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A publication of the American Psychological Association

VOLUME 57 | NUMBER 2

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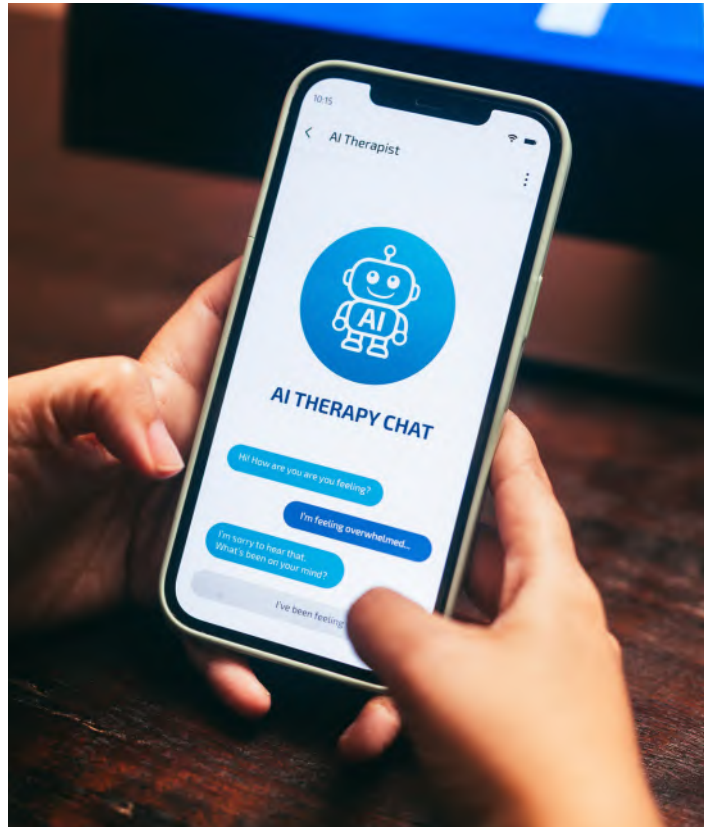
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The Hot List

Resources, opportunities, and news
for psychologists from APA



ARTIFICIAL INTELLIGENCE

AI Health Advisory

APA's recent health advisory warns that AI chatbots and wellness apps lack the rigorous testing and safety measures needed to provide quality mental health support. It stresses that such tools cannot replace qualified mental health professionals and calls for safeguards to prevent harmful user-AI relationships, especially among children, teens, and other vulnerable groups. The advisory—which has specific recommendations for the public, policymakers, tech developers, clinicians, researchers, and more—urges responsible design and oversight to protect users. Read the advisory at

www.apa.org/topics/artificial-intelligence-machine-learning/health-advisory-chatbots-wellness-apps.



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CAREER WEBINAR

Overcoming Job Insecurity, Job Loss, and Work Burnout

Losing a job and facing burnout can shake your confidence and sense of identity as a psychologist. In this on-demand webinar, Karen Cassiday, PhD, founder of the Anxiety Treatment Center of Greater Chicago, shares evidence-based strategies to manage anxiety, reframe self-talk, and build resilience. Watch now at www.apa.org/education-career/ce/job-loss-insecurity-burnout.

FUNDING OPPORTUNITIES

APF's Program Match Tool Powers Your Grant Search

Looking for funding to advance your work? The American Psychological Foundation (APF) Program Match Tool makes it easy to find grants by topic, eligibility, and program type. With four grants accepting applications in March, and more throughout the year, now is the time to explore options that align with your goals. Kickstart your search at ampsychfdn.org/funding.

NEWSLETTERS

Science Spotlight

Get the latest psychological science news and resources delivered to your inbox every 2 weeks. From exclusive reporting to funding and publishing opportunities, *Science Spotlight* has just what you need to advance your knowledge of recent scientific breakthroughs and power your own research. Plus, you will gain insight into how APA is shaping science on both a national and global level. Subscribe at www.apa.org/news/science-spotlight.

PRACTICE TECH

Guidance for Evaluating AI Scribes

Thinking about using an AI scribe for clinical documentation? Learn how to lessen your administrative burden while protecting legal and ethical considerations. APA's new resource helps you carefully consider the risks and benefits to choose a high-quality tool that complies with professional standards and privacy laws. Get the guide at www.apa.org/topics/artificial-intelligence-machine-learning/evaluating-ai-scribes.

MASTER CLASS

Starting Up Your Solo Health Service Psychologist Private Practice

Running a thriving private practice takes more than clinical skills. It demands systems, pricing models, and strategies that protect your time, income, and peace of mind. APA's Business Essentials master class bridges the gap between your clinical training and the realities of practice ownership. Get proven frameworks for pricing, onboarding, and scheduling as well as legal and ethical clarity for compliance and documentation. Gain ready-to-use templates and strategies earning five CE credits. Enroll today at www.apa.org/events/business-essentials.



SUPPORTING STUDENTS

APA Releases Mental Health Primer for Teachers Managing Student Stress

Teachers are often the first to notice signs of unhealthy stress in students. APA's new mental health primer equips teachers with strategies to provide emotional support, encourage positive peer interactions, and connect students with other school mental health professionals who may be helpful. It also features a podcast with Amanda Dettmer, PhD, a research scientist at the Yale Child Study Center, and Yadira Sánchez, PsyD, executive director of Lectores Para el Futuro, who dive deeper into the topic. Download the primer at www.apa.org/ed/schools/primer/stress.

Why Psychology Matters

The science of understanding people is the science of helping people.

Psychology is more than a field of study—it's the foundation for a healthier, more just world. This field helps us understand what drives human behavior, what heals us after crisis, and what connects us across difference.

Through the **American Psychological Foundation (APF)**, that understanding is translated into action, reaching communities where it can change lives today. When you support APF, you're helping new evidence-based solutions and care reach the people who need them most.

Why It Matters Now

The challenges facing humanity—marginalization, stigma, violence, the physical toll of stress and trauma—aren't just social issues. They're psychological ones. By translating research into real-world solutions, psychology helps people heal, connect, and thrive.

Turning Understanding into Impact

For more than 70 years, APF has funded research that advances human wellbeing. Now, through **Direct Action**, we're ensuring that psychology turns discovery into change where it's needed most.

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Five Ways Psychology Changes Lives



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LEARNING & GROWTH

Shapes how we learn, teach, and adapt—building empathy and focus that help classrooms and communities thrive.



WORK & COMMUNITY

Strengthens teamwork and leadership—ensuring people and organizations are equipped to grow and adapt.



JUSTICE & BELONGING

Uncovers bias and reduces stigma—helping every person feel seen and valued.



CRISIS & RECOVERY

Supplies evidence-based options for care—helping people and communities heal after trauma or disaster.



Join us in building a world where people are healthy, happy, and living with dignity.



March 2026



56 We Are What We Eat

Psychologists are furthering our understanding of the connection between nutrition and mental health and expanding clinical interventions.



64 Transforming Cellblocks Into Psychology Classrooms

Psychologists are teaching in-prison college programs and finding renewed purpose in their work.



46 Music and the Mind *(cover)*

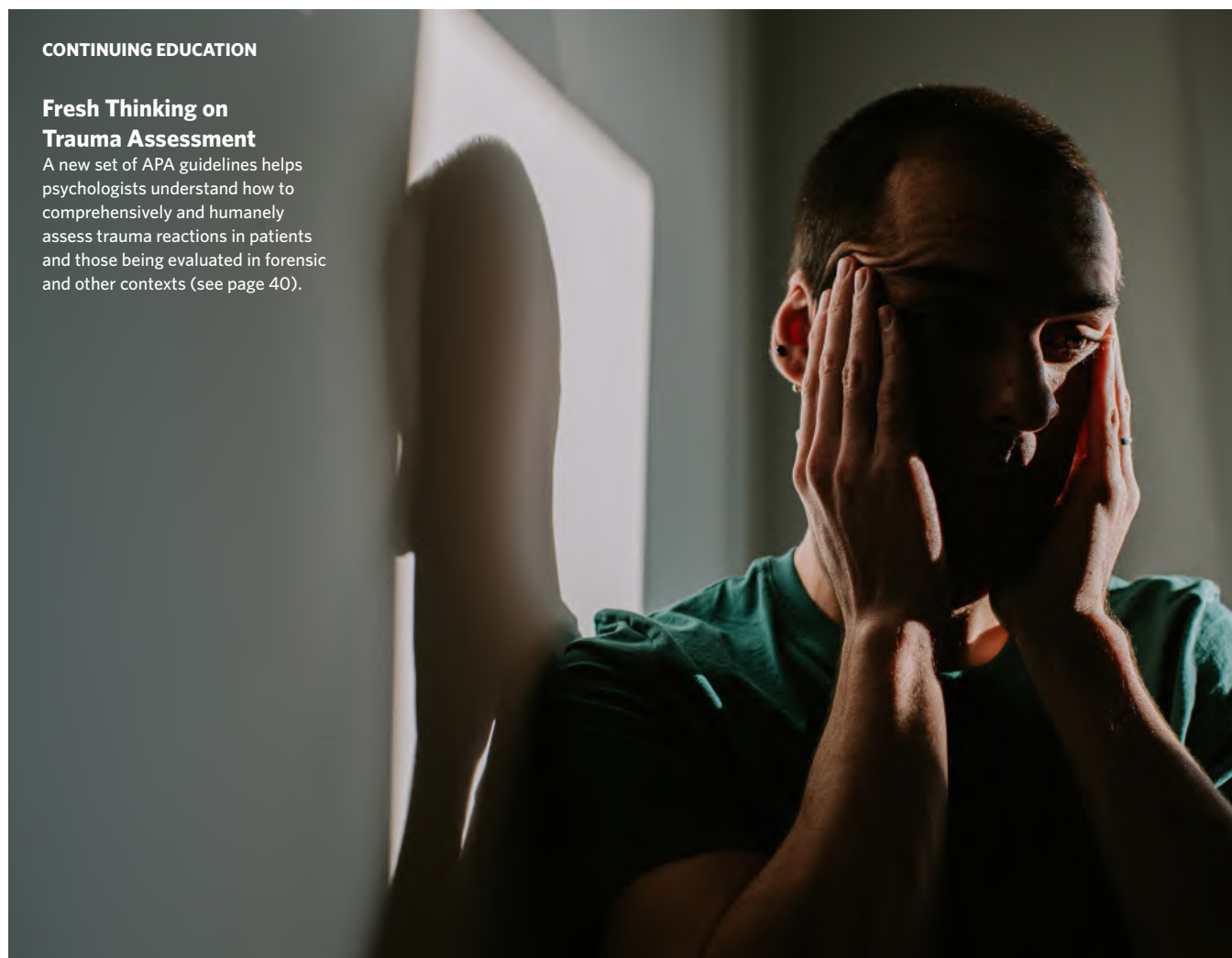
What the science of music reveals about cognition, emotion, and identity.

ON THE COVER: EUGENIO MARONGIU/GETTY IMAGES; JOBALOU/GETTY IMAGES

CONTINUING EDUCATION

Fresh Thinking on Trauma Assessment

A new set of APA guidelines helps psychologists understand how to comprehensively and humanely assess trauma reactions in patients and those being evaluated in forensic and other contexts (see page 40).



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Reclaiming Wellness, Honoring Women's Labor

As psychologists, we can deepen people's understanding of the psychological impact of economic insecurity

BY WENDI WILLIAMS, PhD

AS WE COMMEMORATE Women's History Month this month, we face the sobering reality of rising unemployment in difficult economic times. As psychologists, we can deepen people's understanding of the psychological impact of economic insecurity—and we are not immune to these pressures in our own lives. As a scholar of Black women's workplace experiences, I am especially aware of how women have grappled with dramatic job losses reminiscent of the pandemic's darkest days. This painful irony—celebrating women's contributions while witnessing their disproportionate vulnerability to economic crisis—demands that we move beyond ceremonial recognition toward substantive action.

Women's history in the American labor force is inseparable from exploitation and inequity. From enslaved women's unpaid labor to the exclusion of domestic workers from New Deal protections in the 1930s, from wage theft affecting immigrant women to the persistent devaluation of care work, women—particularly women of color—have borne the harshest consequences of our nation's labor practices. Today's job losses—which don't just affect individuals but are also projected to result in billions of dollars in loss to the gross domestic product—are not anomalies but continuations of this troubling legacy.

My 2026 Work and Wellness Presidential Initiative emerged as psychology's answer to this historic moment. Rather than merely commemorating women's past struggles, we will actively intervene in present crises, using women's labor exploitation to illuminate vulnerabilities facing all workers who prioritize dignity and wellness. This comprehensive effort reclaims both the dignity of labor and the fundamental right to wellness during economic uncertainty, recognizing that true celebration requires transformation.

Drawing from APA's *2025 Work in America Survey*, evidence-based



Dr. Wendi Williams is the 2026 APA president and principal consultant at WSW Consulting Services, where she advances equity-driven leadership through psychology-informed consultation rooted in Black Women's Liberatory Leadership Praxis.

research, organizational partnerships, and featured programming scheduled for APA 2026 in Washington, D.C., the yearlong Work and Wellness Initiative will explore frameworks honoring the complexity of workers' contemporary experiences. We understand that wellness cannot be separated from economic security, that psychological safety requires material stability, and that equity must be central—not peripheral—to our interventions.

While inspired by Black women's unique labor contexts, this initiative celebrates all workers as strategic agents whose wellness and labor deserve comprehensive support, not as passive victims of economic forces.

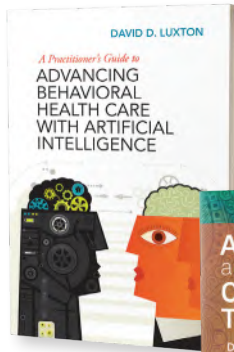
Psychology has always been uniquely positioned to bridge individual experience and systemic change. The Work and Wellness Initiative leverages this strength, integrating psychological safety frameworks with economic analysis and historical understanding of labor abuse.

As your president, I am committed to ensuring this Women's History Month marks not just remembrance but renewal—a rededication to transforming how we conceptualize work, wellness, and worth for those most vulnerable to economic disruption, and affirming psychology's leadership in this vital effort. ■





New Releases from APA Books



A Practitioner's Guide to Advancing Behavioral Health Care With Artificial Intelligence

DAVID D. LUXTON

An introduction to the capabilities, opportunities, ethics, and safety concerns mental health professionals must understand as they use AI in their practice.

Paperback | 243 Pages | 978-1-4338-4451-5 | Nonmember: \$49.99 | APA Member: \$37.49

Acceptance and Commitment Therapy

Deliberate Practice to Develop and Enhance Skills in ACT

ROBYN D. WALSER AND MANUELA O'CONNELL

This book empowers both new and seasoned clinicians to enhance their proficiency in implementing acceptance and commitment therapy.

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Deliberate Practice in Assessing Self-Directed Violence

ROBERT SCHOLZ, SUSAN R. HALL, BRIAN VAN BRUNT, ALEXANDRE VAZ, AND TONY ROUSMANIERE

Deliberate practice exercises help trainees gain competence in empathically talking about suicide and self-injury with clients and assessing risk.

Paperback | 184 Pages | 978-1-4338-4343-3 | Nonmember: \$43.99 | APA Member: \$32.99

Systemic Treatment of Trauma-Impacted Families

A Clinician's Guide to Assessment, Formulation, and Intervention

SHELLEY A. RIGGS AND LAURA E. CAPTARI

A Clinician's Guide to Assessment, Formulation, and Intervention. This book provides a holistic and nuanced metatheoretical perspective to working with trauma in the family system.

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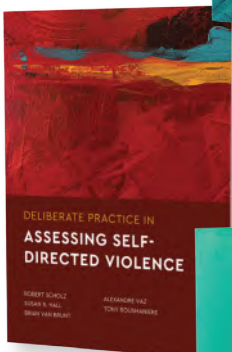
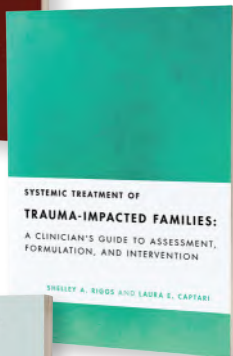
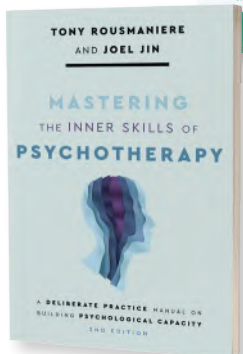
Mastering the Inner Skills of Psychotherapy

A Deliberate Practice Manual on Building Psychological Capacity, Second Edition

TONY ROUSMANIERE AND JOEL JIN

Now in its second edition, this concise volume helps therapists develop the resilience and flexibility needed for effective therapy.

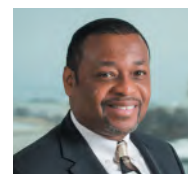
Paperback | 160 Pages | 978-1-4338-4500-0 | Nonmember: \$43.99 | APA Member: \$32.99



Impacting AI for the Better

APA is holding AI technology companies accountable and helping to shape their work

BY ARTHUR C. EVANS JR., PhD



Arthur C. Evans Jr., PhD, is the chief executive officer of APA. You can follow him on LinkedIn. [in](#)

WHETHER YOU ARE a clinician seeing the mental health impacts of social media, a researcher studying algorithmic bias, or an educator preparing the next generation of psychologists, you are experiencing firsthand how artificial intelligence is reshaping society at unprecedented speed. Psychology is essential to getting it right.

That means APA must operate on two simultaneous fronts. APA should serve as a critical steward of behavioral science to make AI safer, holding tech companies accountable when they fall short. We should also work directly with these companies, bringing psychological science into the rooms where new tools are being developed.

Three dimensions define our approach to this work.

■ **How we partner.** Our collaboration with Google and YouTube is a good example of what a strong partnership looks like. Independently, APA identified, assessed, and synthesized the best research on healthy teen video viewing—entirely on our terms, with no industry influence. Partnership was essential for dissemination, broadening the reach of our parent guides and other content based firmly on our science. Partnerships must enhance the impact of our work, not compromise its credibility.

■ **What we bring.** Many organizations focus solely on AI's risks. APA firmly believes in preventing harm resulting from AI as well as maximizing its potential benefits. Knowledge from developmental, social, and cognitive psychology informs how we both mitigate harm and shape scalable systemic solutions. This dual focus ensures we are not just reacting but actively guiding technology to benefit society and promote well-being.

it is invaluable to their work. Our programs on behavioral science and technology at global industry conferences like the Consumer Electronics Show in Las Vegas have been extremely well received. We are inserting psychological expertise into the conversations that matter most, in the spaces where technological decisions are being made.

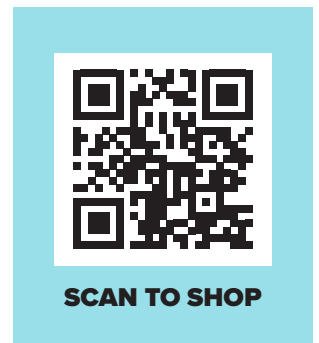
This approach requires sophisticated vigilance. Maintaining our critical voice while engaging directly



Knowledge from developmental, social, and cognitive psychology informs both how we mitigate harm while shaping scalable systemic AI solutions.

■ **Where we show up.** Our members consistently tell us that they want APA to have an impact on major societal issues. Few forces are reshaping society more profoundly than AI. Rather than waiting for tech leaders to come to us, we are bringing psychology to them and showcasing why

is sometimes complicated, but it is necessary if we truly want psychology to impact AI for the better. We must ensure scientific rigor, leverage strategic partnerships, and stay committed to preventing harm and advancing human flourishing. AI demands nothing less from us. ■



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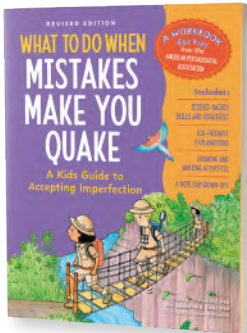
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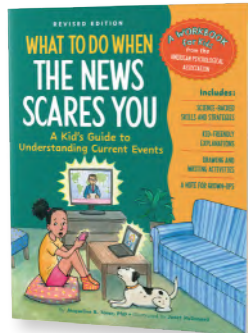
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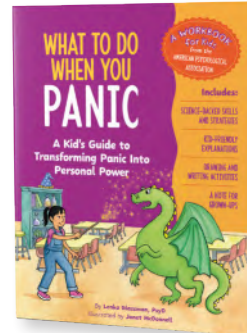
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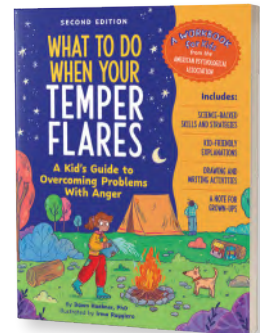
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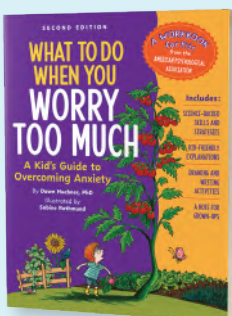
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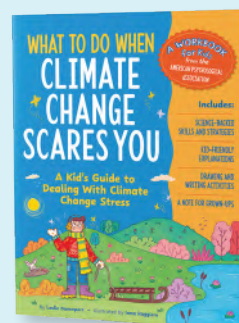
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LESLIE DAVENPORT

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In Brief

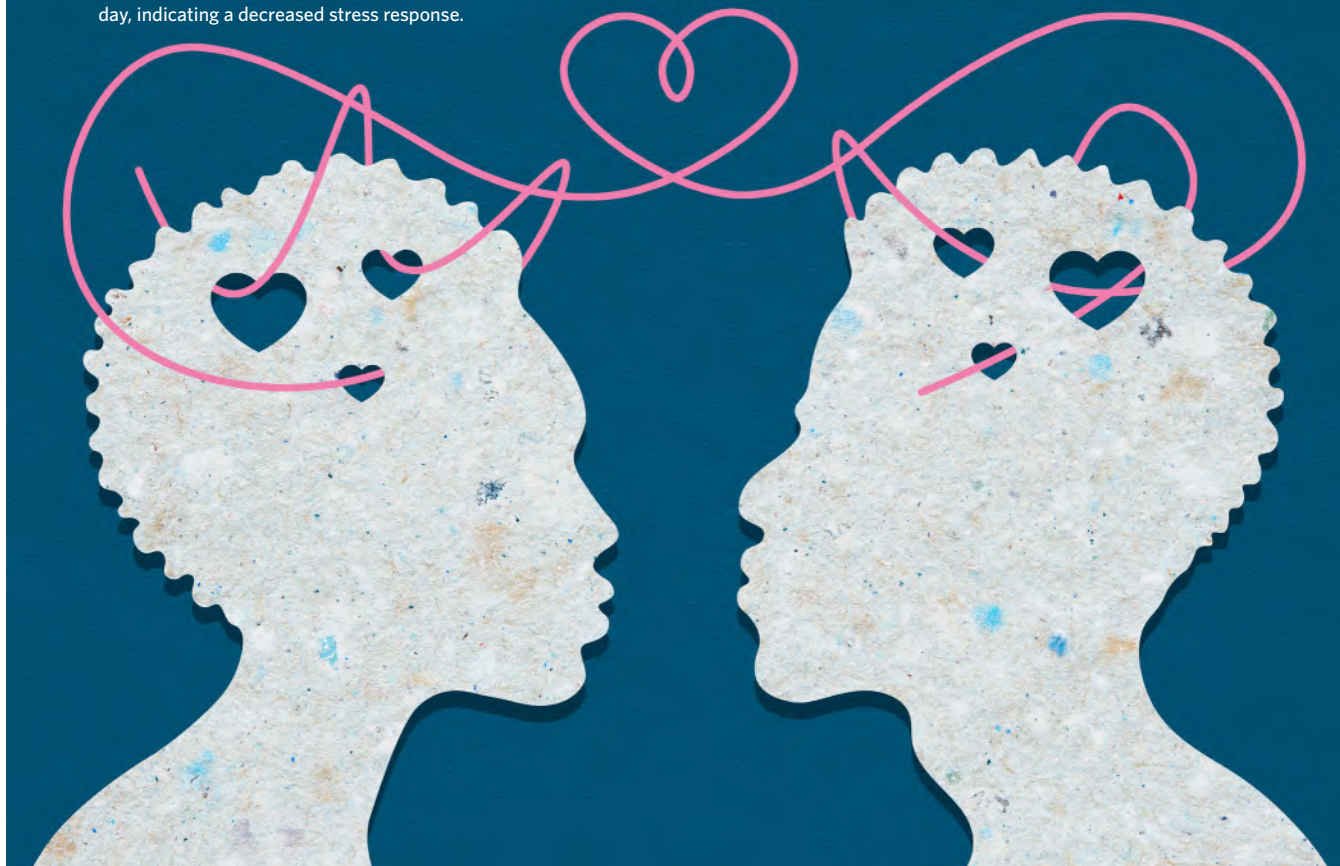
COMPILED BY ANNA MIKULAK, PhD

Shared positive emotions, shared stress relief

Spending time with a partner may boost a person's emotional as well as physiological states, according to data from 642 older adults in Canada and Germany. The study, published in the *Journal of Personality and Social Psychology*, integrated data from three studies of adult couples (ages 56 to 89). The long-term partners tended to experience positive emotions more often when they were together than when they were apart. When they shared positive emotions, they tended to have lower levels of cortisol later that day, indicating a decreased stress response. The pattern did not differ by sex, age, or relationship satisfaction. Although many studies have found links between positive emotion and physical health at the individual level, these findings indicate that shared positive emotions may have unique benefits. Additional research can illuminate whether these findings extend to younger couples and other types of close relationships, as well as over longer periods.

