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Monitor on Psychology



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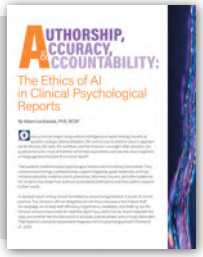
Read more on the PAR Content Hub as we explore what responsible AI can look like when people stay at the center of assessment.



Adam Lockwood, PhD, NCSP

The Ethics of AI in Clinical Psychological Reports

AI IN REPORT WRITING



READ THE ARTICLE

Monitor on Psychology

A publication of the American Psychological Association

VOLUME 57 | NUMBER 8

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Winner of the Grand Award

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The Hot List

Resources, opportunities, and news for psychologists from APA



VOTE

APA Bylaw Amendments

APA's Council of Representatives proposes two bylaw amendments: changing voting eligibility for recording secretary and treasurer elections and raising the roll-call vote threshold at council meetings. Use the QR code (right) to review the full text. Ballots will be emailed to the voting membership on Nov. 2. Voting closes on Dec. 17. Access your ballot and vote on your member profile page at https://my.apa.org.

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PODCAST

AI De-skilling

Whether drafting emails, analyzing medical images, or crunching complex data, AI tools may save time and boost productivity. But what happens when using AI affects skills that took people years to master? In this episode of *Speaking of Psychology*, Brooke Macnamara, PhD, explores the psychology of cognitive offloading. She discusses what emerging research tells us about AI's impact on learning, memory, and expertise. Macnamara also explores how these tools may affect novice and expert users and outlines strategies to support long-term skill development while using AI. Listen now at

www.apa.org/news/podcasts/speaking-of-psychology/cognitive-offloading.

BOOKS

When Leading Hurts

Can leadership take a covert emotional and psychological toll? The edited volume *When Leading Hurts* explores the hidden costs of leadership and the often ignored trauma that some leaders face in organizational settings. Drawing on research and case studies, multiple experts examine how issues like toxic cultures, bullying, and identity-based harm may leave leaders feeling isolated and undermined. The book also offers evidence-based strategies for prevention, healing, and interventions for change at the organizational level. Discover this and other titles at

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DIVISIONS

2026 APA Fellows

Congratulations to the 121 initial fellows elected by APA's Board of Directors and Council of Representatives in August. They join 62 current fellows already nominated for 2026. Fellow status is one of APA's highest honors, recognizing members whose contributions to the field of psychology are outstanding with a lasting national impact. Check out the complete list of APA fellows at

www.apa.org/about/division/digest/leader-resources/initial-current-fellows.

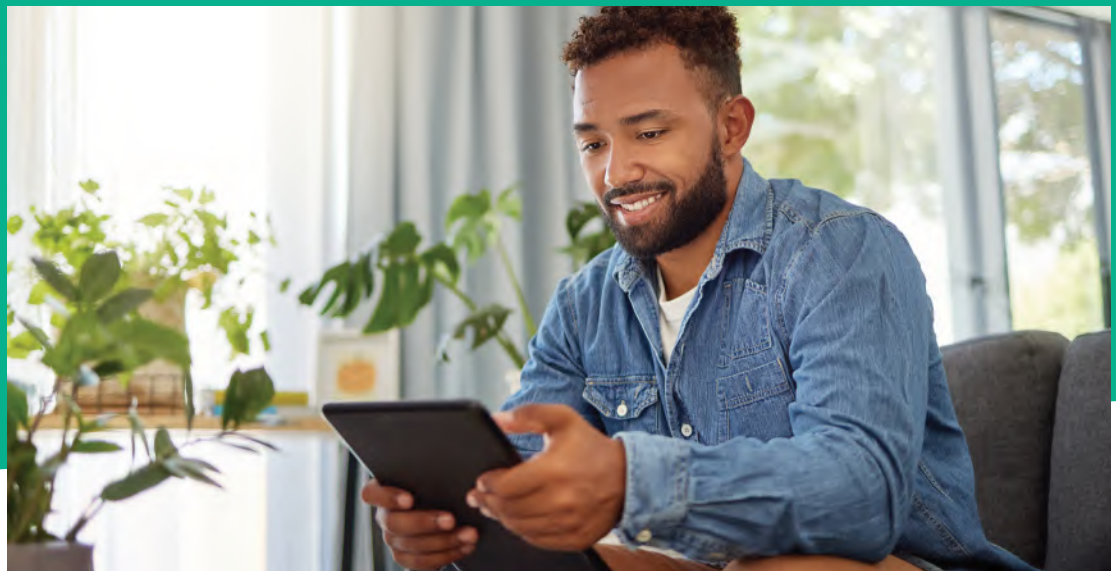
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November/December 2026



