psychology subfields.

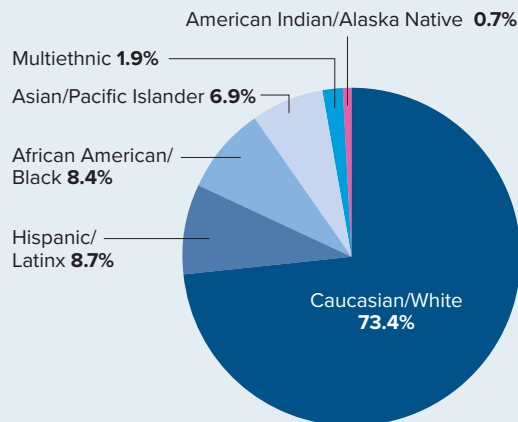
Those rates reflect a larger trend in the social and behavioral sciences, which is the second most selective field of doctoral study, trailing only business, according to the Council of Graduate Schools.

Cognitive psychology saw the biggest increase in competitiveness, going from a 20% to a 13% acceptance rate for doctoral programs, while clinical psychology doctoral acceptance rates dropped from 16% to 13%, likely driven by a 20% increase in applications.

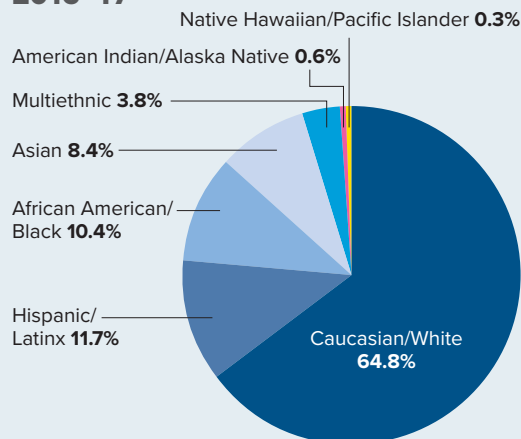
But not all subfields followed this pattern. The acceptance rate to clinical PsyD programs has been level since 2004–05. During this time, the median number of applications to clinical PsyD programs decreased. “While it's not unusual for applications to decline during a strong economy, possible causes include student concerns about financing their education, since PsyD candidates do not have

Race/Ethnicity of Psychology Graduate Students

2006–07



2016–17



Between 2007 and 2016, the percentage of psychologists who were racial or ethnic minorities almost doubled—from 9% to 16%, according to APA's Center for Workforce Studies.



the same funding opportunities available to PhD candidates,” says NCSPP President Francine Conway, PhD.

More recently, the median number of enrolled students has also decreased for clinical PsyD programs, which could indicate that programs are choosing to have smaller class sizes to preserve the high quality of their training, says Conway, who is also dean of the Rutgers Graduate School of Applied and Professional Psychology.

MASTER'S I/O DEGREES IN DEMAND

Applications to master's-level industrial-organizational (I/O) psychology programs have increased, while the median number of master's program applications for most other subfields has been flat or declined.

For the 2016–17 academic year, master's I/O programs had more applications than any other subfield and the acceptance rate (39%) was the second most selective, after clinical psychology master's programs (38%). The I/O acceptance rate has held steady for at least four years, but it is notably more competitive than in 2008–09, when the acceptance rate was 50%.

Meanwhile, the number of

● The 2019 edition of *Graduate Study in Psychology* included data reported by 1,473 psychology master's and doctoral programs. The data include applications in 2015–16 for enrollment in 2017. Psychology departments reported race and ethnicity data for more than 45,000 students and gender for more than 50,000 students.

I/O programs and enrollments have grown to meet the demand. There are 28% more master's and doctoral programs listed in the APA Div. 14 (Society for Industrial and Organizational Psychology) program directory than 10 years ago.

Ruggs credits the increased interest in master's-level I/O degrees to the doors the degree can open, including the ability to find a job and interesting work, as well as good pay: The median annual salary for I/O psychologists in management

“If we say that diversity and inclusion are important and we want to increase diversity, we have to really be intentional about it.”

ENRICA RUGGS, PhD, CENTER FOR WORKPLACE DIVERSITY AND INCLUSION, UNIVERSITY OF MEMPHIS



is \$111,270, according to May 2018 estimates from the Bureau of Labor Statistics, which includes both master's- and doctoral-level workers in this category.

“It's an area of psychology that has immediate application to business,” says I/O psychologist Joe Allen, PhD, of the University of Utah. “That's resulted in a growing awareness, where organizations that previously didn't know about I/O are now actively recruiting I/O psychologists.” ■



GENDER STATS

WOMEN STILL OUTNUMBER MEN IN PSYCHOLOGY

While racial and ethnic diversity is increasing, gender diversity is not, according to an analysis of data from APA's annual Graduate Study in Psychology survey of master's and doctoral psychology programs. About three-quarters of students are female, a constant over the past 15 years. In the 2017–18 academic year:

- About 78% of students in health-service psychology subfields, such as clinical counseling and school psychology, were female.
- About 65% of students in research subfields, such as experimental and social psychology, were female.
- Psychology is more female than the average, according to the Council of Graduate Schools. Across all fields, 60% of master's students and 54% of doctoral students in 2016–17 were women.



If behavioral health services were to be fully integrated with physical treatment, the savings to the American health-care system could be vast—\$26 billion to \$48 billion annually.

6

IMPROVING CARE WHILE SAVING MONEY

Large health systems increasingly recognize that weaving psychologists' expertise into services improves care and saves money

By CHARLOTTE HUFF

SDI PRODUCTIONS/GETTY IMAGES

IN A TREND THAT HAS THE POWER to significantly improve patient care, health systems are becoming more proactive about identifying patients' behavioral health needs earlier on, investing in strategies ranging from providing apps and telemedicine to promoting more routine screening during primary-care visits. ¶ The best efforts, say proponents, treat emerging behavioral health issues before they reach the level of a clinical diagnosis. ¶ "Providers are recognizing the significant benefit, obviously on behalf of the patients but also from an operations and financial perspective, of addressing behavioral health issues and really treating the whole person," says Joseph Miller, PhD, who chairs the American Hospital Association's Section for Psychiatric and Substance Abuse Services. It means, for example, if a patient has anxiety and a chronic cardiac condition, they can get treatment to improve both, potentially shortening their hospital stay, he says.