DOI: 10.1037/pspp0000564

Long-term partners who experience positive emotions together tend to have lower cortisol levels later in the day, indicating a decreased stress response.





📷 Young children appear to be able to distinguish between generic and meaningful praise, preferring feedback that aligns with specific goals.

📷 Kids can tell when praise is helpful

Receiving praise may make us feel good, but not all praise is informative or useful. A series of experiments with 4- and 5-year-olds indicates that young children can tell the difference, connecting the praise being given with the work being praised. In all four experiments, the young participants watched videos that showed teachers giving praise for students' attempts at tracing shapes. When asked who they would consult for feedback on their own work, the participants showed no preference between a teacher who praised all work and a teacher who selectively praised high-quality work. When asked to select feedback

for another child, they tended to choose the teacher who gave praise that aligned with the child's specific goal. The findings, published in *Developmental Psychology*, suggest that young children understand that only some praise provides specific, helpful information.

DOI: 10.1037/dev0002073

Inspiring media inspires stress relief

Watching videos with inspirational stories may have stress-relieving effects on par with listening to guided meditations, according to a study in *Psychology of Popular Media*. Researchers randomly assigned 1,001 adult participants to one of four types

of short-form media: inspiring videos, comedic videos, audio-guided meditations, or self-directed social media scrolling. Participants watched or listened to the content for 5 minutes per day over 5 days, reporting their emotional state and stress levels after each session and over the following 2 weeks. Participants who watched videos with inspirational stories about people overcoming adversity reported feeling more hope, which was associated with lower perceived stress up to 10 days later. These effects were similar to those reported by the guided meditation group, and they held regardless of participants' baseline stress, self-esteem, resilience, and age. Contrary to the researchers'

hypotheses, participants who watched comedic content reported higher amusement but not lower stress levels.

DOI: 10.1037/ppm0000623

Awe fuses the individual with the group

Experiencing awe appears to shape how we think and feel about ourselves and the world around us, but how does it affect our social identity? A series of studies with 1,124 participants in the United States and Australia suggests that awe may foster a sense of connection that leads people to feel more alignment between their individual identity and that of a larger group. Participants who wrote about a recent awe-inspiring experience reported greater identity fusion to either their country or their university than those who recalled an amusing or emotionally neutral experience. Similarly, participants who experienced an awe-inducing underwater simulation reported greater identity fusion to their country than those who watched a compilation of funny animal videos. The findings, published in *Emotion*, suggest that awe leads people to feel that their individual identity strengthens their group identity and vice versa. The researchers note that these associations may differ across countries, cultures, and group identities. Additional research can shed light on whether this identity fusion affects how people behave.

DOI: 10.1037/emo0001589

What happens when racism turns inward?

Exposure to racism can lead people from non-white minority groups to internalize racist stereotypes and narratives about their group. But how does this internalized racism affect health? In a meta-analysis published in *Psychological Bulletin*, researchers synthesized findings from 149 studies

with a total of 38,650 participants. The results showed that participants with higher levels of internalized racism tended to report higher levels of psychological and physical stress, engage in more health-compromising behaviors, and have worse mental and physical health, suggesting several direct pathways between internalized racism and health. Notably, only the links with psychological stress and negative mental health remained after the researchers accounted for a range of individual-level characteristics (such as age and gender) and research-specific factors (such as the study measures and sampling procedure). Future studies can illuminate whether these links are bidirectional and whether they hold across different identity groups and time spans.

DOI: 10.1037/bul0000486

Does agency activate eco-friendly choices?

Feeling a greater sense of agency and influence over the environmental impact of our choices may lead us to make more environmentally friendly choices, according to research in the *Journal of Experimental Psychology: Applied*. In an online study, 421 German participants read through an interactive story about a typical workday, making choices about commuting, work projects, meals, chores, and groceries. Each choice included a more environmentally friendly option and a less environmentally friendly option. Some participants also received prompts designed to activate a sense of agency. One group saw decision prompts that presented the more environmentally friendly choice in green and the less environmentally



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friendly choice in red. Another group saw post-decision prompts describing the environmental impact of the choice they made. Overall, participants who reported a greater sense of agency at baseline tended to make more environmentally friendly choices. Both types of prompts were linked with a slight increase in pro-environmental choices, but only among participants who already held positive attitudes about environmental protection. The researchers suggest targeting the prompts further may enhance their effects.

DOI: 10.1037/xap0000550

📷 Lessening loneliness

Interventions focused on individual-level psychological processes are most effective in reducing loneliness, according to a meta-analysis of 280 studies in *American Psychologist*. The meta-analysis suggested that psychological interventions that addressed participants' thinking, behavior, and emotions had a moderate effect, while interventions focused on boosting participants' social and emotional skills, expanding their social networks, or increasing their social support had small to moderate effects. Overall, intervention effects were similar across age groups and between short-term and long-term studies. The researchers urge caution in interpreting these results, given the serious methodological limitations of many of the studies. They note that many studies did not seek out participants with high levels of loneliness; thus, the potential effects for those who stand to benefit from the intervention the most are unclear. Rigorous studies with consistent measures and clearer definitions for severe or long-term loneliness can help improve the quality and reliability of the available evidence.

DOI: 10.1037/amp0001578



📷 Addressing how individuals think about and respond to loneliness appears more likely to reduce their loneliness than expanding their social networks.

Selecting the status quo

While research has shown that older adults tend to show a stronger bias toward positive information than younger adults, findings published in *Psychology and Aging* suggest that the context matters. In two studies with a total of 263 participants, younger adults (ages 18 to 36) and older adults (ages 60 to 89) performed a computer-based viewing task. On each trial, they saw a default picture that was either emotionally negative (e.g., a snake), neutral (e.g., a mushroom), or positive (e.g., a butterfly). If they wanted, they could press a key to switch to another image that had different emotional content for the rest of the trial. In both studies, older adults tended to favor the default, switching less often than younger adults regardless of the picture's content. The researchers note that although the age-related positivity effect is well documented, many studies use passive viewing tasks that present participants with two stimuli at once; on tasks involving choice, older adults may simply prefer the status quo.

DOI: 10.1037/pag0000943

AI and the risks of delegating dishonesty

People may be more inclined to dishonesty when they task a delegate—whether human or machine—to report on their behalf, according to a series of online studies in *Nature*. In two studies, a total of 1,398 participants used a program to roll a die 10 times; the outcomes they reported dictated the payout they would receive. When they did their own reporting, participants tended to report honestly. However, when they delegated reporting to a computer agent, they often gave the agent instructions that enabled dishonesty. In additional studies, participants delegated reporting to AI delegates or human delegates. Results showed the AI delegates were much more likely to report dishonestly, but this was not because participants gave them markedly different instructions. Rather, the AI delegates—based on large language models such as GPT-4 and Claude 3.5 Sonnet—were simply more likely to follow instructions that encouraged dishonesty. Understanding the ethical risks of AI delegation is critical as artificial intelligence becomes part of everyday life, the researchers argue.

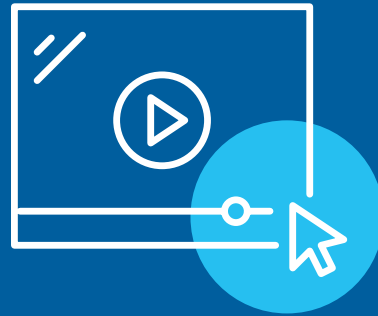
DOI: 10.1038/s41586-025-09505-x

What do relationship measures measure?

Self-report measures that are meant to assess specific aspects of close relationships may be vulnerable to a shared methods bias, according to research in *Psychological Science*. To probe the potential influence of this bias, researchers created a new measure, “Pseudo,” containing 10 items that

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📷 Sleep-deprived brains carry out sleep processes during waking hours, which corresponds with attention lapses and suggests that the body compensates for lost rest during this time.

sounded like those in existing relationship measures but had no relevant meaning (e.g., “My partner and I have excellent taro”). Data from 477 participants in long-term relationships showed that Pseudo was moderately to highly correlated with existing measures of relationship satisfaction, commitment, appreciation, and trust, and it predicted these measures over time. Another study with 104 couples showed that Pseudo was not correlated with non-relationship measures or between partners. The results suggest that although Pseudo is intentionally nonsensical, it still tapped into participants’ relationship-related feelings. The findings suggest that a person’s overarching feelings, positive or negative,

may influence how they respond to questions about specific aspects of their relationship, a phenomenon called sentiment override. To address these methodological confounds, researchers can scrutinize and curate their measures and apply more robust analytical models.

DOI: 10.1177/09567976251370262

📷 This is your brain on sleep deprivation

A study in *Nature Neuroscience* provides some clues as to why our attention tends to flag after a night of no sleep. Researchers studied 26 adult participants in the morning, once after a night of regular sleep and once after a night of complete sleep deprivation. Participants underwent EEG

and functional MRI scans during a wakeful resting state and a sustained attention task. As expected, participants performed worse on the attention task after a night of no sleep. Their attentional lapses coincided with waves of cerebrospinal fluid flushing the brain, a process that normally occurs during sleep. Attentional lapses were also linked with changes in pupil diameter, heart rate, and breathing rate. Together, the findings suggest that the body makes up for lost sleep by carrying out sleep-state processes during waking hours. The researchers suggest that such closely coordinated changes throughout the brain and body are likely to trace back to a common brain circuit.

DOI: 10.1038/s41593-025-02098-8

Disentangling conspiracy beliefs from psychological distress

Although some studies have found correlations between psychological distress and conspiracy beliefs, the evidence does not support a causal relationship, according to a preregistered longitudinal study in *Clinical Psychological Science*. The online study included data from 970 participants in Australia, New Zealand, and the United Kingdom, collected in seven monthly waves. Participants completed items measuring belief in specific conspiracy theories; general conspiracy mentality; symptoms of depression, anxiety, and stress; and perceived intergroup threat. Only anxiety was associated with later belief in conspiracy theories, and

this association did not hold when the researchers performed further checks of statistical robustness. Fine-grained data on people's thoughts, feelings, and experiences collected over a longer period may help clarify the factors and processes that lead people to believe in conspiracy theories.

DOI: 10.1177/21677026251370092

Age-related differences in autism diagnosis

People with autism who are diagnosed early in childhood may have distinct developmental trajectories and genetic profiles from people who are diagnosed later, according to analyses of longitudinal data published in *Nature*. Data from 402 children in three birth cohorts indicated distinct

developmental trajectories associated with age of autism diagnosis. With the first trajectory, people tended to receive an autism diagnosis in early childhood and have early emerging social and communication difficulties. With the second trajectory, people tended to receive a diagnosis later and have socioemotional and behavioral difficulties that emerged in adolescence. Two genome-wide association studies with 47,130 participants revealed genetic profiles that were associated with diagnosis in early childhood and diagnosis in adolescence or later. The genetic profile associated with later diagnosis was also more strongly correlated with attention-deficit/hyperactivity disorder and other mental health



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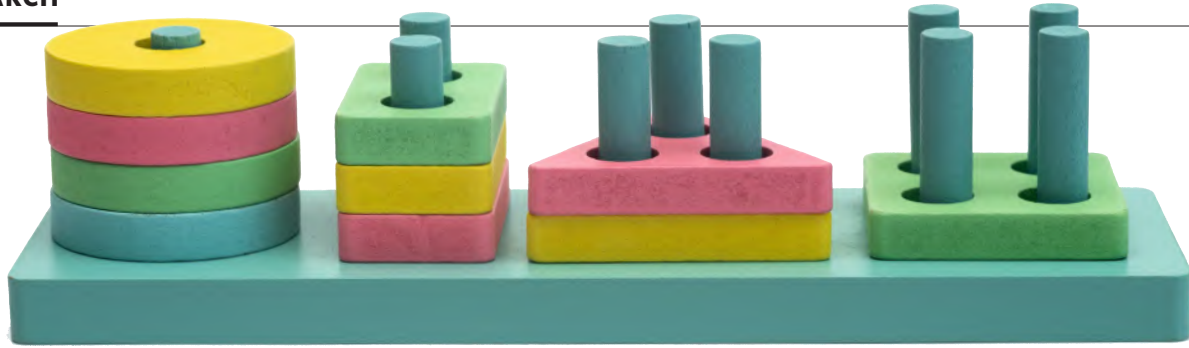
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Children who attended Montessori preschools tend to show stronger academic and cognitive skills by the end of kindergarten compared with peers who didn't, with benefits emerging over time rather than immediately.

conditions. Additional studies with more detailed developmental and diagnostic measures can help clarify the differences between these trajectories.

DOI: 10.1038/s41586-025-09542-6

Putting message-based therapy to the test

Message-based psychotherapy may be just as effective as video-based therapy for people with depression, according to findings from a 12-week randomized clinical trial in *JAMA Network Open*. Researchers randomly assigned 850 adult participants with diagnosed depression to receive video-based psychotherapy or message-based psychotherapy via a digital mental health platform for up to 12 weeks. Video-based therapy entailed 30- to 45-minute video sessions that occurred in real time, while message-based therapy encompassed asynchronous exchanges of emails and texts. All 76 participating therapists attended a training session on evidence-based psychotherapy for depression and the study procedure. At week 12, the two therapy groups showed similar levels of treatment response and remission. Although participants receiving video-based therapy were slightly more likely to disengage from treatment by week 5, video-based therapy was also associated with a stronger therapeutic alliance. The researchers posit that message-based therapy may

be an effective treatment delivery method that could increase access to evidence-based mental health care.

DOI: 10.1001/jamanetworkopen.2025.40065

Does income inequality shape brain development?

State-level income inequality has unique associations with brain development and mental health that are not explained by a person's socioeconomic status, according to research in *Nature Mental Health*. The researchers examined data from 8,412 children ages 9 to 10 who participated in the Adolescent Brain Cognitive Development Study. They calculated state-level income inequality using the Gini coefficient, which measures the degree of inequality in a distribution of values. Analyses showed that income inequality was linked with differences in both brain structure and function. Children in states with higher income inequality had on average lower cortical thickness and lower surface area in regions across all four lobes of the brain. They also had altered connectivity within and between networks involved in higher-level thinking and attention. These brain differences mediated the association between state-level income inequality and participants' mental health outcomes independently of individual-level socioeconomic status. The researchers speculate that income inequality may alter the social environment in ways

that affect children's brain development and health, suggesting an avenue for further exploration.

DOI: 10.1038/s44220-025-00508-1

Montessori under the magnifying glass

Evidence suggests that high-quality preschool can have lasting benefits for children's development. However, few rigorous studies have examined the Montessori model, which emphasizes student-led, hands-on learning. To address this gap in the evidence base, researchers followed 588 3-year-olds as they entered lotteries for 24 public Montessori schools across the United States. They compared children who were selected for a Montessori program with those who were not. The findings, published in *PNAS*, showed that about half the children who entered Montessori for preschool were still in Montessori at the end of kindergarten. While the Montessori and non-Montessori groups showed no notable differences at ages 3 or 4, they diverged by the end of kindergarten. Specifically, children in the Montessori group showed relatively higher scores on reading, short-term memory, theory of mind, and executive function at age 5 or 6. This finding is intriguing, the researchers note, because preschool studies typically show more immediate effects that disappear over time.

DOI: 10.1073/pnas.2506130122

📷 Early links between gut, brain, and mental health

Research in *Nature Communications* suggests a pathway through which young children's gut microbiome may influence brain development and later mental health. Researchers examined data from 55 children participating in an ongoing study in Singapore. The data included stool samples collected at age 2 (analyzed for microbial content), resting-state functional MRI scans at age 6, and caregiver-reported symptoms of anxiety and depression at age 7.5. Differences in anxiety and depression symptoms at age 7.5 were most strongly linked with differences in brain connectivity across emotion-related networks at age 6. These differences in brain connectivity were associated with higher levels of gut bacteria from the Clostridiales

order and Lachnospiraceae family at age 2. Additional analyses suggested that microbial profiles in toddlerhood mediated the link between brain connectivity and anxiety and depression symptoms later in childhood. While these findings suggest a potential developmental pathway, experimental studies are needed to establish causal links.

DOI: 10.1038/s41467-025-64988-6

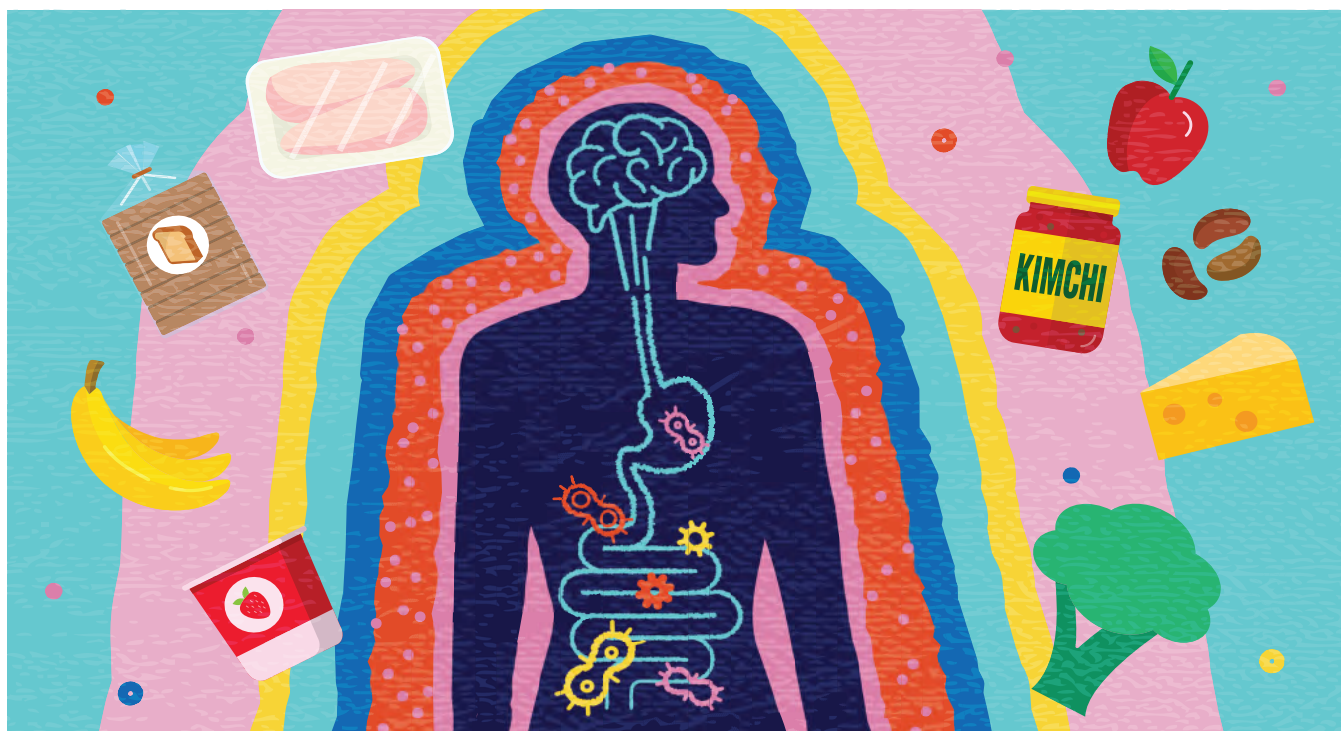
Dementia and co-occurring diagnoses

The likelihood of developing dementia may increase with the number of co-occurring mental disorders a person has, according to research in *BMJ Mental Health*. Researchers examined data from a hospital psychiatry department in France, spanning from 2009 to 2023. They focused on 3,688

patients who were age 45 or older and had at least one mental disorder diagnosis. After accounting for age, sex, and cardiovascular risk factors, the researchers found that patients with two mental disorders were more likely to develop dementia than those with one mental disorder; patients with four or more mental disorders were even more likely to develop dementia. Analyses showed that mood and anxiety disorder diagnoses had the strongest associations with dementia. The researchers note that patients may experience symptoms of dementia long before they receive an official diagnosis, making the causal timeline unclear. Additional long-term studies with large samples can help clarify the timing of effects and inform targeted screening and preventive measures.

DOI: 10.1136/bmjment-2025-301651

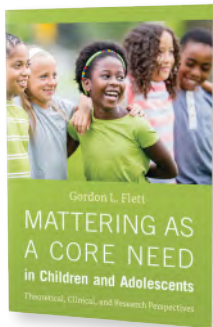
📷 Gut bacteria in toddlers may influence brain connectivity patterns that relate to anxiety and depression symptoms years later, suggesting a potential pathway linking early microbiome composition to mental health development.





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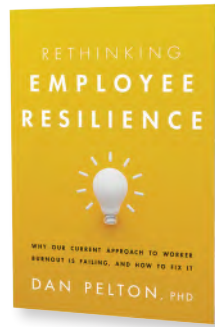
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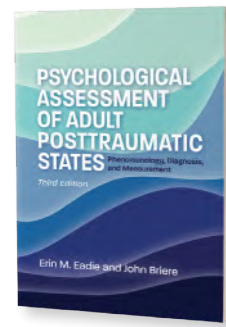
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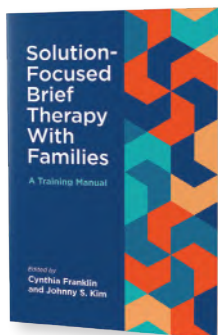
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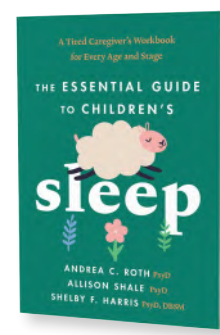
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Lagging Perceptions of the Relevance of the Psychology Major to Jobs

Psychology is everywhere, but psychology majors do not see how their jobs use psychology knowledge

KAREN STAMM, PhD, BETH SCHWARTZ, PhD, CORY PAGE, MPH, MPP, AND MERON ASSEFA, MS

News on
psychologists'
education and
employment from
APA's Center for
Workforce Studies

UNDERGRADUATE PSYCHOLOGY MAJORS have a variety of career pathways that use skills, abilities, and content knowledge in psychology, but often psychology majors do not recognize how psychology connects to their career pathways. In 2023, most employed graduates holding psychology bachelor's degrees indicated that their jobs were not related to psychology (38%) or only somewhat related to psychology (37%). Only 26% of psychology majors indicated that their jobs were closely related to psychology (National Science Foundation, 2025). These perceptions showed little change between 2010 and 2023.

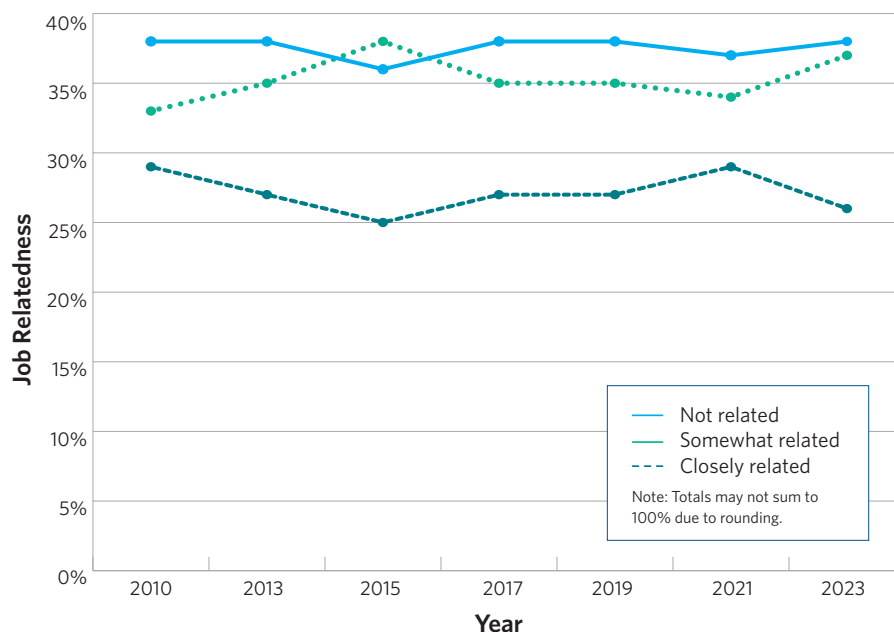
In contrast, psychology graduate degree holders' perceptions of how related their jobs are to psychology were much higher. About 73% of individuals with psychology master's degrees and 89% of individuals with psychology doctoral degrees reported that their jobs were closely related

to psychology (National Science Foundation, 2025).

Undergraduate psychology education is a critical area in which the relevance of psychology to future jobs could be strengthened. Psychology educators can improve perceptions of the value of the psychology major by encouraging student self-reflection

and career exploration to identify career pathways that are good fits, infusing career information throughout psychology curricula, discussing with students the many career-relevant or job-related skills learned as a psychology major, and incorporating coursework that shows real-world applications of psychology.