44 The Hidden Costs of Workplace Surveillance

As organizations expand employee monitoring, experts warn that increased oversight may undermine performance and weaken trust.



52 Revamping Severe Weather Planning

Psychologists are helping cities and communities use behavioral science to make their severe weather plans more effective and nimble.



36 Chatbots in the Crib *(cover)*

The toys promise companionship and learning. Psychologists say they're crowding out the human interaction on which healthy early development depends.

ON THE COVER: TECHA TUNGATEJA/GETTY IMAGES

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CONTINUING EDUCATION

Improving Therapy Outcomes With Measurement-Based Care

Measurement-based care is linked to better outcomes, yet its adoption stays low, held back by logistical and financial barriers rather than skepticism. With some training and practice, psychologists can successfully select patient-centered measures and incorporate them consistently into clinical workflows (see page 30).

@APA

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Radically Well, Together and Onward

We've made so much progress and must maintain our commitment



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

BY WENDI WILLIAMS, PhD

WHEN I OFFERED "Radically Well, Together" at the start of this year, I meant it as a challenge, not a slogan. Wellness is not something we achieve alone, and it is not something psychologists deliver from a distance. It is built in relationship—with our colleagues, our students, the people we serve, and the communities that trust us with their hardest questions.

This year put that idea to work.

Through 100 Psychologists Rising, we met colleagues applying psychological science in places most of us were never trained to imagine, and we said plainly that those pathways count. For students and early career psychologists watching a narrowing job market, that expansion of what a psychology career can be is not decoration. It is oxygen.

The Youth Mental Health Summit gathered schools, community organizations, and national partners around a generation under real strain and produced tools our members can actually use. This work culminated in a convening in Washington, D.C., at Howard University. Young people led the conversation on their mental health, pain points, and opportunities, and our policy development team translated them into recommendations during our daylong work session.

Work and Wellness took up the question of what work is doing to the people who do it, particularly those absorbing the sharpest edges of economic uncertainty. Psychology has the evidence base to shape that conversation. This year we brought it to the table and the convention stage, reckoning with not only the challenges but the opportunities for professional pivot responsive to new needs and realities.

My year was also filled thinking about leadership wellness—ours. Many of you are holding steady in institutions that are not steady: contested funding, shifting policy, colleagues leaving the field. I have tried to model what I asked of you. Rest is not a reward for finishing the work. It is essential infrastructure maintaining our health and wellness as leaders in precarious times.

In January, my dear colleague Dr. Linda M. Woolf takes the helm as APA's 2027 president with a centering call: "Many Voices, One Psychology." I know Linda intends to bring a steady hand to the incredible honor and responsibility that is leading our association, and I intend to support her leadership and the association through the transition.

To every member who wrote and called, to the APA staff, to the volunteer leaders who gave hours no one sees but the effect of which we all feel: thank you! The presidency is 1 year. The commitment is beyond time. ■