Treating someone for a physical condition who also has a behavioral health condition can double or triple the bill, according to a 2014 report that Milliman Inc. prepared for the American Psychiatric Association. If behavioral health services were to be fully integrated with physical treatment, the savings to the American health-care system could be vast—\$26 billion to \$48 billion annually, the firm calculated.

At this point, that level of integration remains a steep climb given the chronic shortage of mental health providers. One federal analysis projected a shortage of as many as 57,490 psychologists by 2025. According to data from the

National Council for Behavioral Health and the Cohen Veterans Network, nearly 4 in 10 Americans report waiting longer than a week to get mental health treatment.

INNOVATIVE SOLUTIONS

But health organizations are striving to intervene sooner, bringing behavioral health services closer to the patient, and sometimes into the patient's home. In 2019, Northern California-based Livongo Health, which has developed technology to assist people with better managing diabetes and other physical conditions, acquired Denver-based myStrength. That company's web- and

There's an increasing need for psychologists to work closely with medical teams to improve patients' compliance with medications and lifestyle changes.

mobile-based behavioral health-care platform, created with input from psychologists, already was contracting with more than 120 health organizations, including hospital systems.

Meanwhile, more health systems are working to flag behavioral health or substance use concerns during physical checkups. In one example, New Jersey's Hackensack Meridian Health partnered with Cooper University Health Care to launch a pediatric psychiatry collaborative that now includes more than 500 pediatricians statewide. When those pediatricians identify a potential concern, they have a network of psychologists and other clinicians to which they can immediately refer that patient.

Moving forward, some of the best potential for return on investment will likely stem from such efforts to more frequently tap psychologists' expertise to help better manage depression, anxiety and other mental health challenges that can sabotage physical conditions such as diabetes, says Stephen Gillaspay, PhD, APA's senior director for the Office of Health Care Financing.

"We've got great treatments," Gillaspay says. "The problem is



that a lot of times the patients aren't too compliant with those treatments. I think that there's going to be an increasing role for psychologists to work with medical teams to improve compliance, which then improves their outcomes," such as fewer emergency room visits, he says.

Moreover, he adds: "There are psychological and behavioral processes that can impact your medical management that don't have to meet criteria for a mental health diagnosis," such as low-level anxiety undercutting diabetes control. "I think that is the sweet spot."

CATCHING SUBCLINICAL ISSUES

Cherokee Health Systems, which has blended behavioral health with primary care for years, emphasizes immediate follow-up. If a health provider identifies a potential behavioral health or substance use concern, the goal is to get the patient a further assessment during that same visit, says Parinda Khatri, PhD, chief clinical officer at the Knoxville, Tennessee-based nonprofit health organization, which treated 69,000 patients in 2018.

"If they have to wait a day or the next week, that is a fail in

Health systems are moving toward providing more timely interventions before patients feel forced to seek out costly emergency care.

our mind," Khatri says. Not only might some patients be unable to return for the follow-up visit, she says, but the interventional window might have closed by then.

"Particularly with substance misuse," she says. "When someone is ready, they're ready. And they may not feel the same way the next day. You have to optimize that opportunity."

Cherokee Health was among the systems that shared return-on-investment results in an American Hospital Association report about behavioral health initiatives published in 2019. Their behavioral health

“Providers are recognizing the significant benefit ... of addressing behavioral health issues and really treating the whole person.”

JOSEPH MILLER, PhD, AMERICAN HOSPITAL ASSOCIATION SECTION FOR PSYCHIATRIC AND SUBSTANCE ABUSE SERVICES



co-management with primary care, they reported, reduced emergency department visits by 68%. The report also describes the investment payoff at other facilities, including at Yale New Haven Psychiatric Hospital in Connecticut and Utah's Intermountain Healthcare.

Since its acquisition by Livongo, myStrength has added roughly 20 more health organizations to its client roster, says Scott Cousino, myStrength's co-founder and Livongo's senior vice president of behavioral health. Several psychologists were consulted in the creation and expansion of the various components available to users through the digital platform, including personalized assessments and various behavioral management and motivational tools.

The inherent privacy that virtual behavioral support provides might reach individuals struggling with a subclinical issue—such as overmedicating a bit with alcohol—who might not otherwise seek out care, Cousino says. (myStrength's data show that more than 65% of users aren't currently seeing a therapist.) Through its virtual platform, myStrength also promotes the benefits of therapy,

including with psychologists, he says. And when a user is believed to be at elevated risk, based on the platform's periodic mood tracking and assessments, they're encouraged to seek out a mental health clinician.

BRINGING CARE CLOSER

Providing more timely interventions before a patient feels forced to seek out costly emergency care is where health systems are moving, says Miller, who is also vice president of behavioral health-care transformation services at Hackensack Meridian. Not only does that save money, but frequently it's better for the patient, he says. “Probably the worst place to be in the midst of a behavioral health crisis is an emergency room.”

In 2019, Hackensack Meridian opened an urgent care center with expanded behavioral health services after its own data found that nearly half of patients with behavioral issues didn't require an emergency department level of care, Miller says. Patients will receive a medical screening first to check, for instance, that the symptoms of a possible panic attack are not those of a heart attack, he says. As of fall

2018, the state-funded pediatric psychiatry collaborative that Hackensack Meridian launched has already screened more than 130,000 children and referred 7,120 for further assessment or treatment. Some of the most common concerns include anxiety, depression and attention-deficit disorders. When children are believed to be on the autism spectrum, psychologists can provide additional testing.

Despite encouraging progress in innovation, reimbursement remains a sticking point, particularly for nontraditional interventions, whether that's touching base by phone or even a text exchange. Also, since a diagnosis is typically required, there's no payment for steps taken to avert a subclinical issue before it worsens, Khatri adds.

But some progress has been achieved recently, in the form of higher reimbursement through the health behavior assessment and intervention codes. APA advocated for those payments to be raised to a comparable level to psychotherapy services, federal officials agreed and the changes went into effect Jan. 1.