Job Relatedness to Highest Degree for
Psychology Bachelor's Degree Holders, 2010-2023



SOURCES

National Science Foundation, National Center for Science and Engineering Statistics. (select years). *National Survey of College Graduates* [data tables]. <https://nces.nsf.gov/surveys/national-survey-college-graduates/2023>

For further information, see Stamm, K. E., & Schwartz, B. M. (2025, August 14). *Improving perceptions of the psychology major*. Psychology Teacher Network, APA. <https://www.apa.org/ed/precollage/psychology-teacher-network/introductory-psychology/career-pathways>

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Deep Cutbacks and Restructuring at the VA Are Diminishing Care

It is an important time for psychologists to rally in support of high-quality care for veterans and to protect the VA's future

BY ZARA ABRAMS

A **WORSENING PROVIDER SHORT-AGE** and efforts to outsource care at the U.S. Department of Veterans Affairs (VA) are undermining the agency's ability to provide quality health care and mental health care to more than 9 million veterans across the country.

Funding changes are exacerbating an existing provider shortage and putting training and research programs at risk. Meanwhile, care that was long delivered by specially trained, culturally competent VA psychologists is increasingly outsourced to community providers who are not required to be trained in military culture, suicide prevention, lethal means safety, or combat-related trauma.

The VA was established to ensure that those who fight to protect the nation receive low- to no-cost care of the highest quality, long considered a fundamental responsibility of American society, said Joe Plenzler, a U.S. Marine Corps veteran who served as an officer during the wars in Iraq and Afghanistan and advocates to improve veteran care. "It's part of the social contract," he said.

A body of research shows that the VA is best equipped to provide that care, said Rodney R. Baker, PhD, the retired mental health director and chief of psychology for the South

Texas Veterans Health Care System. But psychologists and other experts predict that these recent and proposed changes will significantly weaken the department, with serious consequences for the physical and mental health of veterans.

"The VA is in real trouble. Unless actions are taken quickly to reverse the trend, its mental health services could easily diminish substantially

within 10 to 20 years," said Russell Lemle, PhD, a clinical psychologist and a senior policy analyst for the Veterans Healthcare Policy Institute, a non-profit research and policy organization.

In December, the Senate Committee on Veterans' Affairs ranking member Richard Blumenthal, D-Conn., with support from APA, introduced legislation aimed at reversing some of these trends. The Honor Our Promise to

At the VA Suicide Prevention Hotline in Canandaigua, New York, about 20 operators answer 250–300 calls daily and try to persuade the callers—veterans across the country—to abandon suicide plans and seek help. Key advances in psychology such as suicide prevention can be traced back to the VA.



AT A GLANCE

- Recent and proposed changes at the VA are straining the agency's ability to provide high-quality health care and mental health care to our nation's veterans.
- Psychologists can rally to support the future of the VA, which has played an integral role in training and clinical care across the field.
- More than half of VA medical centers already report a shortage of psychologists, and many vacancies are not being filled.
- You can show support by contacting your elected representative or joining the Psychology Advocacy Network, run by APA Services, as policymakers consider legislation affecting the VA workforce.

Veterans Act of 2025 would add psychology to the competitive pay category of the Title 38 Code of Federal Regulations, improving pay and benefits for VA psychologists, which could strengthen recruitment and retention efforts. The bill would also expand telework options for certain providers, reduce wait times for veterans seeking mental health care both within and outside the VA, and improve training and accountability for providers outside the VA who are working with veterans.

Diminishing the VA may also deal a setback to the discipline of psychology. The VA's health care arm, the Veterans Health Administration, is the largest single employer of psychologists in the United States and has provided clinical training for more than half of the field's practitioners, according to the most recent analyses (*Evaluation of the Department of Veterans Affairs Mental Health Services*, National Academies Press, 2018). It is also the nation's largest integrated health care system, treating veterans, their families, and some active-duty service members, and it provides a critical opportunity to study interventions

and often defines national standards for psychological training and care.

"The VA is a huge player in mental health care in our country and beyond," said Stephen Long, PhD, a clinical psychologist with 34 years of experience in research, care, and program development who is now retired from the VA. "What happens inside the VA affects what happens outside the VA, which means that everybody who gives or receives psychological care should be concerned right now."

Complex challenges

The model of the VA is to provide high-quality care for life to eligible veterans and their family members, as well as survivors of those killed in the line of duty, by providers who understand military culture and are trained to support this population's unique needs. Even for those who don't see combat, military service often involves extended time away from home under stressful conditions where one might fear for their safety and the safety of comrades.

"Whether or not you engage in combat, military life brings a lot of stressors that don't go away the moment you get your discharge paperwork," Plenzler said.

After retiring from active duty, veterans may face complex mental and physical challenges that require specialized care. Combat-related post-traumatic stress disorder (PTSD) differs from other forms of PTSD, partly because it can involve prolonged exposure to danger over a period of months or years. Moral injury, or feelings of guilt about actions or inactions that violate one's core values, may also need to be addressed.

Many veterans have complex PTSD, including some who faced trauma prior to their military experience, Long said. It's also common for

patients to meet criteria for multiple diagnoses, such as depression, panic disorder, and substance use disorder. These challenges can interact with physical health problems, such as traumatic brain injuries from repeated exposure to explosions.

For decades, the VA's centralized system of research, training, and care was the main provider of specialized support for these complex challenges. That began to shift in 2014, when the Veterans Access, Choice, and Accountability Act broadened veterans' eligibility for outside care in certain cases, such as when waiting lists or travel times were too long.

But what was intended as a complement to VA services is now becoming the norm rather than the exception, and psychologists and veterans' policy experts worry that this trend will undermine the VA's integrated system. Total reimbursement for community care, or care provided outside VA facilities, nearly doubled between 2018 and 2023 and is projected to continue growing rapidly (Kizer, K. W., et al., *The Urgent Need to Address VHA Community Care Spending and Access Strategies – Red Team Executive Roundtable Report*, 2024; Rose, L., & Wagner, T. H., *JAMA Health Forum*, Vol. 6, No. 9, 2025).

While community providers do supply crucial support, many aren't trained in evidence-based practices for common veteran conditions. These providers operate with minimal oversight from the VA and aren't required to coordinate the care they provide with the VA (*VA Needs Improved Oversight of Behavioral Health Medical Records and Provider Training*, U.S. Government Accountability Office, 2025).

"This is a unique population," said Conwell Smith, APA's deputy chief of military and veteran policy. "Sending



A 2015 analysis found that more than half of psychologists completed some clinical training, such as an internship or postdoctoral fellowship, at the VA. However, recent administrative and funding changes are driving a net loss of providers.

veterans out to the community without requiring that mental health care providers understand them is concerning. Veterans should have every expectation that their quality of care is top-notch, regardless of the site of service.”

Research shows that veterans who access care at the VA fare better than those treated in the private sector. They have lower suicide rates and better outcomes for most major physical and mental health needs (Ramchand, R., & Montoya, T., RAND, May 22, 2025; Shekelle, P., et al., *VA versus Non-VA Quality of Care: A Living Systematic Review*, VA Office of Research and Development, 2024; *Recent Peer-Reviewed Studies Comparing VA to Non-VA Healthcare Cost, 30-Day Mortality and Care Outcomes*, Veterans Healthcare Policy Institute, 2025).

“If you’re trained at the VA, you learn something important about veteran mental health care that you’ll never get if you’re trained someplace else,” said Baker, who treated veterans and trained psychology interns at the VA for more than 40 years.

For example, community providers may not know how to collect and incorporate information about a patient’s military history, Baker said, including details about branch, role, deployments, combat exposure, injuries, military sexual trauma, and unit culture. They may also lack expertise in navigating the transition between military and veteran life, now considered a critical adjustment period.

“One of our biggest fears is that veterans will just be left out in the system on their own, without the touch point that brings in cultural competency,”

said Kyleanne Hunter, PhD, CEO of the nonprofit Iraq and Afghanistan Veterans of America and a veteran of the U.S. Marine Corps.

A key training pathway

Psychology and the VA are deeply intertwined. After World War II, VA health centers were established alongside medical schools, creating a vital training pipeline for both physicians and psychologists that stands today.

A 2015 analysis found that more than half of psychologists completed some clinical training, such as an internship or postdoctoral fellowship, at the VA (*Evaluation of the Department of Veterans Affairs Mental Health Services*, National Academies Press, 2018). For years, it was among the most desirable employers for psychologists, Lemle said.

Data indicate that the administrative changes and funding cuts that are impacting veterans' care delivery are driving a net loss of providers. In the latest monthly VA workforce report, released in September, just 62% of departing psychologists said they would recommend working at the VA—the lowest satisfaction rate of all professions surveyed (*VA Workforce Dashboard*, No. 29, September 2025). Reasons cited included lack of trust in senior leaders, policy or technological barriers to work, job stress, and personal or family matters.

Throughout 2025, VA reports also show a monthly decline in psychologists employed by the organization, with 57% of medical centers reporting a shortage (*OIG Determination of Veterans Health Administration's Severe Occupational Staffing Shortages Fiscal Year 2025*, VA Office of Inspector General, 2025). The VA has now announced it will cut a total of 30,000 jobs this year across the organization and impose caps on staff at every medical center.

"This approach locks in permanent VA understaffing just as demand for mental health services is projected to continue growing through 2030," Lemle said. "The private sector can't fill this gap either—over a third of Americans live in areas already facing mental health professional shortages. That's not taking care of our veterans."

Federal return-to-office mandates have further strained the VA psychology workforce. Providers who once worked partly or fully from home providing telehealth sessions are now mostly barred from doing so. The change in regulations forced some psychologists to end their employment rather than commute long distances to perform the exact same work.

Encouragingly, the VA will begin an internship match program in 2026,

ensuring that vital opportunities for psychological training remain open to students.

The VA's cuts put clinical care, training, and workforce issues in the spotlight, but the risk to research should not be ignored. As the nation's largest integrated care organization, the VA offers a sizable study population with rich data that can be used to improve health care and mental health care for all Americans, a setup difficult to replicate, Smith said. Key advances in psychology—such as understanding post-traumatic stress, trauma-informed treatments, suicide prevention, integrated care, and telemental health delivery—can be traced back to the VA.

"The cuts to research development will affect more than just the staff in those departments," said Kathleen McNamara, PhD, a clinical psychologist who worked at the VA as a provider, trainer, and administrator for more than 30 years. "This is about providing the best care possible—and these researchers are asking the right questions to better understand the needs of a new generation of veterans."

For example: How do psychological and physical combat trauma impact the aging process, particularly for women as they enter menopause and perimenopause?

"Women are the fastest growing group of veterans, yet there's very little research on menopause and its impact on conditions like complex PTSD and brain injuries," Hunter said. "These are the types of research questions that are so critical for us to keep asking."

Support and protect

Given the VA's pivotal role in the field, psychologists of all stripes must rally to protect its future, Smith said. Because the Hatch Act limits how

federal employees can engage in advocacy, VA psychologists do not always have the ability to speak out about these issues—making support from those outside the organization crucial.

"If general psychology advocates for the VA, that can make a big difference," McNamara said.

One way to show support is by joining the Psychology Advocacy Network run by APA Services to stay informed about advocacy campaigns on veterans' issues and other topics.

Psychologists and veterans alike can also raise their voices on these issues by calling their member of Congress.

"Time is of the essence. If you care about the long-term viability of the VA, call your elected officials and express your displeasure about how budget changes are affecting VA facilities and demand that the organization be funded appropriately," Plenzler said.

Advocating for the VA now can help fulfill the social contract with those who have fought to protect this country.

"How we treat our veterans tells us a lot about who we are," Baker said. "The question is: Are we going to step up and provide the best care available for those who risked their lives for our country?" ■

FURTHER READING

The urgent need to address VHA community care spending and access strategies—Red Team executive roundtable report
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School Psychologists Adapt to Increased Immigration Enforcement

Recent shifts have introduced new operational responsibilities for psychologists working in K-12 settings, from assessment, service delivery, and school-wide supports to maintaining compliance with applicable laws and policies

BY EFUA ANDOH

THE DEPARTMENT OF Homeland Security (DHS) rescinded its long-standing “sensitive locations” policy in January 2025, making schools no longer off-limits to Immigration and Customs Enforcement (ICE) arrests. While ICE requires a judicial warrant or authorization from school officials to enter private spaces, agents may now access public areas—such as parking lots or lobbies—to enforce immigration laws. For many students, families, and school personnel, this shift has eroded their sense of safety and belonging at school, making once-mundane activities like school pickup and drop-off fraught.

“These families fear that just engaging in their daily lives might be a danger to their children and

“These families fear that just engaging in their daily lives might be a danger to their children and lead to family separation. It is not possible to overstate how damaging this is from a mental health standpoint.”

Amanda Venta, PhD

Director of the Youth and Family Studies Lab at the University of Houston

lead to family separation,” said Amanda Venta, PhD, director of the Youth and Family Studies Lab at the University of Houston and cochair of the APA Presidential Task Force on Immigration and Health. “It is not possible to overstate how damaging this is from a mental health standpoint.”

A new push for tougher immigration enforcement is reshaping policies and communities nationwide. In July 2025, H.R. 1, or the One Big Beautiful Act, allocated \$75 billion in additional funding to ICE over 4 years, increasing the agency’s operational capacity for arrests, surveillance, and detentions.

More than 1 in 4 U.S. children (26%), most of whom were born in the United States, live with at least one immigrant parent, while 10.3% are noncitizens (Haley, J. M., et al., *Children of Immigrants in 2022–23*, Urban Institute, 2025). Millions grow up in mixed-status families, including an estimated 5.6 million U.S.-citizen children who live in households with

at least one undocumented resident (*What will deportations mean for the child welfare system?*, The Brookings Institution, 2025). Yet the impact of enforcement extends far beyond families with undocumented members. Recent ICE operations have swept up legal immigrants and U.S. citizens, leaving many to feel unprotected regardless of their status.

School psychologists find themselves uniquely positioned on the front lines. Their traditional duties—delivering assessments, counseling, and coordination of Individualized Education Programs (IEPs)—now intersect with legal and forensic activities, as some provide documentation for immigration-related proceedings and consult on crisis response protocols. In addition, many schools lack institutional policies protecting affected students or have inconsistent local- and state-level protections.

In some states, political hostility or apathy toward immigration may

AT A GLANCE

- Federal policy updates (e.g., revision of the “sensitive locations” guidance) permit immigration enforcement to access certain public areas on school property.
- School psychologists are adjusting assessment, counseling, and IEP coordination to address student stress associated with enforcement actions while preserving instructional time.
- Evidence links heightened enforcement exposure with increased anxiety, absenteeism, and disengagement, but school-wide and targeted interventions can help students cope with the distress.



ICE agents can now access a school property's public areas, making routine activities like pickup and drop-off stressful for immigrant families.

leave school psychologists isolated, searching for trusted allies and information. This leads many to feel “like they’re spitting in the ocean during a tsunami,” said Carola Suárez-Orozco, PhD, director of the Immigration Initiative at Harvard. “There’s the danger of compassion fatigue and secondary trauma.”

The real risk of burnout in this new climate is a significant concern, making self-care and boundary setting essential for professionals. These strategies can take multiple forms. For example, limiting exposure to distressing news or incorporating mindfulness practices can help maintain calm and strengthen coping skills. Both APA and the National Association of School Psychologists (NASP) provide resources for managing secondary trauma. Professionals may also benefit from debriefing with a therapist. They may also turn to

their professional support system and seek consultation from professional peer groups or request supervision from experienced colleagues.

A country-wide chilling effect

Schools are often the only places where children can access behavioral and mental health services. However, heightened enforcement is causing many families to pull away when students may need support the most. This chilling effect impacts disclosure, engagement, and the ability of schools to meet children’s emotional and academic needs.

For María del Carmen Needham, MS, a school psychologist based in Austin, Texas, with more than 18 years of experience, this new reality has reshaped her day-to-day work. Needham supports several districts nationwide through telehealth in addition to serving students in the

Wayside Charter Schools. She has seen immigration enforcement affect even basic logistics like school pickups—in one case, a student refused to board a school bus, convinced ICE agents would be waiting to apprehend them or their families at their stop.

Needham now spends considerable time reassuring parents that schools can provide some safety despite the rollback of the sensitive locations policy. “It has created some challenges, and we have had to be flexible,” she said. “In the past, parents might come in for meetings, or we did interviews on-site. Now we’re having to rely on phone, Zoom, or video calls just to give parents the relief that they can still participate in our assessment process or the IEPs, whereas that wasn’t an area of concern before.”

Joanna Cross, M.Ed, Ed.S, provides assessment services to a charter high school based in downtown Chicago. Last fall, an extreme surge in ICE operations led many students to travel to school in groups for safety. Once they arrived on campus, they found it almost impossible to focus on schoolwork, and teachers cut back on demanding academic work as a result. Cross and her colleagues also had to calm the palpable anxiety of parents during meetings about their children’s IEPs and transition plans to college. Some expressed concerns that applying for financial aid could place their families on a list.

In her work, Monica Ogan, PhD, a licensed school psychologist and neuropsychologist who conducts forensic evaluations for immigration cases, noticed parents were less willing to disclose information pertinent to the diagnosis of their children. For example, symptoms that look like attention-deficit/hyperactivity disorder (ADHD) may be rooted in trauma



School psychologists are adapting counseling and assessments to help students cope with fear and trauma linked to aggressive immigration enforcement.

rather than ADHD, but distinguishing between the two requires a comprehensive history. “We can only know what the child went through if we interview the family. Families don’t want to share what they went through, say, crossing the border, because they worry that their status is going to be out in the open and they can be targeted,” Ogan said. An incomplete picture of a child’s trauma history risks overlooking vital information that could impact provision of appropriate interventions.

Ogan, who is based in Miami and Orlando, has carved out a niche within school psychology: conducting forensic evaluations for immigration cases. Her work includes supporting asylum claims and hardship waivers, often providing expert testimony on how deportation of a primary caregiver could harm children, such as losing access to special education or medical care. The legal aspect of immigration is not covered in school

psychology training, however. “It’s very important now more than ever that we start training people as to what is needed in the process,” Ogan said. “With our expertise in trauma and mental health, we can help provide the court with information that is relevant.”

As increased immigration enforcement around the country shows no signs of slowing, school psychologists can turn to their professional networks to strengthen their expertise. APA offers continuing education on immigration-related psychological evaluations associated with humanitarian options, while the National Child Traumatic Stress Network and Div. 56 (Trauma Psychology) offer multiple relevant resources and webinars. In addition, Ogan leads a multilingual interest group of school psychologists that meets monthly to discuss how best to help multilingual students in the areas of instruction, assessment, mental health, and immigration.

Creating a sense of safety

While school staff cannot guarantee complete protection from ICE agents with a valid warrant, they can take meaningful steps to create an environment that feels as safe and supportive as possible within the limits of the law. Ileana Moreno, PhD, a school psychologist based in the border town of Laredo, Texas, works to allay fears by reaffirming that her sessions are a “judgment-free zone,” where confidentiality is assured regardless of immigration status or mental health diagnosis. “I think the most important thing for anybody working with these children is to be a safe place.”

Moreno endorses the Multi-Tiered System of Supports (MTSS) framework that combines universal and targeted strategies to meet the academic and emotional needs of all students. For example, Moreno encourages all school staff to make brief, consistent check-ins a routine part of the day. “Whether you are a school psychologist, teacher, or administrator, if you just keep asking the simple questions—How are you feeling today? How’s your family?—you show empathy,” Moreno said. By normalizing these small but meaningful interactions, schools can create a foundation of trust that is key to supporting student mental health.

Patricia Perez, PhD, an international psychologist and member of the APA Coalition for Psychology in Schools and Education, emphasized that protecting student confidentiality related to immigration fears should be paramount during check-ins. She noted that schools can also encourage families to use the emotional check-in model at home. Simple check-ins at bedtime, during meals, or on the way to school can give children language for processing their feelings.

Needham recommends normalizing emotional regulation activities as another effective strategy. “One of my favorite things that our pre-K and kindergarten teachers do during circle time is talk about finding your center and helping students get grounded. They talk about feelings and emotions and how to identify when you might not be feeling okay,” she said. She added that creating calming corners and regulation breaks, where students can self-regulate or co-regulate in groups, is also helpful.

Celebrating students’ cultures, languages, and traditions is a powerful way to reduce feelings of shame and humiliation caused by rhetoric that disparages immigrants. “Young people’s sense of belongingness is such an essential Maslovian need,” Suárez-Orozco noted. “The pain of social rejection activates the same part of the brain as physical pain. You can’t really learn if you are agitated and feel excluded.” She added that school psychologists can tacitly communicate support by displaying photos, artwork, and signage that is welcoming of all identities.

Targeted approaches for students in need

School psychologists can also turn to targeted interventions to lessen the distress for the students most deeply affected. Cognitive Behavioral Intervention for Trauma in Schools (CBITS) is a school-based approach that uses group counseling to help students process traumatic events, build coping skills, and decrease symptoms of PTSD and depression (Aganza, J. S., et al., *Contemporary School Psychology*, Vol. 23, 2019). In acute crises—such as sudden parent detention—Aganza and colleagues also recommend schools employ Psychological First Aid (PFA) protocols. The Listen, Protect,

Connect—Model and Teach framework is designed to stabilize the student immediately—help them cope in that moment—before connecting them to longer-term care or supports.

Another intervention model, *Cariño Conscientizado*, which roughly translates to critically conscious and authentic care, encourages educators and school staff to buffer against the effects of discriminatory practices and policies. They can do so by reframing students’ cultural and linguistic knowledge as strengths in the face of anti-immigrant sentiment (DeNicolo, C. P., et al., *Review of Research in Education*, Vol. 41, No. 1, 2017).

Beyond direct student support, school psychologists can influence systemic responses. This includes advocating for district-level crisis protocols, staff training on immigration-related stress, and policies that protect confidentiality. Psychologists can also collaborate with administrators to ensure MTSS frameworks incorporate trauma-informed practices and culturally responsive supports. These efforts help create consistency and reduce isolation for professionals working in resource-limited contexts.

While school psychologists cannot remove the source of students’ fear, they can equip them with tools to cope with the omnipresent threat. Venta pointed to interventions used to address serious illness or grief such as acceptance and commitment therapy (ACT). ACT helps to acknowledge students’ fear as legitimate while teaching them coping skills to manage their daily lives amid the chaos (Hayes, S. C., et al., *The Counseling Psychologist*, Vol. 40, No. 7, 2012).

In the face of changes in enforcement, school psychologists can lead

the way by fostering connection and care in the schools they serve, Venta added. “The best thing that we can do right now to counter the mental health effects of this is to dig our heels in on community,” she said. “It doesn’t matter who’s knocking on the door and whether or not they have a warrant, schools can continue to create a climate of warmth and belonging, and that will do a lot to protect everyone as we continue to deal with difficult things.” ■

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Special report: U.S. immigration policy and the mental health of children and families

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AI in the Therapist's Office: Uptake Increases, Caution Persists

The 2025 *Practitioner Pulse Survey* reveals a growing ease with AI for practice management alongside ongoing privacy concerns, while clinician capacity shows signs of post-pandemic stabilization

BY ZARA ABRAMS

ARTIFICIAL INTELLIGENCE (AI) has moved from a fringe tool to a regular part of clinical practice, with more psychologists weaving it into their administrative routines and reporting a clearer understanding of its risks and benefits.

Almost 1 in 3 practitioners (29%) now use AI at least monthly in their practice, according to the 2025 *Practitioner Pulse Survey*, released by APA and its companion organization, APA Services, in December. Of 1,742 respondents, 56% have used AI to assist with their work at least once, pointing to a growing ease with the technology among many practitioners.

But plenty of concerns remain, including for the 38% of psychologists who worry that AI may one day make some or all their job duties obsolete.

AT A GLANCE

- AI use is rising among psychologists, with 29% using it monthly, but concerns about privacy, bias, and job loss remain strong.
- Clinician capacity is stabilizing post-pandemic, even as 45% report patients' symptoms worsening; burnout rates and wait times show signs of improvement.
- Insurance barriers persist, with 38% of psychologists not accepting insurance because of low reimbursement and administrative challenges, limiting access for many patients.

Even clinicians who don't use AI for practice management likely encounter it in some form. OpenAI recently reported that around 1 million users per week show signs of emotional reliance on ChatGPT, with similar numbers talking to the chatbot about suicide (Chatterji, A., et al., Working Paper 34255, National Bureau of Economic Research, 2025).

"AI is already in your practice even if you're not using these administrative tools because many of the people sitting on the couch across from you are turning to ChatGPT in between sessions," said Rachel Wood, PhD, an expert in cyberpsychology and licensed professional counselor who runs the AI Mental Health Collective.

For that reason, it's critical for psychologists to ask patients about their AI use and to develop practical and ethical competence to support situations their patients may face and spot signs of misuse. APA's recent health advisory provides guidance for clinicians on how to handle generative AI in therapy and other settings ("Use of Generative AI Chatbots and Wellness Applications for Mental Health," APA, 2025).

"Whether you're for or against AI is less important than having a baseline level of knowledge, information, and understanding so that you're equipped to hold space for it," Wood said.

Aside from AI, clinician reports indicate that the mental health crisis isn't over. Nearly half (45%) have seen an increase in the severity of their patients' symptoms. On the bright side, clinician capacity appears to be stabilizing post-pandemic, with plateaus or declines in burnout rates, waiting list length, and the ability of providers to meet patient demand.