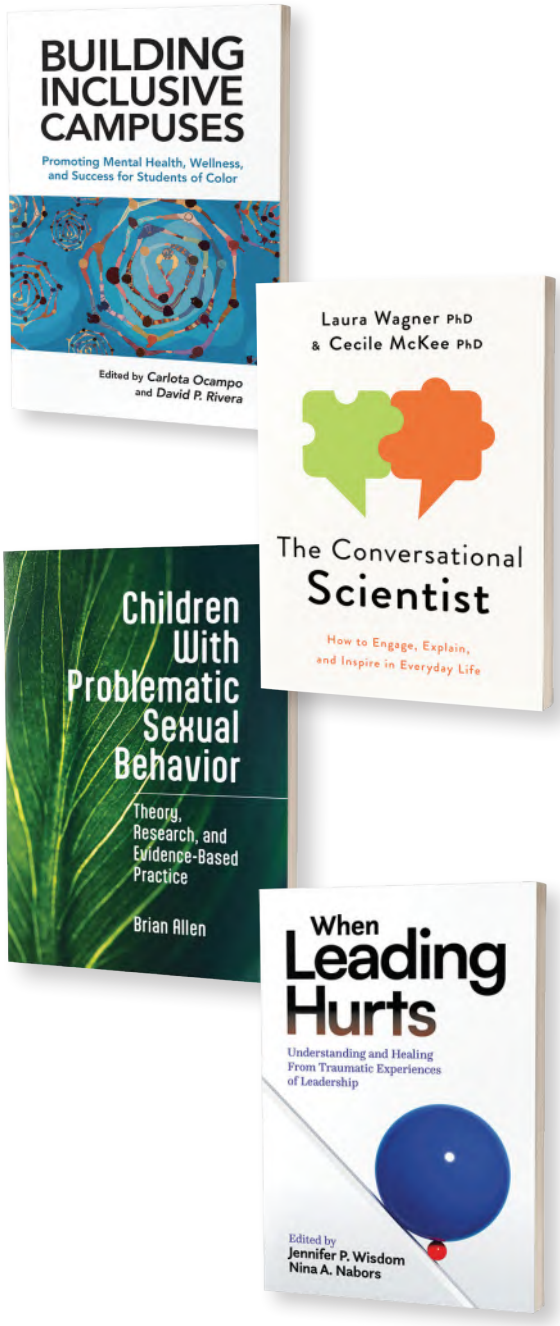
Recipients of the 100 Psychologists Rising Presidential Citation at APA 2026 in Washington, D.C.



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New Releases from APA Books



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Promoting Mental Health, Wellness, and Success for Students of Color

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LAURA WAGNER, PHD, AND CECILE MCKEE, PHD

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Children With Problematic Sexual Behavior

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BRIAN ALLEN

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When Leading Hurts

Understanding and Healing From Traumatic Experiences of Leadership

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Picking Up Momentum

Taking stock of our progress—and the possibilities ahead

BY ARTHUR C. EVANS JR., PhD



Arthur C. Evans Jr., PhD, is the chief executive officer of APA. You can follow him on LinkedIn.

GROWTH, LIKE WHEN it happens in our own children, is nearly impossible to notice in real time. Only when we look back do the real differences become clear. The same can be said for APA and psychology.

As we close out 2026 and I reflect on where we are as a field and an organization, three shifts stand out.

■ **Tackling critical societal issues.** A decade ago, we asked why psychology was often missing from national conversations about issues our science could help address. In recent years, we celebrated simply being invited into those discussions. Today, leaders across sectors increasingly recognize psychological science as fundamental to address challenges involving human behavior, such as climate change, AI, and misinformation. Translating that expertise into practical value—what 1969 APA President George Miller, PhD, called "giving psychology away"—is becoming central to how we operate.

■ **Shaping the future of psychology.** For years, our advocacy focused primarily on protecting reimbursement, research funding, and training. That work remains essential, but advancing the discipline also requires a clear vision of where psychology should be and deliberate action to get there. We are increasingly setting that agenda, creating opportunities for psychologists to apply the full scope of their expertise. Advancing reimbursement for addressing social determinants of health is one example. Bringing psychological science into the responsible development and deployment of AI is another.