If those higher rates hold, psychologists will be better compensated for their role in improving compliance for patients with diabetes, hypertension or another medical condition, even if that patient doesn't have a mental health diagnosis, Gillaspay says. “That should open up the door and make it easier for psychologists to do that work even in a fee-for-service market,” he says. ■



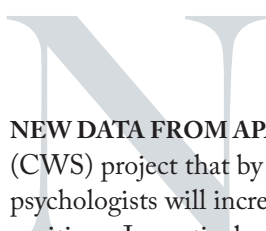
7

ANSWERING THE DEMAND FOR SERVICES

Underserved communities are driving a heightened need for health-service psychologists

By DEBORAH BAILEY

PHILIPP BERNDT/UNSPLASH



NEW DATA FROM APA'S Center for Workforce Studies (CWS) project that by 2030, the national demand for psychologists will increase by about 6%, to 101,000 full-time positions. In particular, demand is projected to increase for services with:

- Patients in hospitals, where overall population growth combined with increasing numbers of older adults will increase hospital stays.
- Hispanic populations, which are expected to grow from about 18% of the U.S. population to about 21%.
- Older adults, who will account for about 1 in every 5 U.S. residents, according to the U.S. Census Bureau.
- Americans living in southern states, for whom there are already fewer psychologists per person than in other geographic populations.

"We can have the right numbers of psychologists, but they also need to be in the right geographic areas, in the right work settings, and have the appropriate training to serve diverse populations and health needs," says Karen Stamm, PhD, director of CWS.

The opportunity for psychologists could be even greater if some of the barriers that underserved communities face were reduced, Stamm adds. For example, the CWS projects that as many as 25,000 more psychologists could be needed by 2030 if racial and ethnic minorities used services at the same rate as the non-Hispanic white population.

GROWTH IN HOSPITALS

By 2030, hospitals are projected to have more inpatient visits, resulting in a 26% increase in psychologist positions from 2015—the largest projected increase of any psychologist work setting.

Also driving that increase is hospital administrators' growing recognition of the behavioral and mental health aspects of health conditions that psychologists can address, from cardiac problems to substance use disorders, says Paul Kettlewell, PhD, ABPP, director of pediatric psychology and integrated behavioral health/primary care at Geisinger Health System in Pennsylvania. Geisinger has

expanded the role of psychologists in specialty-care settings, including cardiology, sleep medicine and pediatric gastroenterology, and has added psychologists to primary-care teams.

"There are compelling reasons why integrated health-care systems like Geisinger, the Mayo Clinic, Cleveland Clinic and Intermountain Healthcare believe that behavioral health is critical to their system of care," Kettlewell says.

Meanwhile, as health-care systems look for ways to improve the overall health of their populations, new leadership opportunities for psychologists are emerging, adds Jared Skillings, PhD, ABPP, APA's chief of professional practice.

"These are areas that have been historically filled by physicians and businesspeople that in fact more appropriately ought to be filled by psychologists," he says. "It's a new opportunity for psychologists to demonstrate the high-level, broad skill set we have."

CULTURAL AND LANGUAGE NEEDS

The demand for bilingual and culturally competent

FURTHER READING

APA Psychologist Workforce Projections

www.apa.org/workforce/publications/supply-demand

CWS Data Tool: State-Level Maps for Psychologist Workforce Projections, 2015–30

www.apa.org/workforce/data-tools/interactive-state-level



The demand for bilingual and culturally competent psychological services for Hispanic Americans—defined as those with Spanish-speaking ancestry—will grow 30% by 2030.

psychological services for Hispanic Americans—defined as those with Spanish-speaking ancestry—will grow 30% by 2030, CWS projects. “It’s crucial for psychologists to better reach underserved populations,” says Skillings.

Yet, he points out, Hispanic

Americans already struggle to find mental and behavioral health care, even in culturally diverse areas. Only 5.5% of psychologists can provide services in Spanish, and only 4.4% of psychologists are Hispanic. “The needs are dire,” says Lydia P. Buki, PhD, an associate

professor and training director for the University of Miami’s counseling psychology program. The program’s bilingual training clinic serves more than 120 Latinx clients annually. (For others, see the June 2018 *Monitor* article “Spanish-Speaking Psychologists in Demand.”)

To grow the workforce, it’s essential to capture students early in their education, says Claudette Antuña, PsyD, MHSA, LICSW, a psychologist in Washington state who frequently works with immigrants. For example, we need more young Americans to learn

By 2030, hospitals are projected to have more inpatient visits, resulting in a 26% increase in psychologist positions from 2015—the largest projected increase of any psychologist work setting.

The number of Americans 65 and older is projected to grow by 34% between 2015 and 2030. As a result, by 2030, the demand for psychologists will increase by 40% for adults ages 65 to 74 and by 71% for adults over 75.



Spanish and develop a deeper appreciation of other cultures, and at the same time, mental health professions could improve their outreach to Hispanic high school and undergraduate students to consider mental health careers, she and other psychologists say.

OLDER ADULTS

The number of Americans 65 and older is projected to grow by 34% between 2015 and 2030—and by 2035, older adults will outnumber children for the first time in U.S. history, according to the U.S. Census Bureau. As a result, by 2030, the demand for psychologists will increase by 40% for adults ages 65 to 74 and by 71% for adults over 75.

And that demand could be even higher. The middle-aged adults who will become older adults in the next 15 years have a higher prevalence of behavioral health problems and are more familiar with and use behavioral health services more often than today's older adults, according to a paper led by Jennifer Moye, PhD, of the VA Boston Healthcare System and Harvard Medical School (*Training and Education in Professional Psychology*, Vol. 13, No. 1, 2019).

So far, the prospects for

meeting that demand are not encouraging. A 2015 APA survey found that early career psychologists reported feeling less competent to work with older adults than other diverse populations, and only about 2% of psychologists say geropsychology is their primary or secondary specialty.

Graduate and undergraduate students who want to investigate such careers should visit APA's Exploring Careers in Aging road map, an online resource developed by APA's Committee on Aging.

THE SOUTH

The U.S. Census Bureau defines the American South as the area from Texas to Delaware. According to the latest data available (2015), CWS estimates that the South had 22 psychologists per 100,000 people. By comparison, the Northeast averaged 49.

The South also includes the three states with the lowest proportion of psychologists: Mississippi, South Carolina and Louisiana. But even in southern states with more psychologists, such as Maryland, they aren't evenly distributed: About 40% of Maryland's counties are partially or wholly designated

as mental health professional shortage areas by the U.S. Health Resources and Services Administration.

One of the best ways to bring health-service psychologists to a state is by offering graduate training and internships to them, psychologists say. For example, in the Rio Grande Valley of Texas, psychologist Joseph McCoy, PhD, and colleagues worked with the Texas Psychological Association and the Hogg Foundation to develop an internship consortium that led to an APA-accredited internship at the University of Texas Health Science Center at Tyler. Other psychologists are coming to rural areas thanks to the Public Service Loan Forgiveness Program, which forgives certain kinds of loans when participants work in public service jobs for 10 years, and the National Health Service Corps, which brings mental health professionals to shortage areas in exchange for up to \$50,000 in loan repayment.