"Providers are telling us: We're still seeing patients who seem sicker, but our ability to meet and match that is going in the right direction," said Marnie Shanbhag, PhD, who is with APA's Office of Independent Practice.

Increasing comfort, continued caution

Keeping pace with the increased use of AI across society, a greater number of psychologists are incorporating these tools into their work.

Fewer than half of psychologists (44%) say they have never used AI to assist with their practice, compared with 71% who said so in 2024. Nearly 3 in 10 (29%) use it at least monthly, up from just 11% last year.

"This is not only in our clinical world, but there's a collective movement on a societal and global level where people feel really behind if they're not using AI," Wood said.

AI tools are now woven into many of the platforms psychologists already



Although practitioners are gradually adopting AI (about half have used it for drafting emails, for example), only 22% report using AI for note-taking.

use, including electronic health records (EHRs). Practitioners most frequently report using AI tools for help with writing, such as drafting emails (52%), followed by generating content (33%), summarization (32%), and note-taking and dictation (22%).

Tools like ChatGPT have helped Cami Winkelspecht, PhD, a child and adolescent psychologist with a private practice in Wilmington, Delaware, with myriad practice-related tasks. These include generating summaries of newly published research, building structured outlines for presentations, and helping her patients with attention-deficit/hyperactivity disorder create checklists to help with studying or schoolwork. “Integrating it into our workflow in ways that don’t

relate to confidentiality or patient privacy is a safe way to start experimenting with AI,” she said, compared with using AI for more sensitive tasks, such as note-taking during a therapy session.

APA’s AI tool guide for practitioners gives step-by-step advice for evaluating whether a given tool is appropriate for use in practice, while newly released guidelines provide more detailed tips for evaluating AI scribing technologies.

The survey results show psychologists were more aware of AI’s benefits and risks than they were the year before. About 4 in 10 (42%) say AI can help with operations and reduce practitioners’ administrative burden, up from 33% in 2024. Two thirds (67%)

remain concerned about potential data breaches. In addition, at least 60% of psychologists surveyed are worried about biased inputs and outputs, inaccurate outputs, lack of rigorous testing, and unanticipated social harms. Most concerns about AI’s risks grew by around 10 percentage points from 2024 to 2025.

Such concerns are consistent with psychology’s focus on ethics and should inform how providers use AI, especially in situations where it could influence clinical judgment. For example, if using a notes-summarization tool, Wood recommends treating AI like a second pair of eyes—much like a supervisor offering feedback. Clinicians should always rely first and foremost on their own expertise. (For

“Things do seem to be stabilizing in terms of the crisis that psychologists themselves faced while serving the public during the pandemic. Our ability to meet demand has gone up, our burnout seems to be going down, and treatment length is stabilizing and not continuing to increase.”

Marnie Shanbhag, PhD

Senior director of independent practice, APA

more advice, see “Ethical Guidance for AI in the Professional Practice of Health Service Psychology,” APA, 2025.)

To guide ethical use, Wood suggests practitioners include a clear statement about how they use AI in their disclosure to patients. It’s also a good idea to discuss this directly and be ready to make accommodations for those who are uncomfortable with the use of AI. Another useful step is adding a simple intake question: What role, if any, does AI play in your life?

“With the numbers of people using AI for emotional support, this needs to become standard,” Wood said. “Your client may have a best friend, boyfriend, or girlfriend that’s an AI. We need to be the place where people can safely talk about this and process it.”

Growing familiarity with AI hasn’t eliminated lingering fears about being replaced. Nearly 4 in 10 psychologists (38%) worry AI may make some or all their job duties obsolete in the future, up from 27% in 2024. That concern is not unfounded, Wood said, given how many people already talk to ChatGPT about personal issues. This year, she launched the AI Mental Health Collective to give clinicians a space to reflect on AI, unpack its implications, and make personal and professional decisions about how to use it. For example, therapists in her network have explored how to support couples in therapy when one partner also has an AI companion.

Winkelspecht said that hesitation around AI mirrors clinicians’ early resistance to EHRs. She expects AI adoption to follow a similar path to EHRs—early enthusiasm from some, hesitation from others, and a small group who may opt out entirely. Despite early skepticism, most clinicians now routinely use EHRs in their practice.

“Having good education and opportunities to process these challenges is key. It’s something that people are really hungry for knowledge on,” Winkelspecht said.

Signs of steady ground

While close to half (46%) of psychologists still do not have openings for new patients, that number has been trending downward since 2021. Nearly 9 in 10 (87%) providers now say they can see new patients within 3 months, similar to wait times for other nonurgent medical specialists.

“Things do seem to be stabilizing in terms of the crisis that psychologists themselves faced while serving the public during the pandemic,” Shanbhag said. “Our ability to meet demand has gone up, our burnout seems to be going down, and treatment length is stabilizing and not continuing to increase.”

The stress of the pandemic and the abrupt shift to telehealth placed emotional and administrative burdens on providers that now appear to be lifting, said Julie Wolter, PsyD, a psychologist in private practice in North Kingstown, Rhode Island.

At the same time, many patients continue to face significant challenges, with 45% of providers observing an increase in symptom severity. That may be the result of delayed care during the pandemic, which has had lasting

ESSENTIALS

KEY TAKEAWAYS FROM THE 2025 PRACTITIONER PULSE SURVEY

The 2025 *Practitioner Pulse Survey* reveals how practicing psychologists are navigating AI, workload, and insurance difficulties.

AI in practice

- 56% have used AI tools in their practices in the past year.
- 29% use AI on at least a monthly basis.
- 38% are worried that AI could make some or all their job duties obsolete.

Workload and capacity

- 87% can get new patients in within 3 months.
- 45% saw an increase in the severity of patients’ symptoms.

Insurance participation

- 38% do not accept any form of insurance.
- Barriers to accepting insurance include insufficient reimbursement, administrative issues with payers, concerns about payment reliability, and denial of coverage for services deemed necessary and appropriate.



Access continues to improve: While nearly half of psychologists have no openings for new patients, nearly 9 in 10 can see patients within 3 months.

effects on both physical and psychological health, Shanbhag said.

Psychologists' ability to meet those needs continues to be hindered by insurance barriers. Less than two thirds of psychologists (62%) accept some form of insurance. Among providers who do accept insurance, 10% stopped participating in at least one private or commercial network in the past year.

"We're continuing to see providers move away from accepting insurance, a trend that we expect to continue," Shanbhag said. "That's not a good thing for society, because a very small segment of the population can afford to access full-fee, cash care."

Three quarters of psychologists cite insufficient reimbursement as a primary reason for not accepting insurance. Other barriers included administrative issues with payers (57%), concerns about payment

reliability (43%), and denial of coverage for services they deem necessary and appropriate for patients (28%). (For more on how such barriers affect patients and providers, see: Abrams, Z., *Monitor on Psychology*, Dec. 17, 2024).

Low reimbursement rates have forced many providers to choose between financial stability and accepting insurance, said Wolter, who helps lead advocacy efforts for the Rhode Island Psychological Association and the New Hampshire Psychological Association. That can lead to feelings of guilt or distress for providers who entered the profession wanting to support underserved patients, she said.

These and other conditions contribute to a high rate of burnout (50%) among early career psychologists. The good news: Practitioners in the most advanced career stage report much lower burnout levels (16%). That disparity likely stems from the multiple

competing demands many new psychologists face, Shanbhag said—including student loan debt, pressure to establish themselves professionally, and major life transitions such as partnering or starting a family.

"People assume that burnout gets worse over the course of a career, but in our profession it's actually the inverse," she said. "As psychologists gain experience and autonomy, things really do tend to get better." ■

FURTHER READING

Artificial intelligence is reshaping how psychologists work

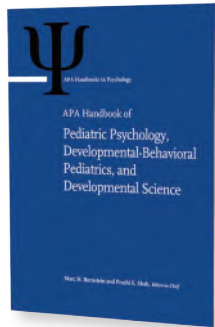
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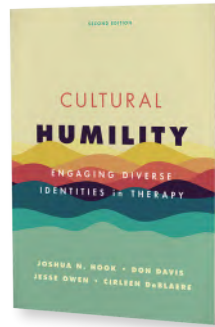
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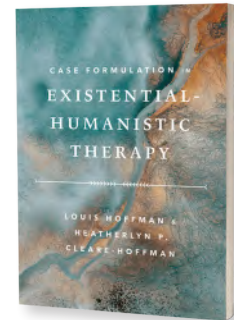
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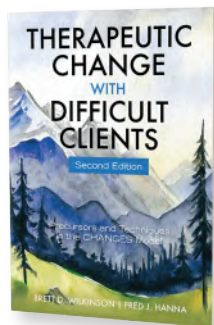
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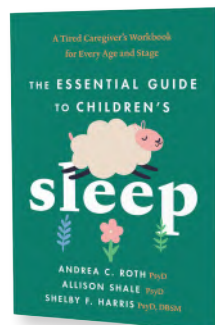


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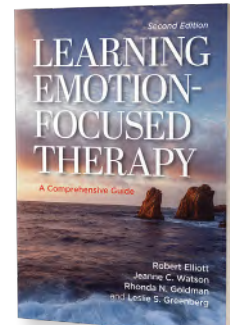


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5 Questions for Peter Coleman

The Columbia University social-organizational psychologist explains how reducing political polarization requires complex and systemic solutions

BY EFUA ANDOH

PETER COLEMAN, PhD, is a professor of psychology and education at Columbia University, where he is founding director of the Institute for Psychological Science and Practice, co-executive director of the Advanced Consortium on Cooperation, Conflict, and Complexity, and director of the Morton Deutsch International Center for Cooperation and Conflict Resolution. An expert on constructive conflict resolution and sustainable peace, he studies how people and groups navigate profound divisions and differences effectively—and sustain positive relations over time. His research explores how skill sets like conflict intelligence and systemic wisdom help to navigate conflict in families, communities, workplaces, and societies. His latest book, *The Way Out: How to Overcome Toxic Polarization* (Columbia University Press, 2021), examines how communities can move beyond the intractable polarization in the United States and other societies around the globe.

You talk about our current situation of toxic political polarization as an addiction—why do you characterize it this way?

My understanding of addiction parallels my understanding of polarization today in the U.S. in that it is a complex biopsychosocial and structural problem. It involves our neurological wiring, what we pay attention to and don't, how we react or don't react to members of certain groups, our

social relations, and our networks. It's in our media feeds, algorithms, the television that we watch or don't watch, and even where we travel and don't travel on vacation. There are multiple layers of forces that combine to reinforce one another and serve to pit us against each other and pull us apart. Like addiction, it is a powerful force that is bigger than any of us.

In your book *The Way Out*, you talk about our current state of “systems level” polarization. What does that mean and why is it so difficult to find our way out?

Exactly, because polarization is a multi-level biopsychosocial structural problem. It's a very powerful constellation of forces working together rather than a single event or political figure. I'm currently working on a second edition of *The Way*

Out [forthcoming in 2026], and what is increasingly clear to me as a psychologist is that the research is showing us that many of the well-intentioned bridge-building efforts to bring red and blue Americans together that have sprung up over the past 5 years seem to be having very little sustained effect. These initiatives don't last long enough and only reach a small percentage of Americans (and mostly Democrats). So they are being overwhelmed by the many other signals in the system that are working to drive us apart. [Reducing polarization] is really going to require us to move from focusing our interventions on the micro level to thinking at the macro level about how the current incentives, norms, narratives, and leadership models overwhelm our better angels or instincts. These external, structural-level factors are what make it so hard to change the pattern that we're stuck in.

Describe the difference between clock problems and cloud problems and how trying to fix things in the wrong way can make things worse.

Karl Popper, an eminent philosopher of science, identified two fundamental kinds of problems that humans face. Some are clock problems, which are more mechanical and predictable. You solve them by taking the clock apart, finding the broken spring, repairing it, and putting it back together again. But some problems are cloud problems. Addiction is a cloud problem. It's not one thing. It's a



multilayered set of problems that feeds and reinforces itself in complex ways. It is driven by many things interacting in messy, unpredictable ways. When we try to use our clock tools to fix cloud problems, it often backfires or has no observable effect.

What practical recommendations do you have for psychologists for reducing polarization?

A main idea in my book is the importance of finding ways to loosen up the closed, narrow, overly simplistic ways that many of us experience polarization and the “other” side—the half of the country that differs from us politically today. One key recommendation is the power of movement, either physical, emotional, or imaginative, during difficult conversations. What research suggests is that if you actually get people up and physically moving, sometimes in a room, or walking outside side by side, it matters. There is something about physical movement that can shake up our assumptions and the automatic wiring in our brain, because of our neuroplasticity. When you move together with others, there is a physical synchronization that happens. Researchers study dance teams, marching bands, and combat troops who move together in step and have found that it creates a kind of neurological bond. Long ago diplomats discovered that going for walks when negotiations stalled often helped to open up new possibilities for resolution. But we need to integrate such practices more intentionally into peace building and psychology.

Where is your work currently helping in concrete and ongoing ways?

The Difficult Conversations Lab was built to study discussions over tense, morally divisive conflicts and to learn about the conditions under which they go well or poorly. After I published what we learned in *The Way Out*, I worked with the nonprofit Builders, a nonpartisan organization that works to bridge political polarization, to create the Polarization Detox Challenge (PDC). I found that groups that do bridge building, where they bring people together for a dinner, a conversation, or an event, didn’t move the needle sufficiently. Events don’t build habits. What builds habits is repetition in a new environment. I wanted to design something that would be ongoing and allow people to try things over time to develop different kinds of habits. The PDC offers a set of simple, brief, daily exercises over a 4-week period focused on managing (a) yourself, (b) your in-group, (c) intergroup tensions, and (d) the community issues that divide us. And it highly recommends that you take this on in small, ideally diverse groups. We have gotten some feedback about the PDC being too demanding in some ways. So there’s a new iteration underway to accompany the second edition of *The Way Out*, which will address that criticism and make it even simpler—something that can be accessed on your phone and will be more frictionless. ■

SPRING CE WEBINAR LINEUP

BOOK NOOK

The Interpersonal Situation: Contemporary Interpersonal Theory, Assessment, and Psychotherapy

April 8 | 1:00 pm ET

CE CREDITS: 1.5

Getting Constructive in Psychotherapy

May 6 | 1:00 pm ET

CE CREDITS: 1.5

CLINICIAN'S CORNER

Brain Health: From Diagnosis to Treatment

March 20 | 1:00 pm ET

CE CREDITS: 3.0

COMPACT CLINICAL

Breaking Into Consulting: Trends, Tactics, and Strategies for Success

April 10 | 1:00 pm, ET

CE CREDITS: 1.5

PROFESSIONAL DEVELOPMENT

To Screen or Not to Screen: Ethical Considerations for Mental Health Providers Conducting Suicide Screenings in Schools

March 6 | 2:00 pm, ET

CE CREDITS: 1.0

PROFESSIONAL DEVELOPMENT TRAINING INSTITUTE

AI, Technology, and Growing Minds

March 27 | 9:00 am, ET

INCLUDES 2 CE CREDITS PER PROGRAM

This live one-day Institute explores the intersection of **artificial intelligence, technology, and child and adolescent development** through cutting-edge research and practical strategies. The Institute will consist of four 120-minute live webinars, presented sequentially.

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CONTINUING
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Jury Selection in the Black Lives Matter Era

"Judicial Notebook" is a project of APA Div. 9 (Society for the Psychological Study of Social Issues).

Prospective jurors can be excluded from trial participation because of their attitudes toward the movement, but this can produce racial discrimination and biased jury decision-making

BY CYNTHIA J. NAJDOWSKI, PhD, UNIVERSITY AT ALBANY, AND MARGARET C. STEVENSON, PhD, KENYON COLLEGE

BEFORE CRIMINAL JURY trials in the United States, attorneys question potential jurors during voir dire, the question period during which attorneys can exclude individuals who may be biased (and those whom they believe may not favor their position) from trial participation. In recent years, especially when police officers are charged with crimes, this process has increasingly involved asking potential jurors about their attitudes toward the Black Lives Matter (BLM) movement. However, this practice may reduce jury representativeness and facilitate biased verdicts—important issues that can be informed by psychological science.

The first concern is representativeness. National polling shows that attitudes toward BLM vary by race and ethnicity, with more non-White individuals than White individuals expressing support for the movement. Consistent with this, two recent studies found that undergraduates and online community members who identified as Black or another historically marginalized race or ethnicity were at higher risk of BLM-based exclusion (Najdowski, C. J., & Stevenson, M. C., Society of Experimental Social Psychology Conference, 2025). Thus, attorneys who dismiss potential jurors based on BLM support are likely to disproportionately exclude people of color. Reducing jury diversity in this way could undermine community representativeness and the perceived legitimacy of jury verdicts—patterns well documented in psychological research. While some courts have recognized the racist implications of challenging Black jurors because of their BLM attitudes (e.g., *People v. Silas et al.*, 2021), others have dodged answering whether BLM questioning is a pretext for unconstitutional racial discrimination (e.g., *State v. Booker*, 2023). Perplexingly,

still other courts have opined that questions posed to Black jurors about BLM are "race-neutral" and thus legal (*State v. Gresham*, 2016, p. 9).

The second concern pertains to impartiality, because, irrespective of juror race, BLM attitudes relate to beliefs about racial equality, police legitimacy, and social order. Research also finds that participants with less (versus more) favorable attitudes toward BLM reported higher anti-Black bias, stronger belief in police legitimacy, and greater endorsement of hierarchical social structures (Najdowski, C. J., & Stevenson, M. C., Society of Experimental Social Psychology Conference, 2025). In mock trial research using a case involving a police officer defendant who fatally shot a Black woman, very favorable BLM attitudes did not predict verdicts, but less favorable BLM attitudes were significantly related to pro-police defendant/anti-Black victim verdicts. Moreover, controlling for their race, mock jurors who were less favorable toward BLM were more likely

to acquit the police officer *because* they endorsed more anti-Black implicit bias and legal authoritarianism.

These issues underscore the need for psychological science-informed trial procedures. Expert testimony may help courts understand how social attitudes and ideology impact decision-making. Researchers can continue to examine these relations, test reforms that reduce discrimination and bias, and submit amicus briefs in appellate cases to inform courts about the science on these issues. Ultimately, ensuring that juries are representative and impartial requires an evidence-based approach to voir dire that integrates psychological insights with a commitment to justice and equity. ■



AT ISSUE

Does the practice of excluding prospective jurors based on Black Lives Matter support threaten jury representativeness and impartiality?

The high rate of trauma exposure suggests that many people who enter therapy or otherwise work with a psychologist have faced one or more traumatic life events, but surprisingly, most graduate programs lack specific training in the assessment and diagnosis of trauma, particularly of complex presentations.



CE Corner

Fresh Thinking on Trauma Assessment

BY TORI DEANGELIS

ACCORDING TO A large-scale international survey of more than 68,000 people, around 70% of people have experienced at least one trauma in their lives, and 31% have been exposed to four or more traumatic events (Benjet, C., et al., *Psychological Medicine*, Vol. 46, No. 2, 2016). Furthermore, those most impacted by trauma tend to be among the most vulnerable financially, socially, and otherwise (Ravi, M., et al., *Mental Health Science*, Vol. 1, No. 4, 2023).

The high rate of trauma exposure suggests that many or most of those who enter therapy or otherwise work with a psychologist have faced one or more traumatic life events, said Charles Benincasa, PsyD, a clinical and trauma psychologist based in Everett, Washington, and a member of the APA Task Force on the Assessment of Trauma. But surprisingly, most graduate programs lack specific training in the assessment and diagnosis of trauma, particularly of complex presentations. Training often focuses solely on discussing trauma within the context of trauma-related diagnoses rather than recognizing trauma as a possible cause or complicating factor in a person's mental health presentation, he said.

Yet "if these factors are not included as part of the standard of assessment, we can miss really important aspects of understanding the experiences that people are coming to us with," Benincasa said.

To help fill this gap, he and other members of the trauma assessment task force developed the 2025 APA *Guidelines for Psychologists in the Assessment of Psychological Trauma*

in Adults, approved by APA's Council of Representatives in August. The document provides direction for gaining competency in trauma assessment, highlights important research developments in the area, and points to areas still in need of deeper understanding and further attention, including more

research on trauma types and symptoms and better instruments to gauge the many types of trauma that people experience, said Tyson Bailey, PsyD, cochair of the assessment task force and a clinical and forensic psychologist and trauma specialist in Everett, Washington.

"We have come a really long way in understanding how to properly understand and assess trauma," he said, "and we have a very, very long way to go. We hope these guidelines encourage people to use the knowledge we have and continue to grow the literature on recognizing the broad effects of trauma, because trauma and adversity are common and are disproportionately felt by people who are already marginalized."

In general, the aim of the guidelines is to help the field better understand the central role that trauma might play in some patient experiences and, in a related vein, the wide variation in trauma reactions that are not covered

by traditional diagnoses, Bailey added. For example, while the *Diagnostic and Statistical Manual of Mental Disorders* (Fifth Edition) recognizes several trauma-related diagnoses, it does not recognize complex trauma—trauma resulting from repeated, prolonged exposure to stressors, particularly interpersonal ones, though the World Health Organization's *International Classification of Diseases*, or

CE CREDITS: 1

Learning objectives

After reading this article, CE candidates will be able to:

- 1 Identify the basic knowledge, content, and processes that go into effective trauma assessment.
- 2 Discuss research that demonstrates the need for this service, including data linking trauma experiences to poorer mental and physical health outcomes.
- 3 Describe new thinking on trauma assessment, including why it is important to look beyond simple diagnostic categories and toward the person's whole experience.

For more information on earning CE credit for this article, go to www.apa.org/ed/ce/resources/ce-corner.

RESOURCES

Trauma psychology and assessment are generally not covered thoroughly enough in graduate school, so becoming competent in trauma assessment may require additional education and training, noted Tyson Bailey, PsyD, cochair of the APA task force that developed the 2025 *APA Guidelines for Psychologists in the Assessment of Psychological Trauma in Adults*. He recommends seeking additional education on interviewing skills as well as on tools to use and how to use them. Finding a mentor with expertise in this area can also help you learn how to assess trauma sensitively and accurately, he said. Here are some places to start:

APA Guidelines for Psychologists in the Assessment of Psychological Trauma in Adults
www.apa.org/practice/guidelines/adults-complex-trauma-histories.pdf

APA Clinical Practice Guideline for the Treatment of Posttraumatic Stress Disorder (PTSD) in Adults
www.apa.org/ptsd-guideline

APA Guidelines for Working with Adults with Complex Trauma Histories
www.apa.org/practice/guidelines/adults-complex-trauma-histories.pdf

Guidelines on Key Considerations for Working With Adults With PTSD and Traumatic Stress Disorders
www.apa.org/about/policy/adults-ptsd-traumatic-stress-guidelines.pdf

APA Div. 56 (Trauma Psychology)
www.apa.org/about/division/div56

International Society for Traumatic Stress Studies
<https://istss.org>

Global Collaboration on Traumatic Stress
www.global-psycho-trauma.net

“trauma history is essentially a risk factor for any mental health diagnosis that one could have,” Frewen said. For example, a study of 9,000 adults found that those who had experienced four or more adverse events in childhood, such as ongoing neglect or abuse, were 4 to 12 times more likely to be suicidal, depressed, and to misuse substances than those without a trauma history (Felitti, V. J., et al., *American Journal of Preventive Medicine*, reprint, Vol. 56, No. 6, 2019). Other studies show that the greater the number of adverse childhood events one has experienced, the greater the risk of developing physical, psychosocial, neurobiological, and functional problems (Madigan, S., et al., *World Psychiatry*, Vol. 22, No. 3, 2023).

Integral to this expanded understanding is knowing that the person themselves may not know that trauma is at the base of their symptoms, Frewen added. A patient might enter therapy seeking help for symptoms like insomnia, mood instability, or relationship problems, for instance, “but not necessarily recognize that those symptoms tie to traumatic life events that they have experienced recently, at some point earlier in their life, or throughout their life,” he said. “It’s important for psychologists to be mindful of these possibilities.”

Considering trauma in this wider context also means opening the door to diagnoses and understandings that go beyond post-traumatic stress disorder (PTSD), said Constance Dalenbergh, PhD, director of the Trauma Research Institute and distinguished professor at Alliant International University, both in San Diego, and a member of the APA task force. Although much has been learned about trauma since PTSD entered the *DSM-3* in 1980, PTSD remains the go-to gauge for whether a traumatic reaction exists or not.

ICD-11, does (see March 2025 *Monitor* article on treating complex trauma).

To get at these core ideas, the task force organized the guidelines around three themes: **knowledge**—what psychologists need to know about the possible role that trauma plays in mental and physical health presentations and the instruments used to treat it; **content**—what psychologists should be looking to assess when they use available assessment techniques and measures; and **process**—the way psychologists should interact with clients when conducting assessments.

Knowledge—understanding the importance of trauma

In the knowledge domain, the guidelines underscore the importance of viewing trauma exposure as a possible

root cause of common presenting problems such as depression, anxiety, insomnia, relationship problems, and, in more extreme cases, dissociation and even psychosis, said Paul Frewen, PhD, an associate professor of psychiatry and psychology at Western University in London, Ontario, and a member of the trauma assessment task force.