■ **Evolving our tactics.** We are increasingly measuring our work by the difference it makes in the world. For instance, instead of a white paper that receives hundreds of views, our *Health Advisory on Social Media Use in Adolescence* translated research into practical guidance for families, educators, and technology companies, garnering national attention and driving policy action. Sustaining impact also means adapting our approach. Following the Supreme Court's ruling in *Chiles v. Salazar*, we doubled down on our state-level work to protect people from conversion therapy. Such efforts can be less visible and more complicated, but meaningful change requires persistence that goes beyond a single statement.

This momentum reflects years of intentional effort, grounded in our members' expertise and commitment to APA's mission—and it creates a responsibility to build on what we have achieved. As we enter 2027, we must turn psychology's growing influence into lasting benefits for the people and communities we serve. That is the purpose of our progress and the work ahead. ■

The field is increasingly tackling critical societal issues, playing offense, and evolving our tactics.



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In Brief

COMPILED BY ANNA MIKULAK, PhD

People show implicit bias against AI-made art

People's distaste for AI use in art may also appear in their unconscious or implicit attitudes, according to research published in *Psychology of Aesthetics, Creativity, and the Arts*. In one computer-based study, 44 participants evaluated the creativity of 110 pairs of digital artworks. One artwork in each pair was labeled "human-made," while the other was labeled "AI-made"; in reality, both pieces were AI-generated. Participants tended to pick the human-made piece as the more creative one in each pair, and their mouse movements showed a similar pattern: Even when they selected the AI-made piece as the more creative one, they moved the computer mouse more slowly and along a path that curved slightly toward the human-made piece, suggesting an implicit bias that subtly influenced their movements. Notably, this implicit bias was not associated with overall attitudes toward AI or beliefs about creativity. According to the researchers, these negative associations may lead people to resist AI use in the arts and other creative domains. Additional research can clarify how these attitudes may change with increased exposure to, and experience with, AI tools.

DOI: 10.1037/aca0000888

Research shows that viewers tend to judge art as less creative when they believe AI made it.



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Physical activity linked with lower irritability in young children

Occasional temper tantrums and other irritable behaviors are considered a typical part of early childhood, but frequent or severe irritability may be a sign of challenges with emotion regulation that predict later mental health concerns. Researchers examined whether certain activities—such as sleep, physical activity, and sedentary activity—were associated with irritable behavior in 1,266 children ages 2 to 4. Parents logged their child's activities and behavior in 15-minute increments over a 24-hour period. The findings, published in *Developmental Psychology*, indicated that children showed less irritability on days when they were more physically active than usual. Using statistical modeling, the researchers estimated that replacing 15 minutes of non-screen sedentary time with physical activity was linked with lower irritability, while replacing physical activity with non-screen sedentary time was linked with higher irritability. The researchers suggest that promoting physical activity may help reduce irritability and support mental health in early childhood, although longitudinal studies are needed to determine how these relationships play out over time.

DOI: 10.1037/dev0002249



Children showed less irritability on days when they were more physically active than usual.

Multiple types of knowledge guide navigation abilities

A series of experiments in the *Journal of Experimental Psychology: General* suggests that people use multiple types of spatial and time-based knowledge at the same time to navigate to specific locations. In each experiment, participants completed a computer-based navigation task with multiple trials. In the learning phase of each trial, participants started in a randomly selected location and navigated through the virtual environment to get to a marked target. In the test phase, they had to remember the location of the target and make their way there from a new starting point. Performance across trials indicated that people relied on both environment-related spatial information (e.g., the tree is to the northwest of the tower) and self-related spatial information (e.g., the tree is to my left), across a global time scale (e.g., all trials) and a local time scale (e.g., the most recent trial), when navigating to the target. The findings build on previous research, providing a more nuanced framework for understanding how different types of knowledge help people remember and reach specific destinations.

DOI: 10.1037/xge0001950



People navigate using landmarks and their own position together.