In addition, a report from the South Carolina Institute of Medicine and Public Health recommends retaining psychologists and other behavioral health providers by improving reimbursement rates and offering more competitive pay for those working in public and community-based organizations.

"Everyone in our state should have access to the type of care they need when they need it—regardless of the health issue or their ZIP code," says Kester S. Freeman Jr., the institute's executive director. ■

Mindfulness and other mental health apps have seen a huge surge, with up to 20,000 mental health apps on the market and millions of users on the most popular ones.



8

PROVIDING CARE IN INNOVATIVE WAYS

As more people get mental health services via apps and telehealth, psychologists are working to ensure their quality

By **STEPHANIE PAPPAS**

MADISON LAVERN/UNSPASH

FOUR OUT OF FIVE AMERICANS own a smartphone—and many now use these ubiquitous devices not just for communication and endless distraction but as tools for improving their mental health. ¶ There are up to 20,000 apps for mental health on the market, and many of the most popular have millions of users. Headspace, for example, a mindfulness and sleep app that leads users through a series of guided meditations and has been studied as a treatment for stress-based chronic diseases, reached 1 million paying users in 2018; a free version of the app has been downloaded by nearly 60 million people. ¶ The bottom line: Whether through consumer apps or telehealth services, consumers are turning smartphones into pocket therapists. Experts hope that digital mental health will increase access to mental health care, but that outcome is by

no means guaranteed: The field is still grappling with complex issues of usability, efficacy and data privacy.

“One of the main trends we see is that there is very little relationship between credibility and the user experience,” says Stephen Schueller, PhD, a psychologist at the University of California, Irvine. “Apps with good credibility often have bad user experience, and apps that have good user experience often have little credibility.”

Schueller is the executive director of the website PsyberGuide (psyberguide.org), a project of the non-profit organization One Mind, which rates mental health apps on scientific credibility, user

experience and transparency of data-handling. The rankings reveal a gulf between academics researching effective treatments and designers who know their way around creating a pleasing interface, Schueller says. “We as researchers need to work better with people who can help us build good experiences, and companies that develop these apps with good experiences should do better work to get some support behind their apps,” he says.

Digital mental health applications need to keep users engaged to be effective, says Megan Jones Bell, PsyD, the chief scientific officer at Headspace and an adjunct clinical assistant professor at

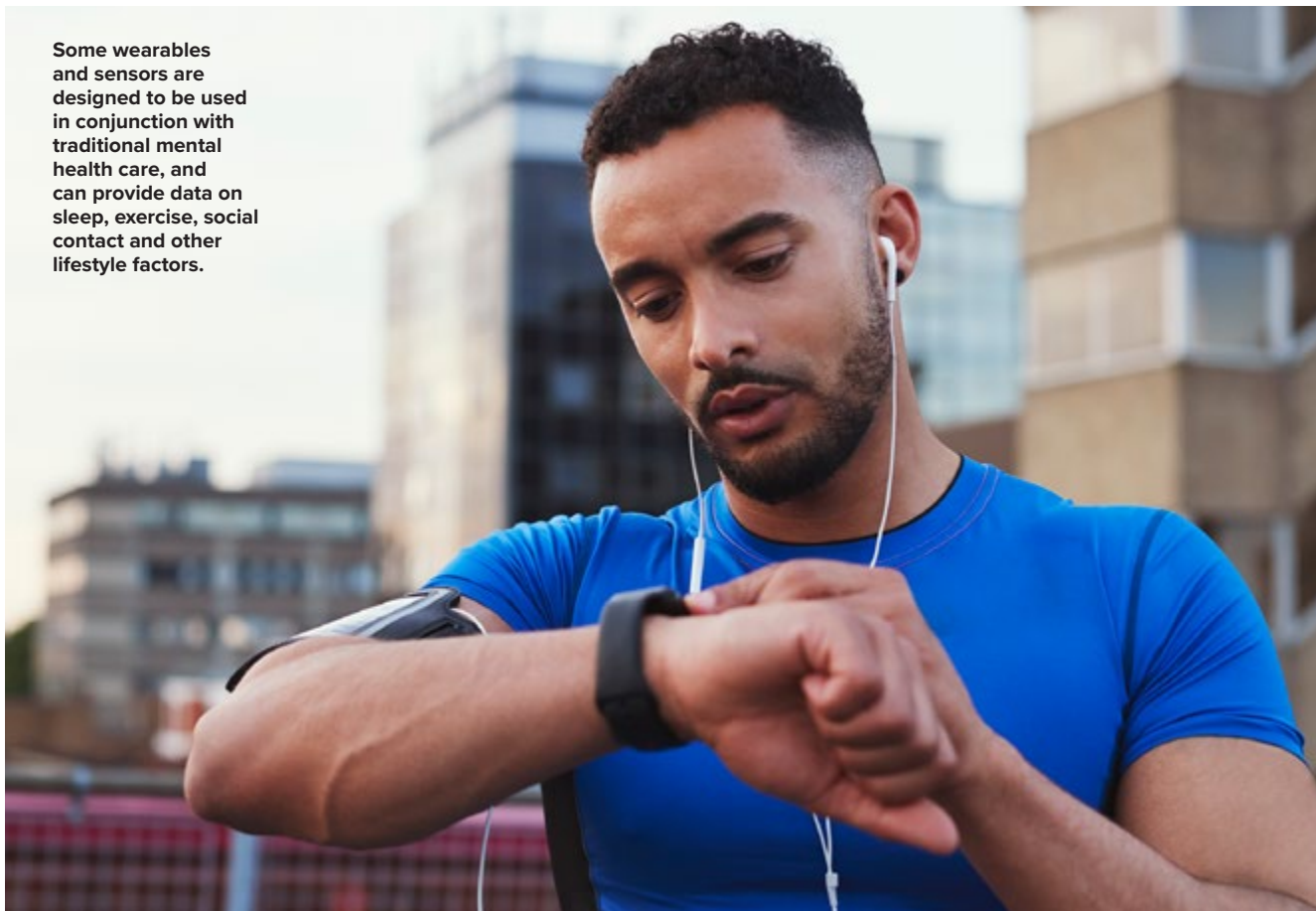
There are up to 20,000 apps for mental health on the market, and many of the most popular have millions of users.