In many cases, trauma does not cause long-term ill effects—most people recover naturally from single-incident traumas, with about 40% recovering within a year, according to the World Health Organization. However, the fact that trauma is so common, coupled with research showing high correlations between more complex trauma and mental and physical problems, means that



Research shows that support systems can be immensely valuable in helping people cope with and overcome traumatic experiences.

“People think that if you do or don’t have PTSD, it has implications for whether you were or were not traumatized,” she said. “But PTSD is only one way a person can react to trauma, and if you do have a trauma reaction, most of the time it is not PTSD.”

Instead, it behooves psychologists to consider and assess more broadly how trauma might manifest in a person above and beyond traditional diagnoses, Dalenberg noted. Assessors should stay alert to potential emotional, cognitive, behavioral, and interpersonal effects of trauma, such as general anxiety and depression, changes in cognition such as problems with logic and processing speed, and changes in level of trust.

Looking beyond diagnostic boxes and using different kinds of

instruments provides a wider and more humane lens on how trauma can affect people, Dalenberg added. An example is assessing a person’s belief system after they have experienced an interpersonal trauma. If the measure reveals that the person now trusts people less and sees the world as a more dangerous and unfriendly place, “that might not mean that the person has PTSD,” she said, “but it might mean they’ll have a much more damaged life because of that change.”

Content—conducting accurate assessments

In terms of testing itself, task force members recommend using a range of empirically validated interviews and questionnaires to get at a person’s trauma history and its current

manifestations. Reactions and symptoms to screen for include PTSD, anxiety, dissociation, depression, grief, substance misuse, anger and aggression, emotional dysregulation, cognitive changes, and changes in belief systems. It is also important to gather information on the type, frequency, and recency of the trauma—factors often missing from standard assessment instruments.

Dalenberg recommends beginning an assessment with a general psychosocial interview that weaves trauma-related questions throughout, then gradually moving to more specific tools that further explore what the broad assessment has suggested. For instance, the Trauma Symptom Inventory-2 can help assess a wide range of short- and long-term psychological effects of trauma, including PTSD, dissociation, somatization, attachment issues, and self-harm.

KEY POINTS

1

Accurate, compassionate trauma assessment entails expanding the use of assessment measures beyond simple diagnoses and toward people’s actual experiences.

2

Learning about and using multiple measures, plus clinical work and judgment, will lead to the most accurate assessments.

3

More work is needed to create assessment measures that capture the type, frequency, and recency of a person’s trauma experiences, as well as measures that are culture and language specific.

Good assessment also requires using instruments and other tools thoughtfully and using one's clinical judgment and understanding in interpreting them, Bailey added. The challenge is to synthesize the information you have—for example from interviews, assessment measures, records, and collateral sources—in ways that accurately capture a person's experience. A good trauma assessor “has a firm and grounded understanding of what the tools are and what they can and can't tell you,” he said, and also does their own work in making an informed assessment.

As an example, if an interviewer merely asks a person if they have ever been raped or sexually assaulted, it often leads to underreporting because the person does not necessarily use those words to describe their experiences, Frewen explained. A more useful approach is using validated instruments that ask specific questions about whether a person has ever experienced certain behaviors from others.

“It's much better to ask behavioral-type questions about whether a certain type of event has specifically happened, as opposed to asking questions in global terms that people can interpret in different ways,” he said.

In the forensic context, it is important to carefully weigh client responses on validity measures that assess the possibility that a person is feigning or exaggerating symptoms, Frewen added. While such measures are often used in this context because people may overplay symptoms to avoid legal consequences or to gain benefits, the scores need to be interpreted carefully for trauma survivors, he said.

That is because while people may feign extreme reactions that are known to be rare in the general population—for example, anger displays, dramatic somatic complaints, or

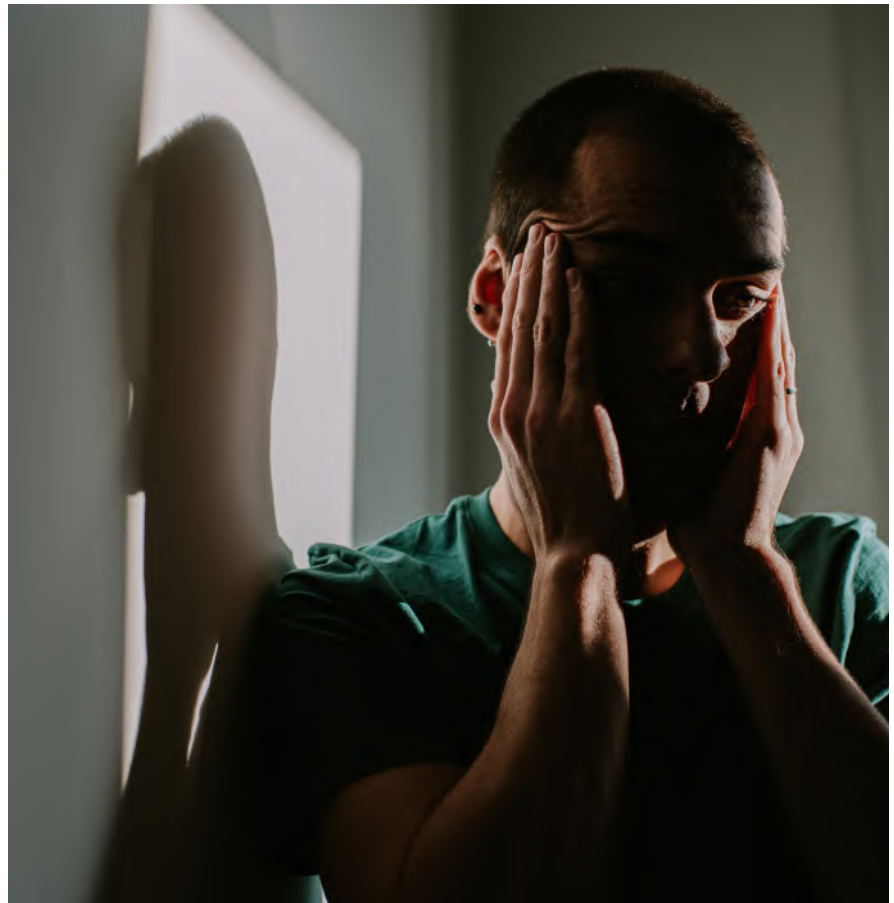
self-destructive actions—a person who has been traumatized through ongoing abuse, coercive control, or combat may actually experience these reactions. So to make an accurate determination, assessors should also include data from other instruments and the person themselves, Frewen said. Also important to keep in mind is the continued reality that people still often do not believe those who say they have been raped, he added.

Social support is likewise a vital area to assess because research shows that support systems can be immensely valuable in helping people cope with and overcome traumatic

experiences (Calhoun, C. D., et al., *Psychiatric Quarterly*, Vol. 93, No. 4, 2022). Benincasa recommends using questionnaires that ask about a person's level of support from family, other relationships, community, work, health care providers, and other sources. Psychological First Aid, an evidence-based approach to helping people after a crisis or trauma, recognizes this reality by helping to match people with resources aimed at reducing the odds that they will develop a sustained traumatic response over time, he noted.

Culture, language, and ethnicity are also key items to consider in trauma

Psychologists should consider and assess more broadly how trauma might manifest in a person beyond traditional diagnoses. Looking beyond diagnostic boxes and using different kinds of instruments provide a wider and more humane lens on how trauma can affect people.



assessments, said Dalenberg. While the way that people process trauma in the body and emotions is probably universal, “different cultures understand bodily reactions and emotions in different ways and use different mechanisms and metaphors to describe them,” she said. “So how I interpret the changes that are happening within me will differ depending on my culture, and my secondary reactions to those changes will differ as well.”

In the case of immigrants who have come to this country to escape difficult conditions, psychologists should consider that many have never had a time in life when they have not faced traumatic stressors. It is important to think about how ongoing political persecution, loss of one’s home, war, migration, and resettlement can impact individuals, the guidelines note.

That said, current tools and methodologies for dealing with some of these issues are still very underdeveloped, said Bailey. In cases of language and cultural differences, using translated measures, a personal interview, and/or a professional translator are likely to be more helpful than current assessment instruments, he said.

“We hope that these guidelines spur the development of tools that are more robust and that address post-traumatic reactions more broadly, rather than focusing on one particular diagnosis,” he said.

Process—human dynamics

In terms of process, psychologists need to be aware of the human dynamics occurring during the assessment itself—in particular, what the person being assessed might be experiencing internally and in relation to the assessor, according to the guidelines. For example, external factors such as skin color, gender, age, or appearance might inadvertently make it difficult

for a person to trust or disclose information to you, Benincasa noted.

For example, he evaluates many people who have experienced interpersonal violence, and he recognizes that as a large-statured, bald, white man, “there’s a high likelihood that I might look like the person that my client is most afraid of,” he said. If the person does make that association, it can lead to an involuntary activation of their nervous system and make it harder for them to answer assessment questions accurately. In cognitive or neuropsychological testing, research shows that such nervous system activation makes it harder to complete tasks with high cognitive demand “because there is the distraction of the associations that are going on and of what’s happening in the nervous system,” Benincasa said.

Also important to keep in mind is that the person is probably experiencing post-traumatic symptoms during the assessment itself, and to think about timing one’s questions and level of detail accordingly. If a person seems to be having difficulty with the process, encourage them to take a break and do brief breathing or grounding exercises, Frewen advises.

Sometimes no matter how hard one works to create a trusting relationship with the person being assessed, there are times a patient simply cannot overcome internal obstacles to working with you, Benincasa added. If that is the case and future therapy or work is needed, help the person find a better match, he said. If that is not possible in the time allowed or for other reasons, use your clinical skills to discuss those issues and try and work through them with the person, he said.

Finally, if an assessment determines that the person needs additional therapy, act expediently, Frewen said. “It’s not a great help just to identify a problem without offering a solution,”

he said. “We’ve got to be ready to provide care if the person needs it.”

Gaining the right tools and knowledge can open the door to helping people heal their wounds at the source, Frewen added.

“If trauma isn’t there, great; move on,” he said. “But I think psychologists will be surprised to discover how often a trauma history is looming there. If we just treat traumatic reactions as a behavioral issue, and we don’t get to where this all came from in the beginning,” he added, “I think our treatment will be less effective.” ■

FURTHER READING

Trauma assessments:

A clinician’s guide

Carlson, E. B.
Guilford, 1997

Psychological trauma as a transdiagnostic risk factor for mental disorder: An umbrella meta-analysis

Hogg, B., et al.
European Archives of Psychiatry and Clinical Neuroscience, 2023

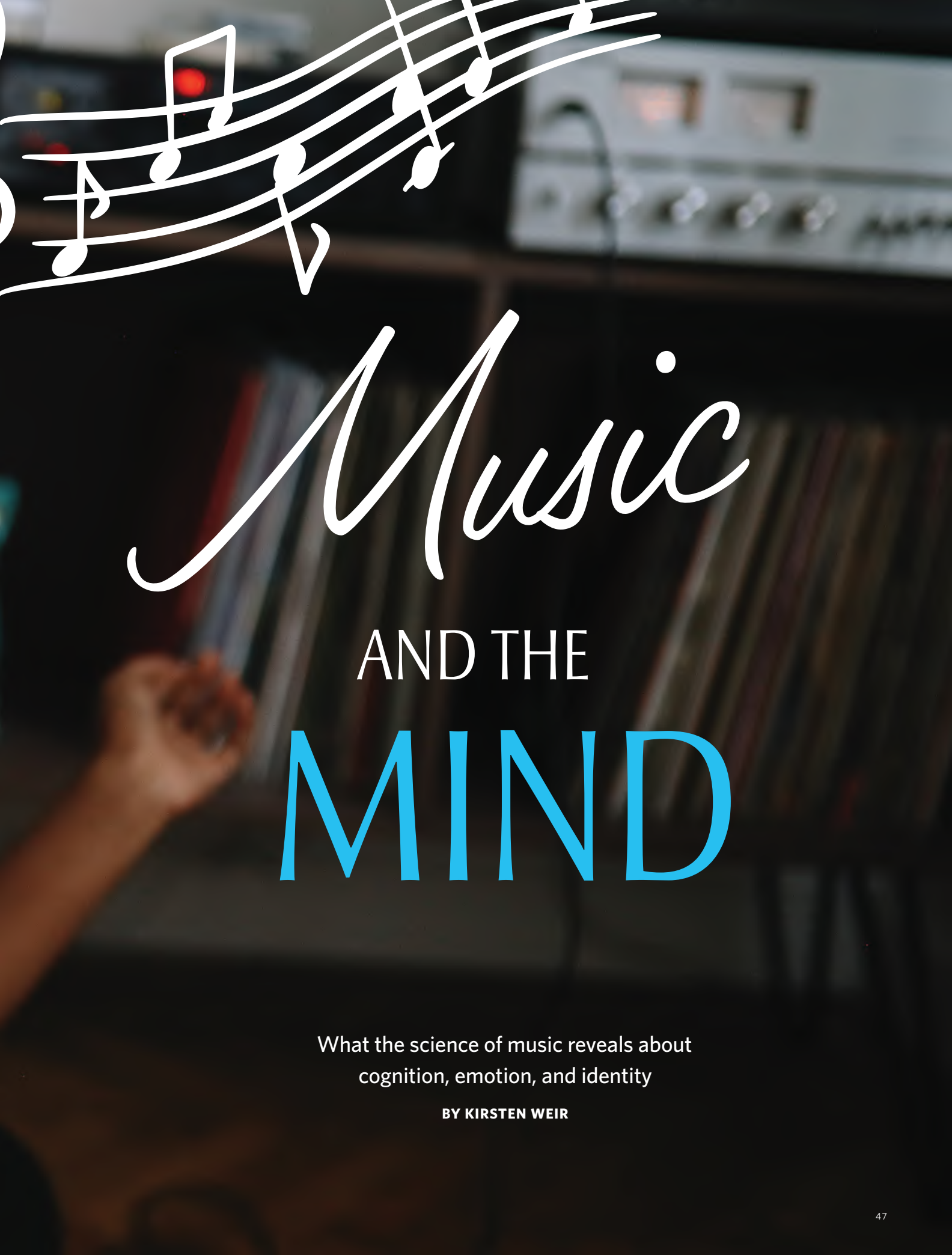
Development of a differential assessment guide to improve engagement with youths & families living with chronic trauma

Kagan, R., et al.
Journal of Child & Adolescent Trauma, 2022

Trauma assessment in outpatient psychotherapy and associations with psychotherapist’s gender, own traumatic events, length of work experience, and theoretical orientation

Lueders, J., et al.
European Journal of Psychotraumatology, 2022





Music

AND THE

MIND

What the science of music reveals about
cognition, emotion, and identity

BY KIRSTEN WEIR

WHEN FORMER CONGRESSWOMAN GABBY GIFFORDS was shot in the head in 2011, her doctors used every available tool to help her regain the ability to move and speak. Alongside speech and physical therapy, Giffords began relearning the French horn, an instrument she had played as a teenager. Music therapy helped heal the shattered connections in Giffords's brain—a tool that she has credited with helping her reclaim her ability to speak.

Music is an extraordinary feature of the human species. It unites us and conveys feeling when words fail. It speaks to our identity as individuals and as members of a group. It is universal—found in nearly every culture and society—yet wildly diverse. It is emotionally potent but cognitively complex. In all its intricacy, music is a mirror of the brain itself, and it has its own implications for cognition, emotion, and identity.

Although it is impossible to know for sure, music produced by humans seems to exist in a class of its own. Birdsong, while melodic, is thought to convey information to potential mates or rivals. But humans create songs just for the joy of it. “There’s no known human culture that lacks something that we would probably want to call music, and people have really powerful experiences to music,” said Elizabeth Margulis, PhD, who studies music perception and cognition and is acting chair of the department of music at Princeton University. “It is an intriguing window into what makes us tick.”

While music might seem like a niche area of psychological study, it’s actually a perfect platform for learning about cognition, emotion, and identity, said Robert Zatorre, PhD, a cognitive neuroscientist at McGill University in Montreal.

“If you really want to understand human cognition, you have to look at the whole gamut of processes, from the most basic to the most complex. And among the very top, I would place the arts, including music,” he said. Music touches on so many aspects of human cognition, from low-level functions like perceiving pitch and volume to more complex processes involving memory, attention, pattern recognition, sensorimotor interactions, learning, and emotion. “If you pick up a psychology textbook, music can inform you about each chapter,” he added.

Learning and reward

Decades ago, psychologist Steven Pinker, PhD, famously (and controversially) proposed that music was “auditory cheesecake,” a happy accident that evolved by piggybacking on evolutionarily important functions such as language and pattern recognition.

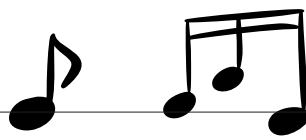
“It’s a reasonable idea. But I’ve tried to argue that you could also think about language as an offshoot of music,

In infancy, the brain processes categorizing music and language are deeply intertwined. They gradually separate as children grow, eventually enabling lightning-fast sound categorization.



AT A GLANCE

- Music activates diverse brain systems, offering insights into cognition, emotion, memory, and prediction—making it a powerful tool for understanding human thought and behavior.
- Self-selected music strongly engages reward and identity circuits, which helps explain music’s deep emotional and cultural impact.
- Evidence-based music therapy improves speech, movement, pain, and mood, using active engagement and rhythmic synchronization to target neurological and psychological processes.



“There’s no known human culture that lacks something that we would probably want to call music, and people have really powerful experiences to music. It is an intriguing window into what makes us tick.”

Elizabeth Margulis, PhD
Acting chair of the department of music,
Princeton University

if you think less evolutionarily and more developmentally,” said Robert Slevc, PhD, a professor of psychology at the University of Maryland. People around the world speak to babies in melodic, singsong voices. And the musical features of one’s native language are some of the first sounds an infant reacts to. “There are properties of music that make it engaging and fun and get babies interested,” Slevc said. “That could bring them in and let them learn the structures that are eventually conventionalized for language.”

While that idea is just a theory, there is reason to think that studying music could help us better understand the brain processes that evolved for spoken communication. It is clear that cognition for music and language are deeply intertwined in infancy and become refined and separated as children grow, as Slevc and colleagues have described (In Sammler, D. [Ed.], *The Oxford Handbook of Language and Music*, Oxford Academic, 2025). Eventually that refinement results in lightning-fast abilities to categorize sounds. Slevc’s lab found that adults could reliably distinguish



Music therapist Heather Davidson plays a drum with Claire Diering during a drum circle for patients with Alzheimer's disease at the Copper Ridge Care Center in Maryland.

music from speech or environmental sounds within just 25 milliseconds (*The Journal of the Acoustic Society of America*, Vol. 142, No. 6, 2017).

Indeed, while music and language both have systematic structures and share some overlapping cognitive processes, there are profound differences between melody and spoken word. Language tends to describe concrete things and deliver useful information. Music, on the other hand, seems to be superior for conveying a mood or a feeling. Zatorre discovered that firsthand as a teenager, when he first heard a recording by the Hungarian composer Béla Bartók and was so moved that he experienced palpitations and chills. He has since spent much of his career trying to understand why music can affect us so deeply.

Zatorre's research showed that pleasant emotional responses to music were linked to ancient reward structures in the brain that respond to

stimuli like food, sex, and drugs. "We have a reward system that has been there for 100 million years, not for music but for survival. So how does our perception of a sequence of tones lead to the activation of that reward system?" he asked. He attempted to lay out an answer in his 2023 book, *From Perception to Pleasure: The Neuroscience of Music and Why We Love It* (Oxford University Press).

The explanation, Zatorre said, may have to do with the way our brains are primed to learn. Because learning is essential for survival, we get a rush when we take in information and process it accurately. When you listen to a melody, you aren't passively perceiving it but actively anticipating the way the sounds will unfold. "The brain is very good at making predictions about what will happen, not just in music but in all of perception. The brain likes to be able to get the correct predictions, and that generates a reward," he said.

But the brain also likes an element of surprise. If a sound is too repetitive—like a refrigerator running—your brain quickly learns to tune it out. Music, Zatorre said, seems to hit the sweet spot between predictability and surprise. "Musicians have a strong intuitive understanding of this, and great music fits that criterion. It has enough structure that you can anticipate what's next, yet there's always some twist," he said.

Music defines us

Music is not just rewarding. It is also deeply personal, and it can reveal something about our very identities. Psyche Loui, PhD, associate dean for research at Northeastern University and the president of the Society for Music Perception and Cognition, has used neuroimaging to explore what makes music so rewarding. She's found that brain areas related to reward processing are more active

when listening to music you choose versus music someone chooses for you, even if you enjoy what they have selected. And compared with other things that target the brain's ancient reward system, like delicious food or the thrill of a gambling win, music tends to engage the medial prefrontal cortex even more strongly (*Social Cognitive and Affective Neuroscience*, Vol. 11, No. 6, 2016). The region is associated with internal goals, values, and sense of agency. "That seems to reflect the idea that music you love isn't just rewarding, but it also feels like it's 'ours,'" Loui said. "It's part of our identity—how we define ourselves and how we identify friends."

That link to identity may be why the music of our youth often remains so potent. Adults tend to strongly remember,

and remain more emotionally invested in, the music they listened to as adolescents—a finding that explains why some Baby Boomers wax nostalgic for the Beatles or Motown while their now-middle-aged kids still remember every word of their favorite Nirvana song. This phenomenon, known as the "reminiscence bump," has been shown to extend across all age groups and multiple countries (Renwick, J., & Woolhouse, M. H., *Psychology of Music*, Vol. 51, No. 4, 2023).

"There's something about the music you listened to in your adolescence that is especially loved and memorable," Loui said. And that's no accident. "Adolescence is a time when forming identity is especially important, and that's also when we see this medial prefrontal cortex preference



During adolescence, the medial prefrontal cortex shows heightened activity for self-selected music, linking favorite songs to identity formation and emotional memory—a neural connection that explains why listeners' teen playlists remain powerful decades later.



for self-selected music come online,” she added.

Yet different melodies can evoke different types of memories. Research shows that lower-energy, acoustic songs—such as “Claire de Lune” by

Claude Debussy—are associated with more vivid, unique personal memories, often characterized by complex emotions like romance and adoration. More energetic tunes, like Prince’s “When Doves Cry,” are linked

to memories that are more social and more exciting. Interestingly, though, high-energy tunes tend to be recalled faster, suggesting that zippier melodies may better tap into the cognitive mechanisms that enable memory retrieval (Nawaz, S., & Omigie, D., *PLOS One*, Vol. 20, No. 8, 2025).

While music offers a window into memory, it can also tell us something about imagination. Margulis used AI to study participants’ descriptions of what they pictured when listening to instrumental music, repeating the study in the United States and China. Within a culture, people described strikingly similar mental images. Between cultures, however, those imaginings showed little overlap (*PNAS*, Vol. 119, No. 4, 2022). “People think about imagination as the internal generation of novel things. But we’re seeing that you have really picked up on statistical patterns of association between sounds and things in the world that shape what you think,” she said.

There’s clinical potential to those findings, she added. “In conditions like attention-deficit/hyperactivity disorder or anxiety, people get stuck in ruminative patterns,” she said. “Music may be a low-barrier entry to getting yourself out of a rut and into a different kind of internal space.”

Healing with music

Since antiquity, music has been used in healing. “But with the dawning of science, music fell out of favor as a therapeutic agent,” said Eric Waldon, PhD, a psychologist, board-certified music therapist, and program director of music therapy at the University of the Pacific in California. “Now it’s coming back full circle,” he said, with evidence-based interventions carefully designed to target specific physiological and psychological targets. “I think

GLOBAL PERSPECTIVES

HOW CULTURE SHAPES THE SOUNDS WE HEAR

Music is found in almost every culture around the world—yet it differs drastically from place to place. Properties of music that feel deeply innate turn out to be far from universal, said Nori Jacoby, PhD, a professor of psychology at Cornell University. Minor and major chords, which today are ubiquitous in Western music, only emerged about 600 or 700 years ago. Many other cultures don’t even have chords and instead rely on features such as structured scale patterns—like those common in Gregorian chants—or the rhythmic architecture used by West African drum ensembles.

In collaboration with ethnomusicologists, Jacoby studies music from cultures around the world to determine what’s similar, what’s different, and what shared brain mechanisms are involved when listening to music. To overcome language barriers, Jacoby developed a method of studying music where participants tap along intuitively to a random series of beats. Then they tap along to a recording of their first tapped rhythm, repeating the exercise multiple times. The rhythms that people tap are biased toward the musical elements they’re familiar with. Over multiple iterations, the taps converge toward the most common patterns in their own culture—a kind of telephone game for melody that reveals the musical building blocks of a particular place.

Using this method to study music from 39 cultures across 15 countries, Jacoby and his colleagues found that those building blocks vary quite a bit from place to place. Yet across cultures, rhythms tend to be built on discrete elements made up of simple integer ratios such as 1:1:1 or 1:1:2 (*Nature Human Behaviour*, Vol. 8, No. 5, 2024). Birds also use categorical rhythms in their melodies, Jacoby showed previously, but birdsong doesn’t seem to be based on integer ratios (*Current Biology*, Vol. 30, No. 18, 2020).

Other research also points toward some degree of universality in music. Robert Zatorre, PhD, a cognitive neuroscientist at McGill University in Montreal, and colleagues looked at features of speech and music in 21 culturally distinct societies. They found people unfamiliar with a culture could easily distinguish speech from song based on common acoustical features (*Nature Communications*, Vol. 15, No. 1, 2024). Other work has found that people can reliably identify lullabies, dance songs, and other types of music when listening to songs from unfamiliar cultures (Mehr, S. A., et al., *Current Biology*, Vol. 28, No. 3, 2018).

Understanding the commonalities in human music may help us answer questions about why we evolved to be a musical species, Jacoby said. But perhaps the bigger takeaway, he added, is that we can’t answer those questions by studying Western societies alone. “Our own cultural biases are imminent to the experience of music,” he said. “For me the most exciting discoveries are that our intuitions about music are often wrong.”

everybody could use more music in their lives, but music isn't the same as music therapy. Music therapy involves interventions designed in an intentional way," he said.

There's a common misconception that music therapy involves listening to just the right song, carefully selected for a particular outcome, said Joke Bradt, PhD, a board-certified music therapist and professor of creative arts therapies at Drexel University in Philadelphia who studies music therapy for chronic pain relief. But there's no prescription for Mozart—and, in fact, listening may not even be the primary focus of a music therapy intervention. "Music therapy may include music listening as

well as active interventions like song-writing, vocal improvisation, or even composing music," she said.

In one example, Bradt and her colleagues developed a 12-week music therapy treatment for chronic pain that combined elements such as vocal improvisations, singing elongated vowels (which can facilitate body awareness and relaxation), and discussions of the emotions evoked by musical experiences. In a pilot study, she found large improvements in pain-related self-efficacy, depression symptoms, and the ability to participate in social activities, with moderate improvement in pain intensity, anxiety, and well-being (*Journal of Alternative*

and Complementary Medicine, Vol. 26, No. 2, 2020).

Music therapy can be designed to improve emotion regulation in autistic people, reduce depression and anxiety in cancer patients, restore speech in a person with a traumatic brain injury, and more. To match the right intervention to the right patient, music therapists have developed frameworks such as the Therapeutic Function of Music Plan (Hanson-Abromeit, D., *Music Therapy Perspectives*, Vol. 33, No. 1, 2015). The framework helps music therapists clarify the goals of therapy and guides them toward the appropriate elements of tempo, pitch, volume, and other musical components.

Music therapist Philippe Forte-Rytter works with two autistic children on emotion regulation and other skills in a center in northeastern France.



One of the most well established types of music therapy is Neurologic Music Therapy (NMT), a standardized system of techniques that target the brain. NMT tools target a range of domains, including speech—like the therapy that helped Gabby Giffords relearn to speak—and movement. Music and movement often go hand in hand; listen to your favorite tune and it's hard not to tap your foot or sway to the beat. A type of NMT known as rhythmic auditory stimulation (RAS) builds on the natural connection between music and movement to help people with Parkinson's disease who struggle with gait and balance. Using precise timing cues set to music, RAS can help restore the rhythmicity that is missing in a patient's gait, Waldon explained. Research shows RAS leads to changes in the brains of people with Parkinson's disease, as well as symptom improvements (Koshimori, Y., & Thaut, M., *Parkinsonism & Related Disorders*, Vol. 113, No. 105459, 2023).

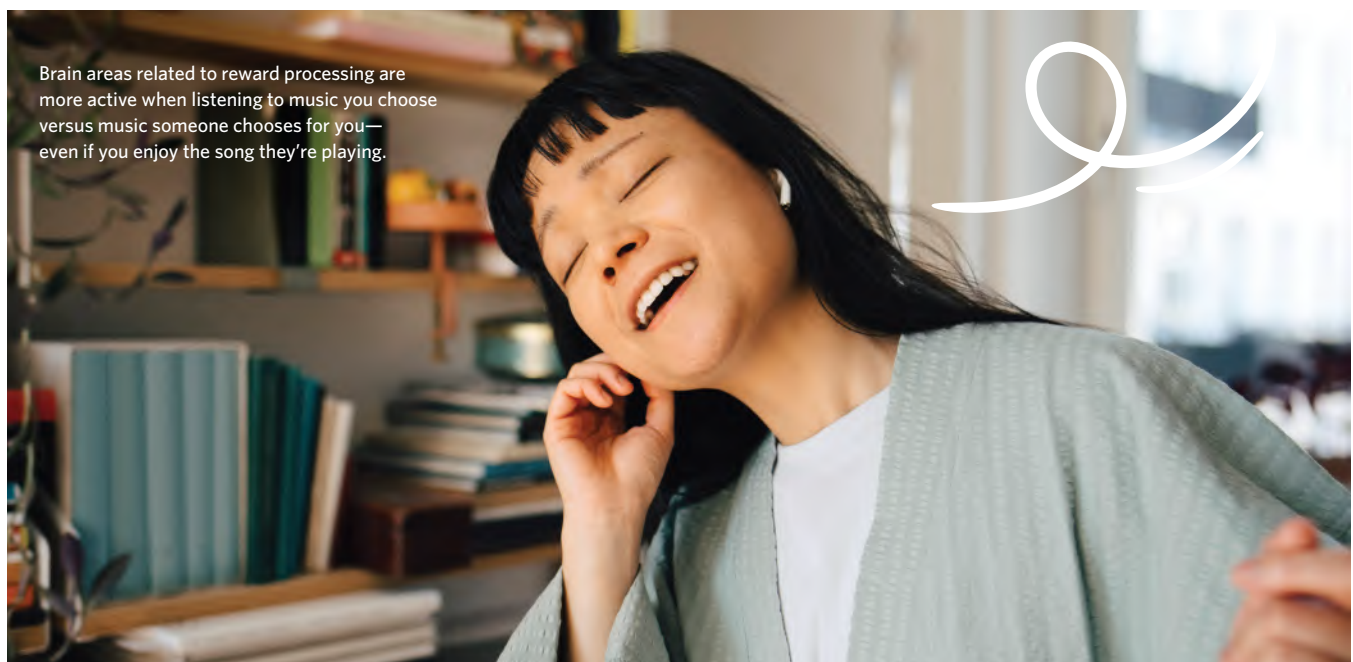
Researchers are also exploring the bond between music and memory to design interventions for people with dementia. In an ongoing project, Loui pairs music and lights to help reconnect brain networks that are disrupted in people with mild cognitive impairment and mild Alzheimer's disease (*Music and Medicine*, Vol. 17, No. 1, 2025). Participants receive a daily intervention that combines a light display choreographed to flash in time with songs that participants have preselected for their personal playlist. The rhythmic patterns are specifically chosen to stimulate the brain in a frequency known as the gamma band, which has been shown

in animal models to train neural circuits to improve function and cognitive performance. As participants experience the intervention, they journal about the autobiographical memories that spring to mind. Early results suggest participants perform better on memory tasks, and show related changes in brain activity, compared with people who receive a speech-based intervention.

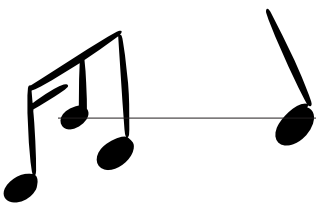
Emerging trends

Loui's research highlights a trend in music-based intervention research. In recent years, there has been a concerted effort to dig more deeply into the mechanisms that give music its healing powers, said Bradt. She also leads the Music4Pain Research Network, a program funded by the NIH's National Center for Complementary and Integrative Health to explore the mechanistic understanding of music-based interventions.

Such research has shown, for instance, that music therapy modulates the perception and processing of pain in both acute and chronic conditions, as Bradt described in a recent review (*Annals of the New York Academy of Sciences*, Vol. 1550, No. 1, 2025). It seems to do so by engaging overlapping pain and reward circuits in the brain. And the act of sensorimotor synchronization—moving, tapping, or even breathing in sync with a melody—appears to amplify music's pain-relieving properties. That finding makes intuitive sense to Bradt. "In my work as a music therapist, I have seen over and over that active engagement with



Brain areas related to reward processing are more active when listening to music you choose versus music someone chooses for you—even if you enjoy the song they're playing.



“The cognitive side and the more affective, social-psychology side all come together in music. It’s an opportunity to help our field gain a more textured understanding.”

Joke Bradt, PhD

Board-certified music therapist and professor of creative arts therapies, Drexel University

TEACHING CONNECTIONS

LESSONS ON MUSIC AND THE MIND

The following prompts (organized by topic) can support high school and undergraduate educators in discussing the psychology of music in the classroom.

- 1. Motivation and Emotion** Music activates ancient reward circuits and evokes strong emotional responses. Using Robert Zatorre’s research on prediction and pleasure, explain how the brain’s reward system responds to musical patterns. How does this process compare to emotional responses triggered by survival-related stimuli like food or social bonding?
Reinforces: *Types of motivational processes, emotion theories, and application of psychological principles to everyday experiences.*
- 2. Personality** People differ in their musical preferences and emotional reactions. Apply one personality framework (e.g., Big Five or social-cognitive theory) to explain why some individuals experience chills or nostalgia when hearing familiar songs, while others do not.
Reinforces: *Personality theories, trait approaches, and understanding individual differences in behavior.*
- 3. Social Psychology** Elizabeth Margulis found cultural differences in imagined imagery during music listening. How do these findings illustrate the role of sociocultural context in shaping cognition and perception? Discuss how in-group norms might influence which music feels “familiar” or “rewarding.”
Reinforces: *Social cognition, cultural influences on perception, and bias in interpretation of behavior.*
- 4. Learning** Music therapy often uses rhythmic auditory stimulation to improve motor function in Parkinson’s patients. Compare this intervention with classical or operant conditioning principles. How might reinforcement and repeated exposure shape both motor and emotional responses to music over time?
Reinforces: *Learning theory, conditioning principles, and application of therapeutic techniques to behavior change.*
- 5. Research Methods** Evaluate one study described in the article (e.g., Psyche Loui’s neuroimaging work on self-selected music and identity). Identify the research design, operational definitions, and potential biases. How would you design a follow-up experiment to test whether music-based interventions improve memory in older adults?
Reinforces: *Experimental design, operational definitions, evaluating research validity, and critical thinking about scientific evidence.*

music is more effective than just listening,” she said.

Plenty of questions remain about how music shapes our brains, from why it is such a potent feature of our lives to how best to harness music therapy to improve physical and mental health. But as researchers peel back the mechanisms that underlie our experience of music, they are uncovering principles that extend beyond mere perception of sound. As Margulis noted, music is built from patterns, but it also shapes the patterns of our cultural practices and social identities. Looking at both sides of that equation is an opportunity to gain a more holistic understanding of the human mind—and to help psychology become a more integrated science, Margulis added. “The cognitive side and the more affective, social-psychology side all come together in music. It’s an opportunity to help our field gain a more textured understanding.” ■

FURTHER READING

Cross-cultural work in music cognition: Challenges, insights, and recommendations

Jacoby, N., et al.
Music Perception, 2020

From perception to pleasure: The neuroscience of music and why we love it

Zatorre, R.
Oxford University Press, 2023

The science-music borderlands: Reckoning with the past and imagining the future

Margulis, E. H., et al. (Eds.)
MIT Press, 2023





We Are What We Eat

Psychologists and other researchers are furthering our understanding of the connection between nutrition and mental health and expanding clinical interventions

BY ZARA ABRAMS

GROWING EVIDENCE suggests that what we eat influences not just our physical health but also our mood, emotions, and overall well-being. Dietary changes such as reducing ultra-processed food intake and eating more fruits and vegetables, as well as taking certain nutritional supplements, have been associated with improvements in depression and other mental health problems in adults and with a healthier start to life for children. These benefits are increasingly tied to specific brain regions involved in eating behavior, social influences on what and how people eat, and the impact of the gut microbiome on immune, metabolic, and neural pathways.

AT A GLANCE

- Research indicates that dietary changes focused on fruits, vegetables and minimally processed foods are associated with positive mental health outcomes.
- Dietary interventions for depression provide the strongest experimental evidence for the role of nutrition in mental health.
- Providers and organizations are using nutritional psychology interventions to boost behavioral health in prisons, schools, workplaces, and beyond.

“There is growing knowledge of the connection between nutrition, dietary patterns, and many aspects of psychological, cognitive, and behavioral functioning.”

Ephi Morphew-Lu

Clinical nutritionist and cofounder and director of the Center for Nutritional Psychology



“There is growing knowledge of the connection between nutrition, dietary patterns, and many aspects of psychological, cognitive, and behavioral functioning. We now understand from a robust evidence base that nutrition and dietary intake patterns can influence what we think, feel, and experience, including our mental health outcomes,” said Ephie Morphew-Lu, a clinical nutritionist who cofounded and directs the Center for Nutritional Psychology, a nonprofit dedicated to developing the scientific discipline focused on the link between diet and psychological well-being.

More than half of the calories Americans consume—and more than 60% consumed by children and teens—come from ultra-processed foods, highly engineered foods made mostly from refined ingredients and additives (“Ultra-Processed Foods and Human Health,” *The Lancet*, 2025). These products are increasingly linked with poor mental health outcomes, suggesting dietary changes could give the nation’s mental health a big boost (Williams, A. M., et al., *Ultra-Processed Food Consumption Among Youth and Adults: United States, August 2021–August 2023*, NCHS Data Brief 536, 2025). Two interrelated fields are emerging to support such a shift: nutritional psychology and nutritional psychiatry, with the latter focusing on the biological basis of nutrition and mental illness.

Researchers in both fields are developing guidelines and interventions to optimize nutrition for mental health. Despite structural barriers in the broader food and health care systems, clinicians also have an important role to play.

“Clinicians don’t need to be nutrition experts, but they should understand the evidence well enough to integrate it into their clinical work and

help patients make informed choices,” said Julia Rucklidge, PhD, a clinical psychologist who directs the Te Puna Toiora Mental Health and Nutrition Research Lab at the University of Canterbury in New Zealand.

Understanding the connection

Many of the same foods known to support general health also promote healthy brain function. Diets high in fruits and vegetables, healthy fats, and minimally processed foods are linked to a range of positive mental health outcomes, including improvements in depression, well-being, and psychological distress (Lassale, C., et al., *Molecular Psychiatry*, Vol. 24, No. 7, 2019; Theeraoat, P. T., et al., *British Journal of Health Psychology*, Vol. 30, No. 3, 2025; Gillespie, K. M., et al., *International Journal of Environmental Research and Public Health*, Vol. 22, No. 7, 2025).

The vitamins and minerals found in whole foods support the critical function of enzymes, which catalyze chemical reactions throughout the body, including those that fuel the brain’s neurotransmitters. When nutrients are lacking, these processes suffer. For example, iron is needed to convert the amino acid tyrosine into dopamine; when iron levels are low, dopamine can also drop, affecting concentration and motivation.

Research increasingly links gut health to reduced inflammation and improved functioning across many body systems, including the nervous system. Eating a variety of plants supports a healthy gut microbiome because each plant contains different polyphenols, chemicals that nourish beneficial gut bacteria. Gut health expert Tim Spector, PhD, of King’s College London, suggests eating a high-fiber diet with around 30 different plants per week (this includes

fruits and vegetables but also grains, nuts, spices, and more).

“Keeping the messaging simple can help break down barriers for clients,” Rucklidge said. “It doesn’t matter which real foods you eat—just eat [minimally processed, whole] foods, and make sure there’s a great variety of them.”

The modern science of nutrition and mental health began with a simple observation: Countries that eat more fish tend to have lower rates of depression (Hibbeln, J. R., *The Lancet*, Vol. 351, No. 9110, 1998). Since then, a growing evidence base—largely driven by research from the United Kingdom, Australia, and Brazil—has shown that nutrition, physical activity, and the body’s underlying metabolic and inflammatory processes are all critical for mental health.

Psychiatric epidemiologist Felice N. Jacka, PhD, founder and director of the Food & Mood Centre at Deakin University in Victoria, Australia, established the International Society for Nutritional Psychiatry Research in 2013 and conducted some of the first studies linking diet quality to mental health in children, adolescents, and adults. Her team’s work has led to the inclusion of unhealthy diet (defined as lacking essential foods and nutrients and high in ultra-processed foods) as a mental health risk factor in more than 130 high-level policy documents around the world, including the latest *World Mental Health Report* from the World Health Organization. They have also helped develop clinical guidelines on using lifestyle interventions to treat major depressive disorder (*The World Journal of Biological Psychiatry*, Vol. 24, No. 5, 2023).

Another key effort linking nutrition and mental health comes from the Center for Nutritional Psychology (CNP), a San Jose, California-based

nonprofit dedicated to systematically integrating the psychological and nutritional sciences. The CNP's international team of psychologists, dietitians, and other experts identifies, reviews, summarizes, and catalogs publications in its online research library. They are also outlining barriers to progress in nutritional psychology and building an encyclopedia of terminology and methodological frameworks to bridge the two fields. The latter includes illuminating the role of cognition, emotions, perceptions, relationships, and other factors in dietary behavior, as well as the application of psychological models such as self-determination theory and attachment theory.

The CNP is using this extensive review to develop assessment tools for trained nutritional psychology professionals in both educational and clinical settings. As an APA-approved continuing-education sponsor, the CNP has created 11 online courses, with a clinically focused “micro degree” in nutritional psychology soon launching to provide certification in this emerging field.

Dietary interventions

To date, dietary interventions for depression provide the strongest experimental evidence for the role of nutrition in mental health. In the Food & Mood Centre's SMILES trial (Supporting the Modification of Lifestyle in Lowered Emotional States), adults with moderate to severe major depressive disorder who received nutritional counseling for 12 weeks had more improvement in symptoms and a greater likelihood of remission than adults in the control group, who received a social support protocol following the same schedule as the nutritional counseling (Jacka, F. N., et al., *BMC Medicine*, Vol. 15, No. 23,

2017). Meta-analyses of randomized controlled trials and cross-sectional studies indicate that following a Mediterranean or similar diet reduces depressive symptoms and risk, while diets high in ultra-processed foods increase risk (Bizzozero-Peroni, B., et al., *Nutrition Reviews*, Vol. 83, No. 1, 2025; Firth, J., et al., *Biopsychosocial Science and Medicine*, Vol. 81, No. 3, 2019; Firth, J., et al., *World Psychiatry*, Vol. 19, No. 3, 2020).

Even a simple change—taking daily nutritional supplements—can make a difference. Rucklidge and her colleagues found that adults who took Daily Essential Nutrients from Hardy Nutritionals, a broad-spectrum mix of vitamins and minerals (micronutrients) designed to fill common nutrient gaps, had better improvement in depression and anxiety symptoms than those who took a placebo (*Journal of Affective Disorders*, Vol. 339, 2023).

The same supplements used in that study may reduce mental health risks for pregnant women and improve birth outcomes. In a small trial known as NUTRIMUM, Rucklidge found that women with perinatal depression who took the supplements during pregnancy had reduced depression symptoms. Compared with women taking antidepressants, their infants also had a better start to life, including longer gestational age, lower rates of infant resuscitation, and healthier birth lengths (*BJPsych Open*, Vol. 10, No. 4, 2024; *Journal of Clinical Psychopharmacology*, Vol. 45, No. 1, 2025).

“We know that these infant health outcomes can be risk factors for mental health disorders in children,” Rucklidge said. “They seem to have been mitigated with micronutrients, which has never been observed with SSRIs.” (See recent guidelines for micronutrients and mental

illness in both adults and children: Sarris, J., et al., *The World Journal of Biological Psychiatry*, Vol. 23, No. 6, 2022; *Journal of Child Psychology and Psychiatry*, Vol. 66, No. 4, 2025).

Broad-spectrum micronutrient supplements might also reduce symptoms of attention-deficit/hyperactivity disorder (ADHD), including hyperactivity, impulsivity, and attention problems (*British Journal of Psychology*, Vol. 204, No. 4, 2014). Research led by clinical psychologist Jeanette Johnstone, PhD, of Oregon Health & Science University, points to the gut microbiome as a pathway for those improvements. Johnstone and her colleagues found that children with ADHD who took daily broad-spectrum micronutrient supplements had changes in fecal bacteria not observed in the placebo group—and that those changes were tied to improvements in ADHD symptoms (*Gut Microbes*, Vol. 17, No. 1, 2025).

Rucklidge has launched a new study to test whether combining nutritional supplements and psychological interventions could offer a synergistic effect for patients. Her team's Mindfulness and Micronutrients trial explores whether the combination could better help children with emotional dysregulation than either intervention alone.

“The idea is that a well-nourished brain may [improve the effectiveness of] psychotherapy,” Rucklidge said.

In addition to taking supplements and improving overall diet by eating more whole foods, research shows that consuming fermented foods can have a positive impact on the brain—again linked to changes in gut health. In one study from the Food & Mood Centre, healthy women were given either a small daily serving of fermented dairy with probiotic bacteria or a placebo for 8 weeks. Women who consumed fermented dairy had a greater rise in





“When people are better nourished, we often see calmer behavior, improved focus, and a greater capacity for positive change.”

Tahani Saridar
CEO, Think Through Nutrition

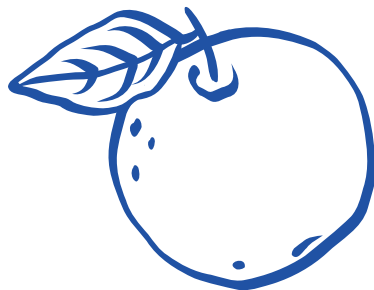
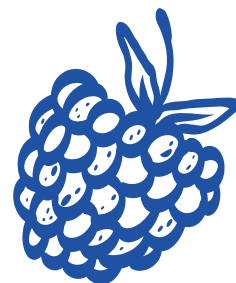
glutathione, the brain’s antioxidant, than those in the control group. They also had increased volume in the hippocampus and greater functional connectivity between the hippocampus and the frontal lobe, which correlated with a rise in fecal probiotic bacteria (publication in press).

Jacka’s team has now developed a digital intervention for improving diet and gut health during pregnancy, which is being tested in a randomized controlled trial of approximately 1,000 mother-child pairs. Outcomes measured will include peri- and postnatal depression; infant well-being, behavior, and neurological development; and several markers of gut health.

Early evidence suggests that metabolic and dietary interventions might also reduce symptoms of serious mental illness. Shebani Sethi, MD, a clinical associate professor and founding director of the Metabolic Psychiatry Clinic at Stanford University, pilot tested a 4-month metabolically targeted high-fat, low-carbohydrate (ketogenic) diet intervention to supplement psychiatric care in 21 adults with

schizophrenia or bipolar disorder. On average, participants had a 31% improvement on the Clinical Global Impression scale, a standardized tool that gives a snapshot of patient mental health and symptom severity. The trial also reversed metabolic syndrome (a combination of weight, blood sugar, and cholesterol problems) in all participants who had it at baseline, which was associated with an average of 10% body weight loss, and improved several key metabolic markers (*Psychiatry Research*, Vol. 335, 2024).

Sethi is now continuing more research on dietary interventions, including looking at measurements of heart rate variability, exercise, and sleep patterns. The ketogenic diet intervention is intended to complement—not replace—treatment with psychiatric medications, but more controlled research is needed to fully understand its risks and benefits. It may also help reduce metabolic side effects of medications, such as weight gain, high blood pressure, and pre-diabetes, making it easier for patients to continue medications they might otherwise have stopped.



“In the midst of a mental health crisis, we have very promising data that we can use to safely make changes across society.”

Mihaela Beloreshka, PhD

Health psychologist and certified nutritional therapist

“We really want to improve the quality of life for patients by turning this science into care as quickly as possible,” Sethi said.

Clinical approaches

As evidence for nutrition’s role in mental health grows, providers and organizations are translating science into practice across a variety of settings. Mihaela Beloreshka, PhD, a health psychologist and certified nutritional therapist based in Sofia, Bulgaria, often sees patients whose needs aren’t fully met by dietitians, gastroenterologists, or traditional psychotherapy.

Many of Beloreshka’s clients struggle with some combination of orthorexia (a pattern of rigid, anxiety-driven “healthy eating” that can interfere with daily life, though not a formal *Diagnostic and Statistical Manual of Mental Disorders* diagnosis), emotional or stress-related eating, and irritable bowel syndrome (IBS). She begins with psycho-nutritional education, teaching clients about the gut-brain connection and how fear of food-related symptoms or restrictive eating can actually trigger IBS symptoms (*Alimentary Pharmacology and Therapeutics*, Vol. 59, No. 4, 2024). Her approach blends somatic techniques for nervous system regulation with behavior-change tools, such as food diaries that track how sleep, mood, and stress relate to eating.

Beloreshka also leads cooking workshops, which can further boost mental health by providing opportunities for social connection. “This adds a social bonding and community component, as well as the chance to have a relaxed and positive experience around food,” she said.

In Los Angeles, David Wiss, PhD, a registered dietitian and researcher whose work bridges public health, mental health, and nutrition, uses nutritional psychology interventions to support patients with substance use disorders,

ultra-processed food addiction (not an official diagnosis), and other concerns.