Stanford University—and in the consumer world, there’s no one checking up on users to make sure they’re adhering to treatment. This means that companies must not only base their apps on evidence-based strategies, they also must test that their specific vehicle of delivery works.

“You could have the best therapy in the world, but if people don’t actually get a meaningful dose, it doesn’t matter,” she says. “You need to invest in that extra step of third-party validation.”

Mental health technology also shows huge promise not just for treatment, but for data collection and assessment as well, says Matthew Carper, PhD, a psychologist and postdoctoral researcher at Brown University’s Warren Alpert Medical School. And many apps are designed to be used in conjunction with traditional mental health care. In particular, Carper says, wearables and sensors are continually improving and can provide granular, long-term data on sleep, exercise, social contact and other lifestyle factors. Apps that prompt users to enter information about their moods several times a day can be particularly useful for clinicians, Carper says.

Some wearables and sensors are designed to be used in conjunction with traditional mental health care, and can provide data on sleep, exercise, social contact and other lifestyle factors.



“It basically allows us to assess things in a more accurate way as they’re happening and reduces that retrospective recall bias that we deal with in self-reports.”

POPULATION DISPARITIES

Evidence is starting to drive quality among mental health

technologies, Schueller says, and more health-care systems are diving in. Headspace’s subsidiary Headspace Health is now working with health-care systems and insurance companies to develop apps for treating stress-based chronic diseases. But there are population disparities in

the development of this tech, Schueller and his colleagues have found (*Current Treatment Options in Psychiatry*, Vol. 6, No. 3, 2019). The most common users, he says, are middle-aged white women—the same group most likely to use traditional therapy.

“A lot of these apps are still designed for white people, who are the majority,” he says. “It would be nice to see more development of apps for specific underserved marginalized populations that are traditionally left out of mental health services.”

As digital mental health expands, privacy, data-handling

“Ideally, the goal of these apps is to extend our reach, potentially reduce burden on practicing clinicians and allow some of the work to be done outside of session.”

MATTHEW CARPER, PhD, BROWN UNIVERSITY WARREN ALPERT MEDICAL SCHOOL

Twelve states signed on to the Psychology Interjurisdictional Compact (PSYPACT) agreement in 2019, which allows licensed psychologists to deliver telepsychology services across state lines in the participating states. PSYPACT will reduce barriers to care and expand telepsychology.



and regulation are becoming major issues. A study of the 36 top-ranked apps for depression and smoking cessation led by Kit Huckvale, PhD, a mobile health researcher at Australia's nonprofit Black Dog Institute, found that more than three-quarters of them transmitted data to Facebook or Google. Only 12 revealed this fact in their privacy policies (*JAMA Network Open*, Vol. 2, No. 4, 2019). (For more on psychologists' work on privacy, see "Pioneering New Ways to Protect Privacy" page 76.)

The U.S. Food and Drug Administration (FDA) has moved into regulating a subset of medical apps that it deems potentially risky, and it approved its first mental health app in 2018. The app, reSET, was designed by Pear Therapeutics to improve retention in outpatient substance use treatment. However, mental health tech remains largely unregulated. Clinicians hoping to use technology in their practices should seek out apps and tools that have been vetted in peer-reviewed journals, Carper says. The journal *Cognitive and Behavioral Practice* runs a series of multimedia "field tests" of mental health apps that can be helpful, he says. APA Services

Inc.'s *Good Practice* magazine and *Practice Update* newsletter also recently launched columns evaluating mental health apps. Finally, clinicians should strive to understand the apps their patients might be using and be willing to recommend high-quality options.

"Ideally," Carper says, "the goal of these apps is to extend our reach, potentially reduce burden on practicing clinicians and allow some of the work to be done outside of session."

NEW TELEHEALTH OPPORTUNITIES

While technology has not yet brought about a revolution in access to mental health care, more medical systems are signing on to telehealth in hopes of reaching populations who can't easily access care. According to the American Hospital Association, 76% of hospitals now connect with patients via telehealth, up from 35% in 2010. For mental health professionals, 2019 ushered in one of the most far-reaching developments that will increase the use of telepsychology: Twelve states signed on to the Psychology Interjurisdictional Compact (PSYPACT), an agreement that allows licensed psychologists to deliver telepsychology services

across state lines in participating states. Those states are Arizona, Colorado, Delaware, Georgia, Illinois, Missouri, Nebraska, Nevada, New Hampshire, Oklahoma, Texas and Utah.

As more states sign on to PSYPACT, it could be a huge boon for patients in need of specialty services, says Kimberly Anderson, PhD, the director of psychology at The Center for Eating Disorders at Sheppard Pratt in Towson, Maryland. Teletherapy allows practitioners to virtually participate in family meals and meal preparation in the client's home environment. "We can be in their kitchen, in their dining room, and it's so much easier and convenient for everyone," she says.

A review of research by Anderson and her colleague Laura Sprock, PhD, found that for eating disorders, telehealth's efficacy, therapeutic alliance, satisfaction and safety are similar to those provided by in-person therapy (*Psychiatric Clinics*, Vol. 42, No. 2, 2019). More comparisons of telehealth and in-person therapy are needed to understand when telehealth works and with whom, Anderson says, but that research is happening as telehealth grows. "I honestly think everyone is going to be doing it soon," she says. ■



9

PIONEERING NEW WAYS TO PROTECT PRIVACY

Psychologists are developing new strategies to protect users' personal data *By* HEATHER STRINGER

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WITH MORE OF PSYCHOLOGISTS' WORK going digital, the chances of inadvertently revealing people's private information is also escalating. Social media, smartphones, GPS tracking systems, wearable cameras and other tools allow researchers to collect real-time data that was previously unavailable, such as an individual's movements, moods or sleeping patterns. At the same time, patients are using smartphone apps for monitoring and treating conditions including depression, substance use disorders, obesity and schizophrenia—but few read the terms and conditions to understand whether their data are protected. ¶ Now, a growing number of psychologists are tackling these digital privacy challenges. “We need to be thoughtful about the potential downstream repercussions,” says Camille Nebeker, EdD, MS,

an associate professor in the department of family medicine and public health and director of the Research Center for Optimal Digital Ethics Health (ReCODE Health) at the University of California, San Diego, who is among the psychologists taking the lead on privacy protection in psychology research. “My goal is to get people to start talking about the issues and support one another to improve the current practices.”