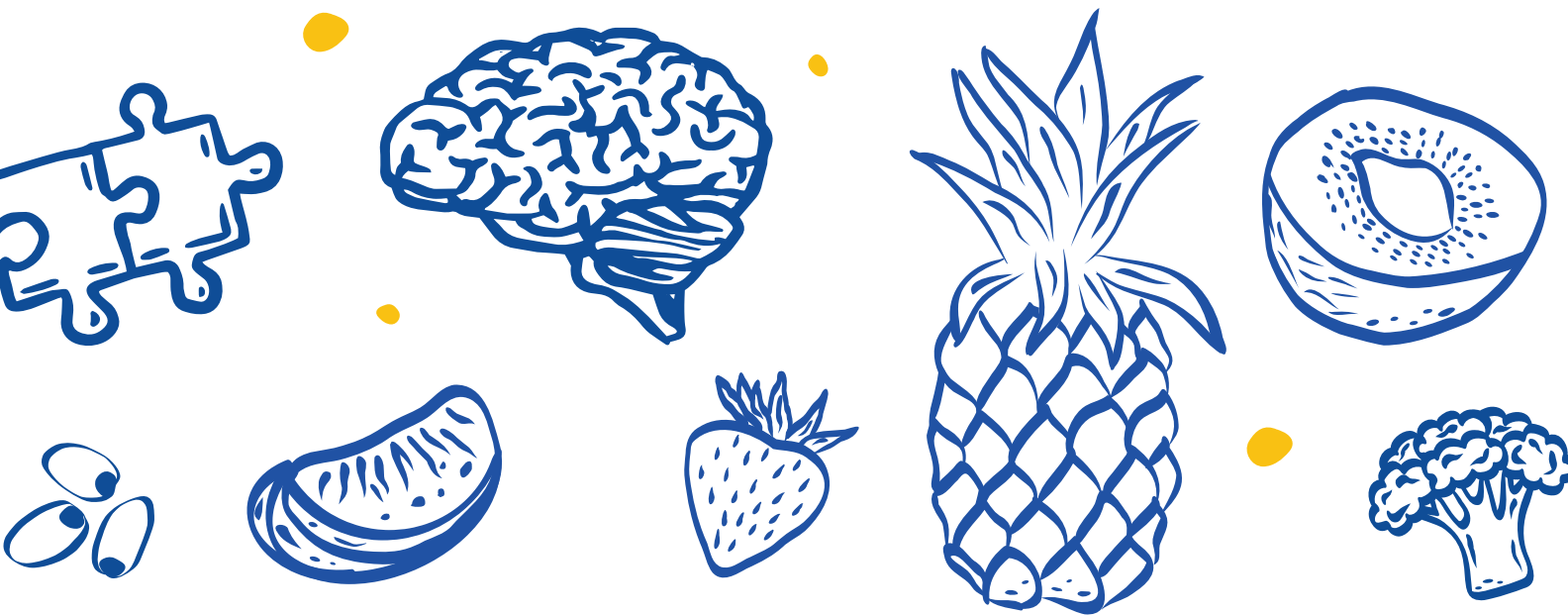
“Because food can be a source of reward, it’s wise to consider whether it’s being used as a form of self-medication to reduce negative mood or manage difficult emotions,” he said.

Wiss combines lab testing with counseling to support recovery. Clinical tests help identify nutrient deficiencies, genetic vulnerabilities, and other factors that may affect treatment progress. When counseling patients, Wiss starts by taking an inventory of their beliefs about food and body, then uses dialectical behavior therapy and other approaches to help individuals build their own values-based approach to eating.

Reducing ultra-processed food intake and eating higher-quality foods can improve mental health for many people, but it can be problematic for patients with restrictive eating disorders such as anorexia nervosa. Nutritional psychology practitioners typically screen for a history of disordered eating during intake. They also monitor warning signs—such as rapid weight loss or unhealthy cognitive patterns around food and weight—and refer patients to specialized care when needed.

At the organizational level, the U.K.-based charity Think Through Nutrition is using nutritional psychology to boost mental and behavioral health in prisons, schools, workplaces, and beyond. The charity partners with government and community organizations to augment their services with in-person or digital interventions.

In a juvenile detention setting, participants randomized to take dietary supplements committed 37% fewer violent offenses than those given a placebo (Gesch, C. B., et al., *British Journal of Psychiatry*, Vol. 181, No. 1, 2002). In a women’s prison, those who took supplements for up to 9 months reported improvements in mood, energy, and self-worth (*Nutrition at Eastwood Park: Impact Report*, Think Through Nutrition, 2020).



“When people are better nourished, we often see calmer behavior, improved focus, and a greater capacity for positive change,” said Tahani Saridar, Think Through Nutrition’s CEO.

Furthering clinical knowledge bases

Among mental health professionals surveyed by the CNP, 98% discuss nutrition in their practice, but the majority lack formal training on the link between nutrition and mental health (*Towards Integration of the Psychological and Nutritional Sciences: Insights From a Cross-Sectional Survey of Mental Health and Nutrition Professionals*, Preprints.org, 2025). A similar gap exists among psychiatrists (who were not included in the survey), Jacka said, pointing to the need to integrate nutritional training into formal training for physicians and other care providers.

“We’re still a long way off from being a standard part of clinical practice, in large part because most health practitioners get just a few hours of nutrition training throughout their whole degree,” she said.

For now, continuing-education programs can provide training for providers seeking to expand their knowledge of nutrition and mental health.

“Psychologists may worry about stepping outside of their scope of practice, but there are enough educational opportunities out there to start lessening the fear of talking about food,” Rucklidge said.

Research continues to expand, with both the CNP and ISNPR working to standardize methodology in their respective fields so that data can be pooled to draw broader conclusions (Stroebele-Benschop, N., et al., *Behavioral Sciences*, Vol. 15, No. 8, 2025; Marx, W., et al., *British Journal of Nutrition*, online first publication, 2024). At present, differences in supplement formulas and dietary assessment methods make it hard to compare results across studies.

Despite the mounting evidence for nutrition’s role in mental health, policy change remains challenging because of the strong influence of global food industries, Jacka said. To help drive farming practices that support improved brain health, she is working to highlight the link between soil health, gut health, and mental health, including through her work with the World Economic Forum (*Transforming the Global Food System for Human Health and Resilience*, World Economic Forum, 2023).

“It’s really important for academics, nonprofits, and governments to stay up

to date with this science,” Beloreshka said. “In the midst of a mental health crisis, we have very promising data that we can use to safely make changes across society.” ■

FURTHER READING

Nutritional psychology research library
Center for Nutritional Psychology, 2025

That salad isn’t just good for your nutrition—it may help stave off depression
DeAngelis, T.
Monitor on Psychology, June 2023

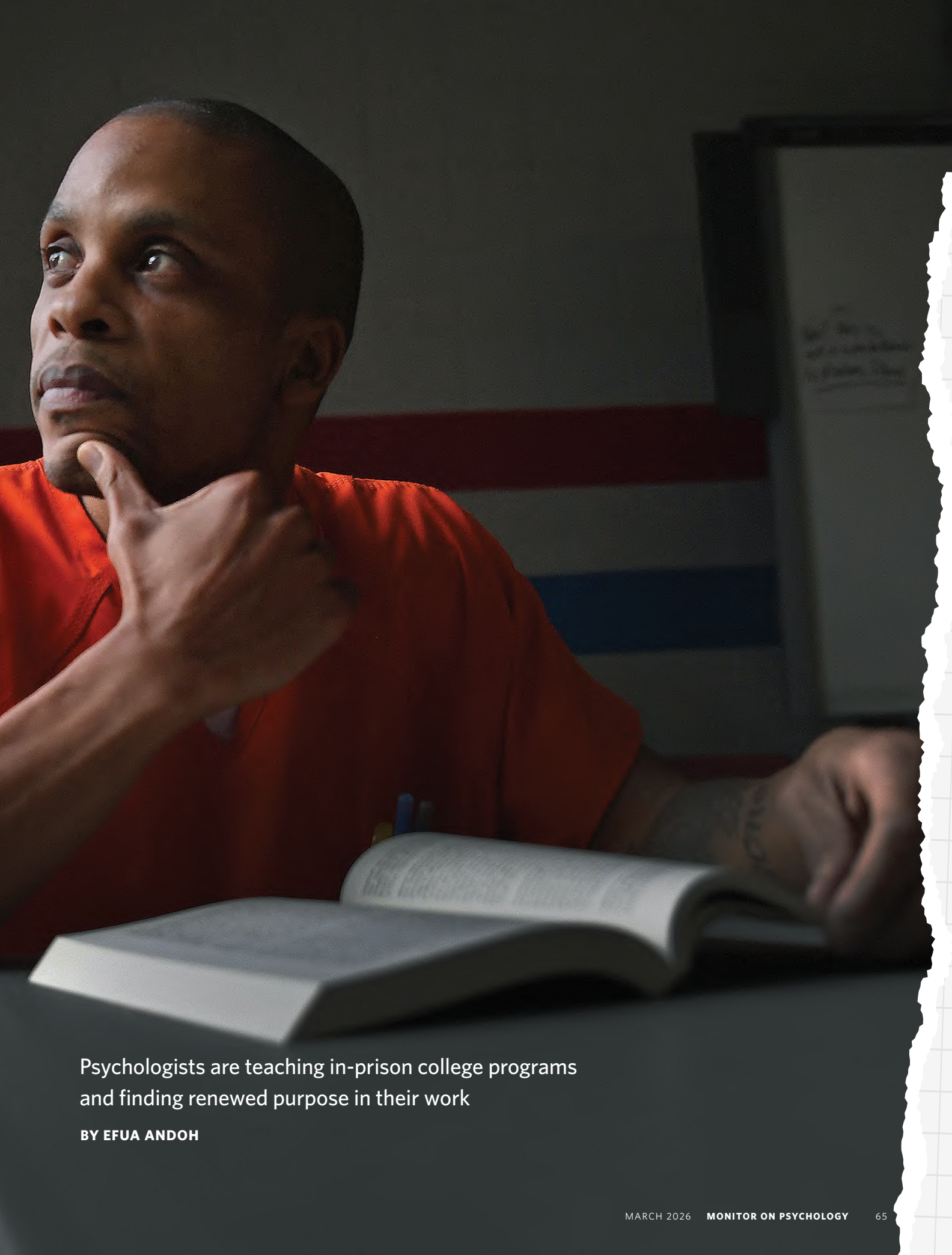
Low carbohydrate and psychoeducational programs show promise for the treatment of ultra-processed food addiction: 12-month followup
Unwin, J., et al.
Frontiers in Psychiatry, 2025

The impact of the Mediterranean diet on alleviating depressive symptoms in adults: A systematic review and meta-analysis of randomized controlled trials
Bizzozero-Peroni, B., et al.
Nutrition Reviews, 2025

A photograph of a person wearing an orange shirt, likely a prisoner, sitting at a desk. In the background, there are vertical metal bars, suggesting a prison setting. The image is partially obscured by a white grid pattern on the left side.

TRANSFORMING CELLBLOCKS INTO CLASSROOMS

Michael Woody, a participant in the Georgetown Prison Scholars Program, studies at the District of Columbia Jail in Washington, D.C.



Psychologists are teaching in-prison college programs
and finding renewed purpose in their work

BY EFUA ANDOH

WHEN THE 1994 Crime Bill eliminated Pell Grant eligibility for incarcerated students, higher education programs in prisons across the country plummeted dramatically from nearly 1,000 in the 1990s to just 12 by 2005. That changed in July 2023 when Pell Grant eligibility was restored as part of the Free Application for Federal Student Aid (FAFSA) Simplification Act—opening doors to college for roughly 750,000 incarcerated people, according to the Vera Institute of Justice. As a consequence, there has been an upsurge in colleges and universities partnering with correctional facilities to offer credited courses and degree programs that duplicate what is available on campus.

Although funding increased with last spring's passage of H.R. 1, or the One Big Beautiful Act, two new rules will limit access: Pell Grants can't be added if other aid fully covers tuition, and a new short-term job training program, Workforce Pell, requires job placement—virtually impossible for incarcerated students still serving time.

The Alliance for Higher Education in Prison reports more than 400 higher education initiatives across nearly 600 correctional facilities as

of November 2025. Psychology faculty have played a particularly active role in these initiatives, teaching courses that explore human behavior, mental health, and social systems in spaces often defined by isolation. For many faculty members, that work has helped reinvigorate their own sense of purpose as educators while also reshaping these students' lives.

There is ongoing debate about whether courses in psychology offer tangible employment benefits compared with business or information technology for formerly incarcerated people upon their release. Mara Sanchez, PhD, programs director for the alliance, says that students in correctional settings deserve access to the same breadth of course options available to any college student. "While it is important to connect higher education with meaningful career pathways, I can see psychology as building skills that employers see as critical, such as communication, conflict resolution, teamwork, and problem-solving," she said.

The United States incarcerates more people than nearly any other nation in the world, with close to 1.25 million people confined in prisons across the country. Mass

incarceration has far-reaching social and psychological consequences. Decades of research have shown that correctional education is one of the strongest tools for reducing recidivism and improving reentry outcomes.

A meta-analysis of 37 years of research found that people who participated in prison education programs were 32% less likely to return to prison than those who did not (Bozick, R., et al., *Journal of Experimental Criminology*, Vol. 14, 2018). Another meta-analysis revealed that college or postsecondary education was more effective at decreasing recidivism—by 41.5%—compared with vocational education (15.6%), secondary education or GED (12.5%), and adult basic education (3.3%) (Stickle, B., & Sprick Schuster, S., *American Journal of Criminal Justice*, Vol. 48, 2023).

The realities of teaching psychology in prisons

Before entering any correctional facility to teach, faculty must undergo background checks and learn security procedures. Security personnel are required to escort faculty through the prison to the classroom, where there is always a guard nearby during instruction. Karla Vermeulen, PhD,

"While it is important to connect higher education with meaningful career pathways, I can see psychology as building skills that employers see as critical, such as communication, conflict resolution, teamwork, and problem-solving."

Mara Sanchez, PhD

Programs director, Alliance for Higher Education in Prison



Carlie Partridge, who works as a teacher for Five Keys Charter School at the SF County men's jail in San Bruno, California, teaches grammar to inmates on June 7, 2011. Five Keys Charter School educates inmates and ex-offenders to help provide recovery, parenting, and work skills.

AT A GLANCE

- Approximately 750,000 incarcerated people are now eligible for Pell Grants for higher education.
- More than 400 college-in-prison programs operate nationwide, and many offer psychology courses.
- Psychologists are teaching courses that strengthen incarcerated students' research and writing skills and understanding of human behavior.

teaches “PSY393-02: Psychology of Trauma and Loss” as part of the State University of New York (SUNY) New Paltz prison education program. She received her training virtually and was able to visit the Green Haven Correctional Facility in upstate New York to run through the security process the week before instruction began. “It was a chance to learn the security procedures and

be in that environment. It takes some getting used to, but I feel perfectly safe when I’m in my classroom,” she said.

Faculty also receive training on how to behave and interact with incarcerated students. For example, instructors are advised not to look up or inquire about their students’ criminal history but rather focus on them simply as students. Heather Carella, MA, LMHC,

"You're working with humans who have made, sometimes, some awful choices. But if they're in your class, that means that they want to learn, grow, and change their life. Just support them as best as possible along that journey."

Heather Carella, MA, LMHC, LPC

Psychology instructor, Mercy University's program at Sing Sing Correctional Facility, New York

LPC, teaches psychology courses as part of the Bachelor of Science degree offered through Mercy University at Sing Sing Correctional Facility in New York. "You're working with humans who have made, sometimes, some awful choices. But if they're in your class, that means that they want to learn, grow, and change their life. Just support them as best as possible along that journey," she said.

Faculty who teach in prisons must navigate significant logistical and institutional barriers such as long drives to remote facilities, extensive security screenings, and abrupt class cancellations because of lockdowns or staffing shortages. They are encouraged to embrace unpredictability as last-minute changes and delays often occur. "I would say, go in open-minded because it is a job that will humble you very quickly," Carella said. "You could have the most well-laid-out syllabus and calendar, and pretty much by week 3, you might have to throw it all out the window because things come up. So just be open, be flexible. You're going to be stretched."

The lack of digital access poses another significant challenge. Unlike their on-campus counterparts, incarcerated students cannot use the internet to search for psychological research in online databases. Textbooks and multimedia are often

limited and need to be vetted by the corrections administrators. That means professors often rely on photocopied readings, handwritten assignments, and chalk or whiteboards. In an encouraging step, the Alliance for Higher Education in Prison has partnered with W. W. Norton & Company to donate textbooks to prison classrooms—offering some relief to educators.

Still, many instructors say the restrictions of the prison environment yield an unexpected benefit. "It's delightful to teach in a classroom where students aren't on their phones, and I don't have to worry about AI-written papers," said Vermeulen.

At the same time, these benefits don't erase the complexity of teaching in correctional settings. One recurring theme from the psychology education and training community is the need for structured faculty development and institutional support for this work. There is much that can be learned from psychologists already doing it—their strategies for flexibility, resilience, and student engagement could inform broader conversations about preparing educators for nontraditional learning environments.

Building classrooms behind bars

The University of Scranton Prison Education Program is part of a consortium of Jesuit institutions

committed to extending higher education to incarcerated students. Launched in 2021, the program, which leads to an associate's degree in liberal studies, is the same one offered to students at the Scranton campus. "The prison education program is basically the core curriculum of our existing Scranton bachelor's degree," said Carolyn Barry, PhD, dean of the College of Arts and Sciences and a professor of psychology. "It is steeped in lots of humanities, which is part of our Jesuit Catholic tradition, and includes social science, quantitative, and elective courses." The program strives to offer instruction that mirrors the high academic standards provided to other undergraduates. Graduates of their associate's program can apply to transfer to another institution to complete a bachelor's degree.

Christie Karpiak, PhD, a professor of psychology at Scranton, teaches fundamentals of psychology as part of the degree program for students at the State Correctional Institution Dallas in Pennsylvania. The content is identical to the course she teaches in her on-campus classroom.

"The students have been selected carefully. They apply competitively to the program, and some even move into this facility from other prisons to participate in it," she said. The admissions process requires applicants to sit for an

exam in which they write an essay in response to a prompt from the humanities. The essays are ranked by three professors, and the best applicants advance to a phone interview for assessing college readiness.

Once enrolled, most of the University of Scranton's incarcerated students take their education seriously. Graduation rates climbed from 53% in the first cohort to 76% in the second cohort, dipping slightly to 67% in the third cohort. This compares with the national graduation rate from 4-year colleges of 50.8%, according to data from the National Center for Education Statistics.

In Karpiak's classroom, 3-hour lectures often become lively debates—especially on topics like epigenetics and the effects of environment on behavior. For example, Viktor Frankl's autobiography about being imprisoned in Nazi concentration camps, *Man's Search for Meaning*, has sparked particularly intense discussions about resilience, trauma, and accountability.

The prison education experience has refined Karpiak's approach to teaching. Preparing to answer such wide-ranging questions has pushed her to stretch her preparedness as an educator. "I have to ensure that I know the topic inside and out, drawing on all my experience," she said. It has also influenced her on-campus teaching, inspiring her to refine her syllabus and written assignments so that her on-campus students can engage in deeper discussions of their lived experiences.

Linking social systems to the self

Columbia University offers courses through its prison education program to students at several correctional facilities in New York State, including Sing Sing Correctional Facility, Taconic Correctional Facility, and Queensboro Correctional Facility. Since the launch of the program in 2015, Columbia has offered credit-bearing courses to more than 1,200 incarcerated students. At the helm is Geraldine Downey, PhD, the director of Columbia's Center for Justice and the Robert Johnston Niven Professor of Humane Letters in Psychology. Although the exact proportion of students in Columbia's program who complete degrees is difficult to track, Downey estimates about 80% of students at Sing Sing and Taconic—two correctional facilities offering degree programs—go on to eventually earn associate or bachelor's degrees.

Downey's career in prison education began during her postdoctoral fellowship at the University of Michigan, where she supported incarcerated women seeking to earn college degrees and volunteered for a program that facilitated visits between incarcerated mothers and their children. This experience profoundly influenced the development of her "Children at Risk" course that she teaches both on campus and "inside," the colloquial term for life at the prison.

Grounded in Urie Bronfenbrenner's ecological systems theory, the course explores how layered social contexts shape



Prison inmates read in the library of the York Community Reintegration Center in Niantic, Connecticut. Because of internet restrictions, educational materials in prisons are typically paper rather than digital.



Inmates at Texas's Darrington Unit celebrate earning bachelor's degrees.

child development. Students often connect the research to their own experiences growing up amid poverty, trauma, and limited opportunity. “One of my students said to me, ‘It’s like the book version of the streets. This gives me a framework for thinking about what we go through in our communities and the high level of adverse childhood experiences in our families—the way in which we face danger when we go outside the door, both from the police and other gangs.’ The framework for understanding what that is like comes from psychology,” Downey said. As a result, many students can think more broadly, envisioning systemic changes that could improve their children’s opportunities, Downey added.

From prison to employment

Obtaining stable employment after release is one of the best predictors of whether a person who was formerly incarcerated will stay out of prison (Kolbeck, S., et al., *Justice Quarterly*, Vol. 41, No. 1, 2024). Two of Downey’s former students have used their psychology courses in prison to develop skills that helped them land jobs immediately upon release. Mujahideen Muhammad was convicted of murder at age 19 and served 24.5 years, 15 of them at Sing Sing. He earned a Bachelor of Science in science with a concentration in psychology via the Mercy University prison education program.

He took the “UN3615x: Children at Risk” as a correspondence course in 2021 during the pandemic. He said the course helped him make sense of his “development as a young person who grew up amid unfavorable circumstances,” which included being abandoned by his parents at age 6 before

entering the foster care system. He eventually became involved with the justice system as a result of an attempted robbery at age 14. “Engaging in that course helped me better understand myself, society, and all of the factors that contribute to bad outcomes like a criminal conviction,” he said.

Based on the skills he acquired in his prison psychology classes and other coursework, Muhammad was hired as a research assistant by the Center for Justice after his release in 2024. His ongoing work there inspired him to cofound the nonprofit Pillars of Promise, which aims to change public perception of incarcerated people.

Jarrell Daniels enrolled in Downey’s “PSYC G4690y: Social Factors and Psychopathology” course while serving time at Queensboro Correctional Facility. Violence had permeated his early life. While still in elementary school, he witnessed his aunt’s throat get slashed. In middle school, his stepfather physically abused his mother for years. “Violence surrounded me. It was at home; it was in the community,” he said. “I was being taught to respond to conflicts with violence.”

In 2018, after serving 6 years on gang-related charges, Daniels went on to earn a dual bachelor’s degree in sociology and African American studies from Columbia University’s School of General Studies, graduating in 2022. He also joined the Center for Justice, where he codesigned Project Restore, a 12-month violence-intervention program for young adults. Bronfenbrenner’s framework heavily influenced the life-skills curriculum that Daniels designed for participants. The project helped reduce shootings by 28% among rival street crews during its pilot launch in Brooklyn, Daniels said.

"Meritocracy is a bit of a myth. That is a driver that made me go into social psychology—to explore what about people's situations encourages, facilitates, and directs their outcomes."

Kody Manke-Miller, PhD

Social psychologist and an inaugural faculty member of the Carnegie Mellon University prison education project

Now pursuing a doctorate in psychology and social intervention at New York University, Daniels plans to teach both within and outside prison walls while continuing to evaluate public safety initiatives and policy responses to community violence. He particularly hopes "to prepare community leaders to explore higher education pathways and to engage in meaningful research that moves the field away from problematizing issues or people."

Sharing social psychology solutions

Social psychologist Kody Manke-Miller, PhD, is one of the inaugural faculty members of the Carnegie Mellon University (CMU) prison education project, which launched in 2021. The program, based on Temple University's Inside-Out Prison Exchange Program, takes undergrads into prisons to study psychology alongside incarcerated students to facilitate communication and social change.

Manke-Miller's psychology and society course is specifically structured for the incarcerated students, who may lack formal education in scientific principles. It focuses on broad topics related to social interventions, such as methods to improve motivation, relationship satisfaction, and educational outcomes.

Because many students on the inside lack access to academic

textbooks, Manke-Miller uses accessible popular psychology texts such as Keith Payne's *The Broken Ladder*, which explores inequality. Students submit weekly written reflections and, as a final group project, design policy proposals for stakeholders informed by psychological science. For example, one group presented recommendations to a Pittsburgh school board on how to implement growth mindset interventions to improve student outcomes.

Like other prison education programs, CMU courses have security staff escort instructors to and from class. The first 2 weeks of the course consist of separate meetings with both outside and inside students to discuss expectations, address anxieties, and propose ground rules before the first joint class. In the third week, both groups come together to finalize the rules for classroom interaction. One non-negotiable rule is that students must sever contact after the course concludes to maintain boundaries and safety. To facilitate this, students only use their first names during class.

For Manke-Miller, the interest in prison education strikes a personal chord. A first-generation college student, he grew up in rural Montana and saw how incarceration directly affected the lives of members of his family and community. His mother,

whom he described as "maybe the smartest person I've ever met," first became incarcerated in high school, significantly affecting her future.