UNINFORMED CONSENT

A study by Nebeker and her colleagues sheds light on how researchers can inadvertently unmask personal details. In a search for articles published on

PubMed in 2015 and 2016 that included the words “Twitter” and either “read,” “coded” or “content,” they found that 72% quoted at least one participant's tweet, and the researchers could identify the participant by searching online for the quoted content 84% of the time. Significantly, only one study had obtained consent from participants to disclose identifying information (*npj Digital Medicine*, Vol. 1, 2018).

The lack of informed consent may come as a surprise, but publicly available data like Twitter posts often can be accessed and used by researchers without obtaining a prospective ethics board review, says Nebeker. And even institutional review

FURTHER READING

How Scientists Can Take the Lead in Establishing Ethical Practices for Social Media Research

Pagoto, S., & Nebeker, C.
Journal of the American Medical Informatics Association
2018

Assessment of the Data Sharing and Privacy Practices of Smartphone Apps for Depression and Smoking Cessation

Huckvale, K., et al.
JAMA Network Open
2019

Technology to Support Aging in Place: Older Adults' Perspectives

Wang, S., et al.
Healthcare
2019

boards (IRBs) may not always know how to proceed when reviewing such studies. “Digital technologies introduced novel ethical complexities that may be unfamiliar to researchers and the IRBs,” Nebeker says. In a recent study, her team learned that IRBs were uncertain about how to evaluate digital research and they wanted more support (*AJOB Empirical Bioethics*, Vol. 8, No. 4, 2017). Meanwhile, other countries are grappling with similar challenges, and the European Union recently passed the General Data Protection Regulation (GDPR), which gives study participants the right to know what personal information is being collected and whether it's being shared with others.

As it became increasingly clear to Nebeker that both researchers and IRBs needed more guidance, she obtained funding from the Robert Wood Johnson Foundation to create the Connected and Open Research Ethics (CORE) initiative within ReCODE Health. Nebeker and her colleagues conducted focus groups with IRB members, study participants and scientists throughout the country to better understand how to support these stakeholders. The

meetings informed the design of the CORE website, which includes resources like a checklist to help researchers ensure that they are protecting study participants who are sharing personal data (*Translational Behavioral Medicine*, 2019). The checklist highlights items to consider, such as whether informed consent forms clearly describe what personal information will be collected, which data will be shared and with whom. The CORE platform also includes a Q&A forum for its members and a library where researchers can share samples of IRB-approved protocols and consent forms they've developed to foster ethical digital health research.

APA's Ethics Code also addresses digital privacy by cautioning psychologists to take reasonable precautions to protect confidential information obtained through or stored in any medium (Section 4). Also, psychologists who offer "services, products or information via electronic transmission" should inform clients or patients of the risks of privacy and limits of confidentiality, according to the ethics code.

PRIVACY AND APPS

The explosion of mental health apps for people with conditions such as depression, anxiety or schizophrenia has also undermined the confidentiality of personal data, an issue of particular concern to clinicians.

"The privacy policies usually state that the apps are just a health and wellness product, so they are not subject to the same



"Most apps are either not disclosing their privacy policies or they do not follow their own policies. And if they have a policy, it's usually written at a college reading level that is far above the average reading level of most users."

JOHN TOROUS, MD, MBI, BETH ISRAEL DEACONESS MEDICAL CENTER

privacy regulations as a medical device product," says John Torous, MD, MBI, director of the digital psychiatry division at Beth Israel Deaconess Medical Center in Massachusetts.

He studied the privacy policies of apps geared to help a particularly vulnerable population: people with dementia. He found that 46% of the 72 apps he studied had a privacy policy,

but only 4% promised not to sell the data to third parties (*American Journal of Geriatric Psychiatry*, Vol. 25, No. 8, 2017). "Most apps are either not disclosing their privacy policies or they do not follow their own policies," he says. "And if they have a policy, it's usually written at a college reading level that is far above the average reading level of most users."

KYLE GLENN/UNSPLASH

The U.S. Department of Veterans Affairs (VA) is one organization that has developed short, readable privacy policies that protect personal data on its mental health apps. “I steer a lot of patients to VA apps because they promise not to share data and only use anonymized information for internal analytics, and the user can easily opt out of this,” says Torous. For example, the privacy policy for VA mobile apps—such as Mood Coach, ACT Coach or PTSD Coach—states that “no data that could be used to identify you is sent to VA or third parties,” and that any information entered into the app, such as names, phone numbers, addresses, images or music cannot be accessed, stored or shared by the VA. The policy also explains that mobile apps collect anonymous information about how people use it to help the VA make improvements, but that this information cannot be linked to any personal information.

Behavioral health apps also often ask people to respond to open-ended questions, and that can increase the risk of participant identification, says Danielle Ramo, PhD, an associate professor of psychiatry at the University of California, San Francisco, who is creating an app to help college students struggling with loneliness. While there are a lot of benefits to asking open-ended questions, she says, answers with identifying information can create problems for participants and others. If the app she is developing asked, “What was your experience with a social

challenge?” and a participant expressed frustration with certain individuals on campus, this could have negative consequences, she says. To reduce risk, Ramo’s research team limited the number of open-ended questions in the app and instead used interactive choice features. For example, participants could select how they were feeling on a colorful grid rather than answer an open-ended question about how they were feeling.

Attention to such privacy issues is critical, says Sherry Pagoto, PhD, a professor in the department of allied health services and director of the Center for mHealth and Social Media at the University of Connecticut, who delivers behavioral health interventions using private Facebook groups

APA’s Ethics Code addresses digital privacy by encouraging psychologists to protect people’s confidential information.

in her research on obesity, among other areas. She developed an informed consent document that details the social media platform’s privacy limitations. “We made it clear that other people in the group can see what they post, and that Facebook has access to anything they post,” she says. “This is important for people who are sharing sensitive details about binge eating or mental health issues” (*JMIR mHealth and uHealth*, Vol. 6, No. 6, 2018). Overall, she says, psychology researchers need to ask themselves how they could possibly be violating privacy. “If one researcher has a significant [digital privacy] breach, then we risk losing the faith of the public and access to social media platforms for the long term.” ■





Using virtual reality in classrooms is helping students gain a deeper understanding of phobias, serious mental illness and more.