"It really shaped why I care so much about what happens when people don't have the same access to opportunities. Meritocracy is a bit of a myth. That is a driver that made me go into social psychology—to explore what about people's situations encourages, facilitates, and directs their outcomes," Manke-Miller said. ■

FURTHER READING

Access to technology for higher education in prison programs: Implications from a mixed-methods study
Appleby, A. M.
Corrections, 2025

How states can improve education programs in prisons
Stickle, B., et al.
Mackinac Center for Public Policy, 2024

The impacts of college-in-prison participation on safety and employment in New York State
Taber, N., et al.
Vera Institute of Justice, 2023

What are the possibilities and limitations of teaching and learning in prison spaces?
Anderson, M.
Journal of Higher Education in Prison, 2023



BARON-COHEN



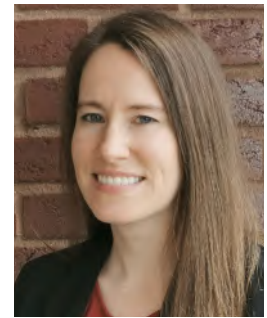
GADSDEN



GENTNER



HARREL



KIRBY

Psychologists in the News

SIR SIMON BARON-COHEN, PhD, a psychology professor at the University of Cambridge, received the 2026 Grawemeyer Award in Psychology. Baron-Cohen was recognized for pioneering scientific research into the prenatal sex steroid theory of autism. He and his team presented pioneering evidence that prenatal sex steroid hormones, in combination with genetic susceptibility, play a role in autism—a finding later corroborated by independent research groups.

VIVIAN GADSDEN, PhD, the William T. Carter Professor Emerita of Child Development and Education at the University of Pennsylvania Graduate School of Education, has been named vice president of the National Academy of Education. At Penn, she codirects the Early Childhood and Family Research Center. Her work focuses on learning and literacy across the life span, emphasizing equity, access, and transformative change for young children and families in historically marginalized communities.

DEDE GENTNER, PhD, the Alice Gabrielle Twight Professor of Psychology at Northwestern University, received the 2025 Benjamin Franklin Medal in computer and cognitive science from the Franklin Institute, which honors global

leaders in science and technology. Gentner helped found and directed Northwestern's Cognitive Science Program for more than 2 decades. Her research explores language, learning, and analogical processing—the use of comparisons to foster understanding and insight.

TAMIKA HARREL, PhD, has been named dean of students and associate vice president for student affairs at Arkansas Tech University. In this role, she oversees student wellness, testing and disability services, academic advising and career development, student conduct, and Title IX compliance. She also chairs the behavioral intervention and threat assessment team and leads assessment for the Division of Student Affairs. Harrel began her career as head softball coach and instructor at Coffeyville Community College before moving into student affairs, later serving as Title IX coordinator and dean of students at Missouri Southern.

TERI KIRBY, PhD, an associate professor of psychological sciences at Purdue University, received the 2025 Outstanding Early Career Award from the International Society for Self and Identity. The award honors scholars within 10 years of earning their doctorate who have made significant contributions to the study of self

and identity. Kirby's research, grounded in theories of self, identity, and acculturation, examines why diversity, equity, and inclusion initiatives often fall short of their goals.

JULIAN F. THAYER, PhD, distinguished psychology professor at the University of California, Irvine, received the International Society of Behavioral Medicine's Lifetime Achievement Award. For nearly 40 years, Thayer has advanced understanding of how stress and emotions influence the heart-brain connection. He developed the neurovisceral integration model, linking heart rate variability to cognitive flexibility, emotion regulation, and mental health. His research also highlights how systemic racism and discrimination contribute to health disparities among African Americans, who face the nation's highest rates of hypertension-related disease.

SANTIBA CAMPBELL, PhD, former interim vice president of academic affairs at Bennett College, has been appointed chief strategy officer at the college. Her research examines the psychological well-being and success of African Americans facing racial discrimination. In her new role, she will guide Bennett in aligning mission, innovation, and measurable impact. ■

Many, if not most, mental health apps raise privacy concerns, lack rigorous testing, and aren't uniformly regulated or evaluated.

How to Spot Red Flags in Mental Health Apps

Tools that aren't evidence based, lack privacy protections, and lure users into more time online can do more harm than good

BY ANNA MEDARIS

NOT LONG AGO, patients might have told their therapists about a self-help book that inspired them or a conversation with a friend that unnerved them. And while these disclosures still occur, they're increasingly accompanied—if not replaced—by mentions of the AI tools or apps leaned on between sessions.

Patients are “very much using ChatGPT to bounce things off of to see, What does my therapist say? What does Chat GPT say?” says Rachel Wood, PhD, a cyberpsychology researcher and therapist in Colorado Springs, where she

leads the AI Mental Health Collective to bring clinicians together to discuss how artificial intelligence is affecting their practices and patients' lives.

It's not just ChatGPT. According to one 2024 survey in *BMC Public Health* (Fürtjes, S., et al., Vol. 24), 41% of people in the general population said they'd used a mental health app, like for meditation or mood-tracking, in the past 12 months. Other mental health apps, like those developed for a particular condition or to supplement therapy, are increasingly entering the market—and clinicians' offices—too.

Many psychologists have mixed feelings. On the one hand, such apps can help patients more seamlessly integrate therapeutic principles in their lives—prompting those with anxiety to do exposure therapy homework, for instance, or guiding those with insomnia toward healthy sleep habits in real time, as with VA Mobile’s CBT-i Coach app. One 2024 randomized clinical trial also found that apps rooted in cognitive behavioral therapy (CBT) can improve anxiety and depression symptoms before people start therapy, acting as a worthwhile bridge while waiting for care (Horowitz, A. G., et al., *JAMA Network Open*, Vol. 7, No. 7, 2024).

“As a psychologist, the usual mode of delivering care is maybe seeing 20, 25 patients a week,” said Eric Kuhn, PhD, an associate professor of psychiatry and behavioral sciences at Stanford Medicine who has been developing mental health apps with the U.S. Department of Veterans Affairs for about 15 years. “So to have an impact where you have 5 million downloads, it’s super exciting to see—and gratifying.”

On the other hand, many, if not most, apps raise privacy concerns, lack rigorous testing, and aren’t uniformly regulated or evaluated. In some cases, what’s a helpful tool for one person can border on harmful for another. “As a researcher, I think there’s a lot of potential benefit,” said Margaret Morris, PhD, an affiliate associate professor at the University of Washington, where she studies how technologies including AI can help patients and therapists. But as a clinical psychologist in private practice, she added, she’s more cautious.

Still, it’s important for psychologists to understand the landscape because patients aren’t waiting for psychologists’ approval to experiment.



It's important for psychologists to understand the landscape of mental health apps because patients aren't waiting for psychologists' approval to experiment.

“Hundreds of millions of people are [using these apps],” Wood said. “So my position is: How do we steer and guide the safest experience?” Here’s what she and other experts think works best.

Discuss patients’ digital lives

Before evaluating the tools themselves, psychologists recommend getting a picture of patients’ digital lives. That could mean adding a question to intake assessments like, What role, if any, do AI, chatbots, or mental health apps play in your life?

“We ask about every other support area of their lives, like, What role do hobbies play? What about family and friends and faith communities?” Wood said. “[Digital tools] are

becoming a major part of people’s ecosystems, and so we need to ask a question like this in a nonjudgmental way.”

Thekla Brumder Ross, PsyD, a clinical psychologist in Milwaukee with expertise in digital harm reduction, recommends asking patients about how much of their lives are “URL versus IRL.” Therapists can even look, with their patients, at information like the phone’s total screen time, the most used apps, and the number of phone pickups. That data, alongside information about the person’s offline social life and hobbies, can reveal a “full digital landscape,” Brumder Ross said.

“Understanding that balance [between online and offline life] frames whether app-based interventions will support or potentially



undermine their mental health goals in their treatment plans,” she added.

For patients who are already using mental health apps or AI-based emotional support, therapists should guide the conversation with curiosity, Morris suggests. When and why do they most often use various tools? What are they getting from it they don’t get elsewhere, including in therapy? What have they learned, and who else do they tell about what they’re discovering?

“My stance as a therapist is really listening to what people are already using, and then trying to learn from that what they’re looking for help on,” Morris said. “I want to understand if they are using AI in a way that brings them closer to others or worsens isolation.” For example, maybe they’re asking an AI chatbot about physical health frustrations, or they’re using

a tool, consciously or not, to avoid real-life confrontations and connections. Maybe they’re using a wellness app that’s actually reinforcing disordered behavior.

For example, someone could be “getting really obsessed about physical activity or sleep, when the person’s real challenges are more about cognitive flexibility,” Morris said. “That’s another case where someone might be using these tools in a way that feeds into a problem rather than working on their true issues.”

In other words, no matter how well-designed an app is or how strongly it’s backed by psychological research, it can still raise red flags when used in the wrong situation. It’s up to clinicians to keep those conversations going.

“Almost any tool can be used in a way that’s harmful, and a lot of tools that we don’t think about as mental health tools can be used in ways that are helpful,” said Morris, whose book, *Left to Our Own Devices*, explores how people can adapt technology to support their relationships and health. “We have agency in how to use those tools, and talking about it with patients helps activate that agency.”

Understand the vast app landscape

Of course, some mental health apps are simply better, safer, and more effective than others. But keeping them all straight can be extremely difficult. One paper states that there were more than 10,000 on the market in early 2023 and another found 20,000 (King, D. R., et al., *Current Treatment Options in Psychology*, Vol. 10, 2023; Agarwal, S., et al., *Evaluation of Mental Health Mobile Applications*, Agency for Healthcare Research and Quality, May 2022). “With such a proliferation of apps, [vetting them] is a task that is impossible to

keep up with,” said Kuhn, who’s a member of APA’s Mental Health Technology Advisory Committee.

The products are wide-ranging in their purposes and the oversight around them, too. For instance, many apps are considered “general wellness”—like those that offer guided meditations or help people track habits—and are not regulated by the U.S. Food and Drug Administration (FDA). Others, like the depression app Rejoyn and the anxiety app DaylightRX, are considered digital therapeutics and are regulated by the FDA because they deliver a treatment for a medical condition. As part of the regulatory process, the device makers submit data from randomized controlled trials to support the safety and effectiveness of the tool.

That said, just because an app isn’t FDA-cleared doesn’t mean that it’s no good. Many simply don’t meet the risk threshold for the organization to assess them, according to Stephen Schueller, PhD, a professor of psychology and informatics at the University of California, Irvine, who studies how to leverage technology to improve access to mental health services. “For clinicians and people who are interested in using these, it’s not easy to parse this landscape,” Schueller said.

But some emerging tools and frameworks can help. Last year, APA rolled out a step-by-step guide to help practitioners decide which AI tools are right for their practice. The American Psychiatric Association’s Evaluation Model also walks users through a rating system to help them make a thoughtful choice about app selection. And most recently, APA Labs launched its Digital Badge Program to signal the digital mental and behavioral health tools that meet certain criteria in clinical value, regulatory compliance, user safety, and data privacy.

“Over time, we’ve seen different organizations try to vet the apps to give consumers, clinicians, and the public some idea about which apps are good and which aren’t,” Kuhn said. In total, these guides point to “a few rules of thumb that clinicians can use to make sure that the apps they’re recommending are going to be helpful and not harmful. That’s where the field largely landed.”

Look for red flags

Short of, or in addition to, an official evaluation system, experts say therapists can watch for these red flags when they encounter mental health apps in their clinics—or in the digital wild.

■ A lack of privacy protections.

In Schueller’s 2019 study published in *Internet Interventions* (Vol. 15), he and colleagues evaluated 116 mobile apps for depression. When reviewing their data security and privacy policies, they found only five apps received a transparency score of “acceptable,” while the majority (68%, or 79 apps) were “unacceptable.” Just over half had no privacy policy at all. “So they didn’t tell you anything about what they do with the data,” Schueller said.

That’s why Wood recommends approaching using apps with a specific purpose, like helping to treat insomnia, rather than using them as general wellness tools that are more likely to lack privacy protections like HIPAA compliance. “What’s the true cost of using a tool?” she asked. “It might be free to start, but what are you not getting—and what are you giving away?”

■ **No crisis intervention.** Any app someone is using for mental health support should have a clear way to connect to real-world help, Wood said. “There’s got to be a direct way to get to a human helpline very quickly, where

you’re off the app and you’re talking to someone because you may be in crisis,” she said.

■ An inability to download your own data.

Apps should also give users ownership over their own information. “If someone is using an app for tracking something like their sleep or fitness, I want them to be able to make that data their own and look at it in conjunction with other things,” said Morris, who, along with colleagues at the University of Washington and Columbia University, has been studying how AI can help clinicians analyze data from watches and phones to understand patient’s sleep, activity, and other patterns. “If they want to be able to share it within the context of therapy, something that’s totally insular and locked down seems less useful.”

It may also be impractical if the app is intended to be a part of the patient’s care plan, Brumder Ross said. “If you’re recommending an evidence-based, clinically safe, data-secure app, that’s an extension of the trust in your relationship,” she said. “So you want to be sure that that data is going to be used and clinically informed in the treatment.”

■ **Overblown claims.** A reputable app should also be up front about what it can and can’t provide. And if the product does say it’s rooted in a certain psychological principle or therapeutic technique, that method should be front and center and accurate.

“You have to be careful because they can say, ‘Cognitive behavioral therapy works, and it works in digital formats,’ and that’s great,” Schueller said. “But

Some mental health apps are safer than others, so be aware of red flags. For example, stay away from apps that lack privacy protections or act more like a friend than a therapeutic tool.



if the app doesn't actually deliver cognitive behavioral therapy, it's not so beneficial."

■ **A spotty evidence base.** Likewise, while most mental health apps claim they're scientifically sound, few actually mean the product itself has been proven to do what it says it does. In fact, one of Schueller's studies found that less than 4% of anxiety apps had undergone a randomized clinical trial for feasibility and efficacy (*Cognitive and Behavioral Practice*, Vol. 25, No. 4, 2018).

"That's not to say that there's not a strong evidence base that these things work—there are hundreds of randomized controlled studies that demonstrate that digital mental health can be effective and impactful," Schueller said.

But for consumers, there's an easy-to-overlook difference between evidence based and evidence informed, Kuhn agreed. "A lot of times you'll see apps that say, 'This is evidence based,' and then you go to the part of their website that shows the evidence base, and it has nothing to do with the app," he said.

■ **No mental health expert or organization involved.** Apps backed by clinicians can add a vote of confidence, Brumder Ross finds. While psychologists' goals are likely improved mental health and well-being outcomes, product developers' goals are often to keep users engaged. "If the app's measure of success is time on the platform, the entire motivation is keeping your attention for as long as possible," she said. "So I like to look at apps that have clinicians who have informed their treatment and their protocol."

Kuhn recommends looking into whether the app was developed by or in partnership with a reputable

organization like a university, hospital, or the VA.

■ **Poor functionality.** Kuhn prioritizes apps that are available on both iOS and Android and those that don't need internet access after being downloaded. "This is good for folks who might be in rural areas or for military service members who are deployed," he said.

It's also helpful to know how recently the app was last updated. If it has been more than 6 months or a year, the app could have been abandoned and is at higher risk of security breaches. Ease of use matters, too. "Is it pleasant to use? Can it be accessed by users with disabilities? What's the reading level? How tech savvy does the user need to be to be able to use the app?" Kuhn said to ask. "If it's difficult to navigate, if the user interface isn't pleasant, isn't engaging, folks will just stop using it."

■ **An app that acts more like a friend than a therapeutic tool.**

Apps—particularly those that integrate AI-enabled chats—should stick to their purpose (say, helping patients tackle twice-daily CBT exercises) and stay out of "companion" territory. Bots that float between friend, colleague, family member, and even love interest can be "incredibly disorienting" to people seeking mental health support, Wood said.

"Could you imagine if your therapist just started flirting with you? This is ethically very, very wrong," she said. "It's the same thing for these apps. You want to make sure it doesn't become fluid in its role, but it's simply there to say, 'I am here to help you with your grounding exercises or your reflective journaling,' and that's it."

Good fit-for-purpose models, by contrast, "give clear reminders of

non-personhood, meaning they're letting you know, hopefully at regular intervals, 'Hey, I'm an app, I'm a machine,' or 'I'm a large language model. I'm not a person,'" Wood said. "They should not be simulating relationships as much as they should simply be helping the development of certain skills."

A quality mental health app shouldn't sweet-talk users into lingering longer either. But some research shows 37% of farewells analyzed across relational apps use manipulative tactics like enticing them into engaging more ("Going so soon? One more thing!") even after the user has indicated their intent to leave (De Freitas, J., et al., Harvard Business School Marketing Unit Working Paper 26-005, 2025). "That's another huge red flag," Wood said. Like a therapist seeing a patient out at a session's close, an ethical app simply says, "Bye." ■

FURTHER RESOURCES

New reimbursement pathways have opened doors for using digital therapeutics
Stringer, H.
APA, 2025

APA's AI tool guide for practitioners
APA, 2024

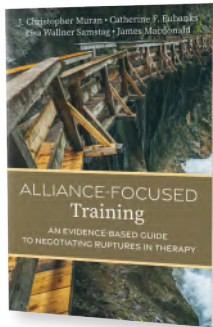
Wellness or treatment? How to tell the difference in digital mental health solutions
Bangieva, V.
APA, 2025

APA Labs Digital Badge Program
www.apa-labs.com/labs-digital-badge



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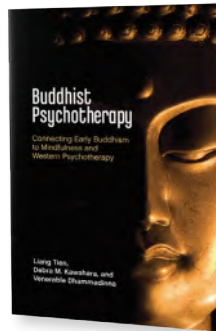
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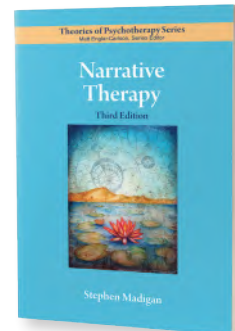
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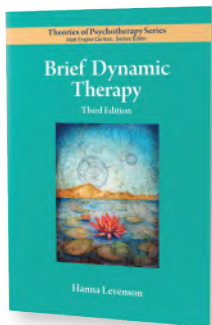
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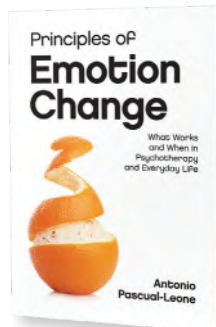
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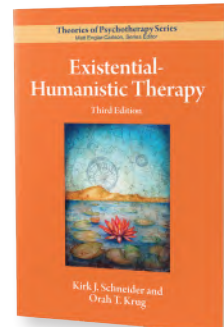
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LGBTQ+ Young People Face Large Increases in Depression, Anxiety, Suicidal Thinking

Fortunately, help-seeking among these youth is also on the rise, though many say they lack access to or can't afford mental health services

BY TORI DEANGELIS

68%

Percentage of LGBTQ+ youth **ages 13 to 24** who said they experienced **anxiety symptoms** at a 1-year follow-up of an ongoing longitudinal study that began in September 2023, compared with **57%** at baseline. Similarly, **54%** of LGBTQ+ youth experienced **depression symptoms** at a 1-year follow-up, compared with **48%** at baseline.

47%

Percentage of LGBTQ+ youth who said they experienced **suicidal thoughts** at a 1-year follow-up, compared with **41%** at baseline.

22%

Percentage of youth who said they had been threatened with **conversion therapy** at a 1-year follow-up, compared with **11%** at baseline.

64%

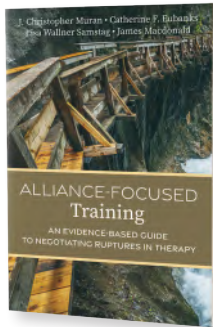
Percentage of LGBTQ+ youth who said they turned to a **mental health professional** during a crisis at a 1-year follow-up, compared with **32%** who had done so at baseline. However, many said they had avoided seeking care before and during the study because they **couldn't afford it** or were **concerned about stigma**.

Sources: First wave of data from The Trevor Project's longitudinal study of 1,689 LGBTQ+ youth from across the United States. Data are being collected every 6 months, with respondents taking initial surveys at different times during the data collection. Available at www.thetrevorproject.org/blog/new-study-shows-lgbtq-youth-mental-health-crisis-is-worsening-in-the-u-s/.



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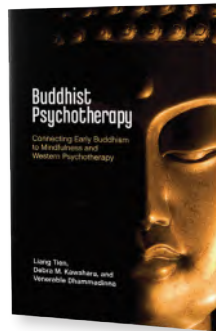
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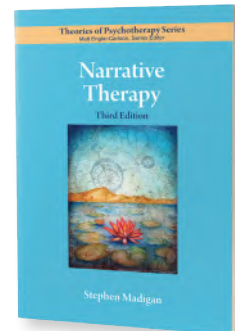
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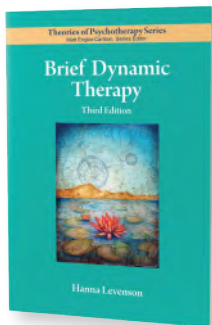
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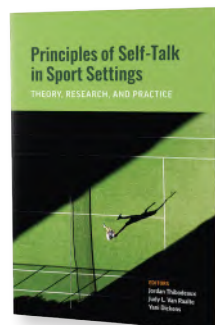
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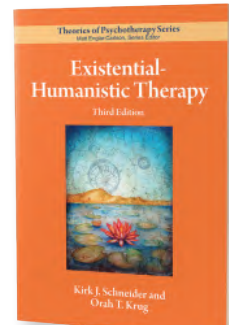
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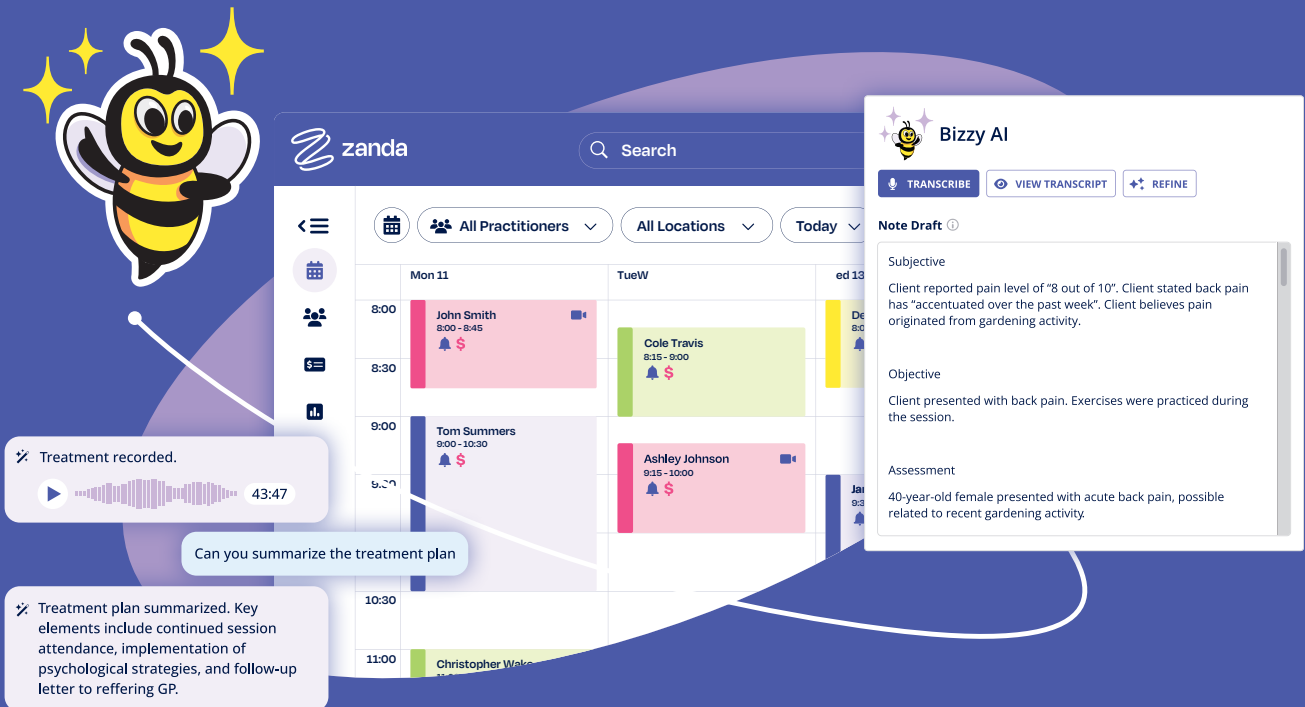
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The image shows the Zanda software interface. On the left is a cartoon bee character with yellow stars around it. The main part of the interface is a calendar view for 'Mon 11' and 'TueW'. It shows appointments for John Smith (8:00-8:45), Cole Travis (8:15-9:00), Tom Summers (9:00-10:30), Ashley Johnson (9:15-10:00), and Christopher Wake (11:00). A sidebar on the left has icons for calendar, practitioners, locations, and today's view. A search bar is at the top. A 'Bizzy AI' chat window is open on the right, showing a 'Note Draft' with fields for Subjective, Objective, and Assessment. The Subjective field contains text about a client's back pain. The Objective field contains text about the session. The Assessment field contains text about a 40-year-old female. Below the calendar, there are two callout boxes. The first one says 'Treatment recorded.' and shows a waveform with a duration of 43:47. The second one says 'Treatment plan summarized. Key elements include continued session attendance, implementation of psychological strategies, and follow-up letter to referring GP.'

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