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GOING HIGH TECH IN ACADEMIA

New technologies are improving psychology education, easing faculty's administrative burden and helping researchers share their findings more broadly

By ZARA GREENBAUM

ADRIAN DEWEERT/UNSPASH

LONG GONE ARE THE DAYS of chalkboards and overhead projectors. Today's psychology faculty have a wealth of technological tools to choose from, including virtual and augmented reality devices that bring lessons to life and sophisticated software for grading, detecting plagiarism and hosting virtual classrooms. 📌 "Technology has reshaped human cognition—for better or worse—in terms of how we perceive, remember and learn," says Richard Harnish, PhD, professor of psychology at Penn State New Kensington and co-editor of "The Use of Technology in Teaching and Learning," an e-book released by APA's Div. 2 (Society for the Teaching of Psychology). "Faculty need to recognize its impact and adjust accordingly."

NEW REALITIES IN ACADEMIA

One of the most promising additions to education has been virtual reality (VR) technology, which research shows can fully immerse the viewer in a virtual experience and increase his or her empathy (Schutte, N.S., *Motivation and Emotion*, Vol. 41, No. 6, 2017). "Virtual reality gives people a sense of what it's like to be in someone else's shoes, which is the low-hanging fruit for psychologists," says Mina Johnson-Glenberg, PhD, research professor of psychology at Arizona State University and founder of Embodied Games LLC, a company that uses VR and motion capture to create science education content.

At Stanford University,

psychologist Jeremy Bailenson, PhD, founding director of the Virtual Human Interaction Lab, says he uses VR in the classroom "the same way any teacher would use a field trip. VR field trips have all of the assets of an actual field trip—going to special places specifically chosen for teachable moments—but they also allow for the impossible."

To enable students to understand serious mental illness more deeply, psychologists at the Australian College of Applied Psychology, for example, have designed a VR simulation to help students experience the type of auditory and visual hallucinations that people with schizophrenia often face. A study of the simulation found that students and other

participants displayed increased knowledge and empathy toward those with the disorder in a post-test (Formosa, N.J., *Australian Journal of Psychology*, Vol. 70, No. 1, 2018). Other educational simulations have used virtual spiders to teach students about phobias, and amplified sounds in a library setting to mimic the experience of a person with attention-deficit hyperactivity disorder (ADHD).

To make educational applications of VR as useful in the classroom as they can be, Johnson-Glenberg is also developing a tool to help instructors evaluate the usefulness of VR applications for teaching. Known as the Quality of Education in VR Rubric, or QUIVRR, the tool helps teachers assess the content and mechanics within a VR experience.

"People are creating VR tools that look great, but there's not always an added value in terms of pedagogy," Johnson-Glenberg says.

Meanwhile, Tyler Ard, PhD, assistant professor of research neurology at the University of Southern California's Mark and Mary Stevens Neuroimaging and Informatics Institute, is

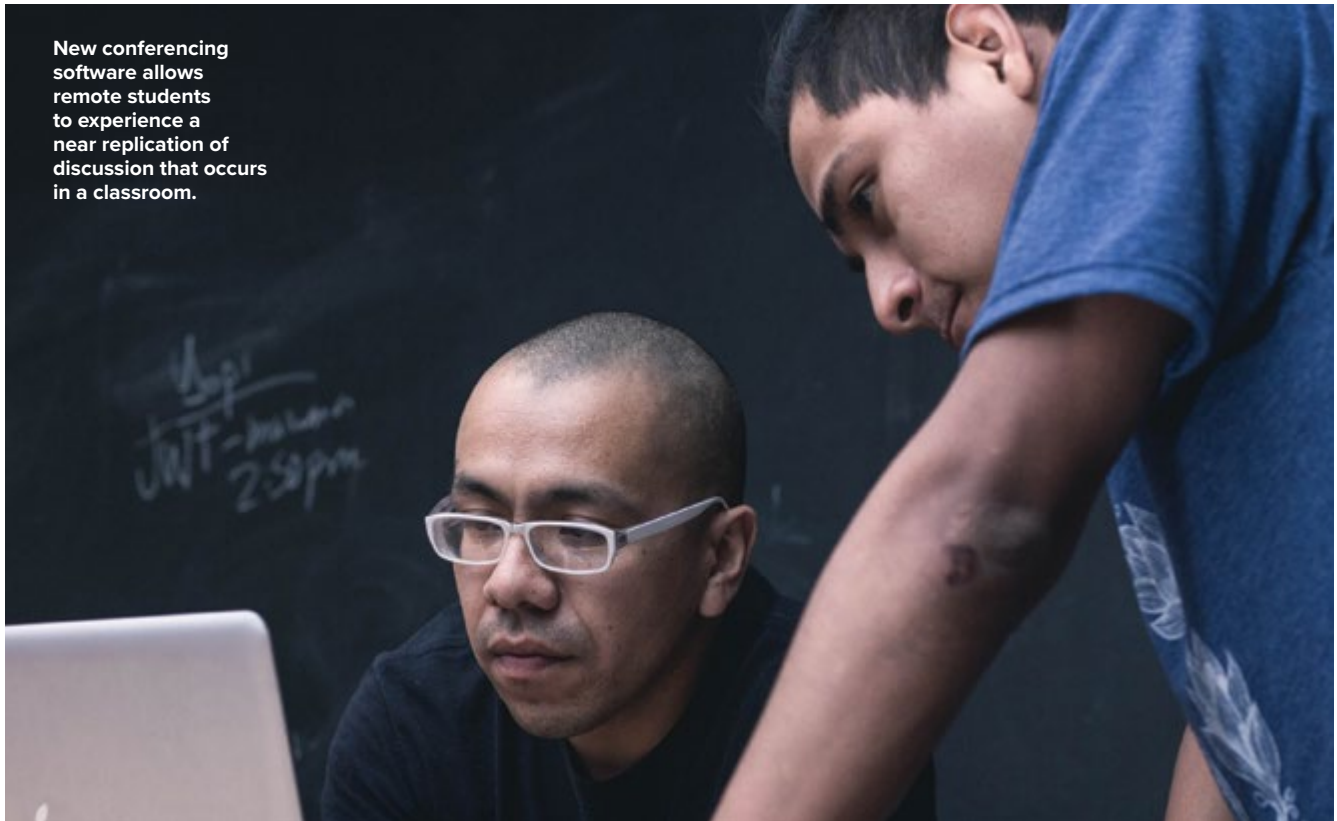
RESOURCES

The Use of Technology in Teaching and Learning

Harnish, R.J., et al.
(Eds.)
APA Div. 2
(Society for
the Teaching of
Psychology)
2018

Technology for Academics blog

Frantz, S.
2019



New conferencing software allows remote students to experience a near replication of discussion that occurs in a classroom.

exploring another frontier: augmented reality (AR). Ard and his team, which includes psychologists, neuroscientists and computer scientists, have developed Schol-AR, a smart-phone app that allows users to aim their phones' cameras at an image in a textbook, journal article or conference poster and pull up supplementary visuals, including 3D images, animations and interactive

components. For example, a reading on an fMRI might include an embedded animation of a 3D brain that users can manually manipulate to view regions of heightened neural activity.

OTHER TOOLS FOR TEACHING

Technology is also changing the way psychology faculty manage their courses, including

how they deliver lectures, grade exams and even identify plagiarism.

Those who teach online or hybrid courses, which combine in-person and online learning, are using asynchronous conferencing software that enables a near replication of the discussion that occurs in a traditional classroom. As students watch recorded lectures at different times throughout the day, they add video questions and comments, which are synced with the lecture video to facilitate ongoing discussions. "It's a huge improvement over message boards," says Beth Doll, PhD, professor of educational psychology at the University of Nebraska-Lincoln.

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MINA JOHNSON-GLENBERG, PhD, ARIZONA STATE UNIVERSITY AND EMBODIED GAMES LLC



Also in use are “virtual presence systems,” otherwise known as videoconferencing robots, which give remote students an enhanced presence in classrooms and meetings. Remote students can control the robots, which help them stay engaged in hybrid courses through high-quality audio, 360-degree video and wheels. They’re also useful for faculty who perform practical observations—for example, of students in Doll’s school psychology professional program—because they allow instructors to evaluate students as they administer tests and deliver psychological services but don’t trigger the kind of behavioral changes in students that occur when a supervisor sits in the room. “Growth occurs more rapidly because we can give students very specific feedback, but the coaching is much less intrusive,” says Doll.

When it comes to grading exams, scantrons are being replaced by ZipGrade, a smartphone and tablet app that allows instructors to create custom bubble sheets, scan completed sheets with their smartphones and immediately obtain test scores. ZipGrade also calculates the correlation between students’ responses to a given question and how they performed on the

test overall to help instructors evaluate the efficacy of each question.

As for detecting plagiarism, Turnitin—which checks submitted assignments against online sources and its own database—is still the primary resource used by most institutions, but an upcoming program called Google Assignments, currently being tested, performs a similar function for free. By automatically running assignments submitted via Google Docs through a Google search, the new tool may be a time and money saver for faculty, especially because Google Docs offers integration with popular course management systems such as Canvas.

PROMOTING RESEARCH

Psychologists in academia are also reimagining how to summarize and share research findings. Online social networks, including Twitter and ResearchGate, are increasingly being used for sharing research findings quickly with professional networks. A survey conducted by the Pew Research Center found that nearly half of American Association for the Advancement of Science members use social media to discuss science and follow new

discoveries (How Scientists Engage the Public, 2015), while institutions such as the Mayo Clinic now consider social media activities when making decisions about academic appointments and promotions.

APA’s Thank a Scientist initiative, an annual weeklong Twitter campaign that recognizes the contributions of influential psychologists, has gained significant traction since its launch in 2017. More than 100 other scientific and educational organizations have now joined the appreciation effort.

Other psychologists are finding creative ways to promote evidence-based practices in an online environment. Helping Give Away Psychological Science (HGAPS), founded by Eric Youngstrom, PhD, professor of psychology at the University of North Carolina at Chapel Hill, partners with Wikipedia to create and revise entries on psychological research. Since HGAPS launched in 2015, its hundreds of Wikipedia pages have been viewed more than 100 million times.

“The future of sharing information with nonexperts involves identifying partners in the online space that already have significant traction,” says Andres De Los Reyes, PhD, immediate past chair of the APA Board of Educational Affairs and professor of psychology at the University of Maryland, College Park. “Wikipedia and other popular online networks allow content we’ve created in other spaces to scale up to the masses in a way that we could never do on our own.” ■

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The *Monitor on Psychology* (ISSN-1529-4978) is the magazine of the American Psychological Association (APA) and is published 8 times per year—January/February combined, March, April/May combined, June, July/August combined, September, October, and November/December combined. Publications office, headquarters and editorial offices are at 750 First St., N.E., Washington, DC 20002-4242. APA purchases only "first publication rights" for photos and illustrations. Therefore, it cannot grant permission to reuse any illustrative material. APA holds the copyright for text material in *Monitor on Psychology* articles. Permission requests to reproduce text material should be addressed to APA, Permissions Office, at the APA address. Telephone numbers: Headquarters (202) 336-5500; TDD (202) 336-6123; Display advertising (202) 336-5714; Classified advertising (202) 336-5564; and Subscriptions (202) 336-5600. The views expressed in the *Monitor on Psychology* are those of the authors and may not reflect the official policies or positions of the American Psychological Association or the *Monitor on Psychology*. No endorsement of those views should be inferred unless specifically identified as the official policy or position of the American Psychological Association. The publication of any advertisement by APA is an endorsement neither of the advertiser nor of the product. APA endorses equal employment opportunity practices, and we reserve the right to edit all copy and to refuse ads that are not in consonance with the principles of Title VII of the Civil Rights Act of 1964. Subscription to the *Monitor on Psychology* (\$6) is included in the annual dues and fees for all APA members and student affiliates. Individual subscription rate is \$50; individual surface rate is \$107; and individual airmail rate is \$139. Institutional subscription rate is \$93; institutional surface rate is \$203; and institutional airmail rate is \$235. Single copies are \$20 each. For \$16 extra, the *Monitor on Psychology* will be mailed first-class to subscribers in the United States, Canada and Mexico. For \$75 extra, airmail is available to foreign subscribers (other than Canada and Mexico). Periodical postage is paid at Washington, DC, and at additional mailing offices. POSTMASTER: Send address changes to *Monitor on Psychology* Subscriptions Department, 750 First St., N.E., Washington, DC 20002-4242. CANADA SUBSCRIPTIONS: Canada Post Agreement Number 40036331. Send change of address information and blocks of undeliverable copies to PO Box 1051, Fort Erie, ON L2A 6C7. Printed in the United States of America. ©2020 by APA. Address editorial inquiries to the *Monitor on Psychology* editor, and advertising and subscription inquiries to *Monitor on Psychology*/advertising or *Monitor on Psychology*/subscriptions.