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People adapt to others' speech patterns quickly

The prosody of speech—including qualities like intonation, stress, and rhythm—helps listeners understand what a speaker is trying to convey, from a simple question to a sarcastic remark. Given that prosody varies from one person to the next, how do listeners adapt to different speakers? Researchers recorded a speaker saying phrases such as "it's raining" that can be interpreted differently depending on prosody. They used audio processing software to tweak the prosody of each phrase, producing multiple variations along a question-to-statement continuum. In an experimental session, 424 participants listened to some of these recorded phrases and indicated whether the speaker was "asking" or "telling." They then completed a second round that included feedback about whether their interpretations were correct, followed by a final round with no feedback. The results, published in the *Journal of Experimental Psychology: Learning, Memory, and Cognition*, suggest that participants adapted quickly to feedback, showing improved identification of "asking" or "telling" phrases within a few trials and that this adaptation persisted for up to 7 days.

DOI: 10.1037/xlm0001621



Listeners quickly learn to read an unfamiliar speaker's intonation patterns.

Positive beliefs about older adults are linked with healthy behaviors

Views about aging can shape health and well-being in later life, but the mechanisms that link these thoughts to actual behavior are not well understood. In three studies published in *Psychology and Aging*, researchers examined how older adults' descriptive views (how older adults are) and prescriptive views (how older adults should be) correlated with their health and social behaviors. The studies, which included a total of 1,141 participants ages 60 to 90

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in Germany, suggest that prescriptive beliefs may play an especially strong role. Older adults who agreed with prescriptive beliefs (e.g., "Older adults should stay fit and healthy," "Older adults should do more to help others") tended to report considerably more behaviors known to support health and social well-being. The findings also indicated a smaller link with positive descriptive beliefs (e.g., "Older adults do a lot for their fitness," "Older adults contribute substantially to society"). The researchers suggest that focusing on changing older adults' prescriptive beliefs about active aging may be one way to encourage health-supporting behaviors.

DOI: 10.1037/pag0001005

More evidence that matching students to a 'learning style' doesn't help

A study with 194 elementary school students indicates that students learned new information best when it was presented visually, auditorily, and in writing (i.e., with images, text, and narration), regardless of the students' reported learning style. The findings, published in the *Journal of Educational Psychology*, add to the evidence debunking the common belief that matching instruction to students' specific learning styles (i.e., preferences) is the best way to support learning. For the study, the 10- to 12-year-old students reported their learning format preference and completed a learning style inventory. They then received age-appropriate presentations on the weather forecast, climate change, and clouds. The researchers varied the presentation formats, including visual (images with text for silent reading), auditory (recorded narration with no visuals), and multimodal (images and text paired with narration) presentations. Learning preference and style did not seem to matter—students tended to perform better with multimodal material than with material matched to their reported learning style. According to the researchers, these findings align with findings from cognitive science research that points to the overall benefits of multimodal instruction.

DOI: 10.1037/edu0001056

Students learned best from lessons combining images, text, and narration regardless of their own perceived "learning style."



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Socioeconomic threats may spur protective social responses

People from lower socioeconomic backgrounds may support stricter social norms as a way of protecting themselves from the socioeconomic threats and overall dangers they see around them, according to research in the *Journal of Personality and Social Psychology.* A survey of more than 17,000 individuals from 57 countries indicated that individuals from a lower socioeconomic background were less tolerant of norm violations and more inclined to punish them than those from a higher socioeconomic background. Two online studies with U.S. adults, including one in which class belonging was fictionally assigned, showed the same pattern: Participants with lower incomes and levels of education reported worrying more about socioeconomic threats such as workplace accidents and neighborhood violence. They also perceived the world as more dangerous overall. These concerns were, in turn, linked with stronger support for strict social norms. An online experiment yielded similar results: Participants randomly assigned to a lower socioeconomic group in a fictional world were more likely to endorse stricter norms than those assigned to a higher socioeconomic group. Although adherence to stricter norms may help people combat perceived danger, a meta-analysis of global data spanning 52 years indicated that it may also make people less open to new people and ideas. According to the researchers, the findings highlight how socioeconomic status drives cultural differences that may reflect and perpetuate societal inequalities.

DOI: 10.1037/pspi0000524

Personality differences remain stable with age

Variation in personality traits across a population tends to be stable over time, according to a meta-analysis published in *Psychological Bulletin.* The findings suggest that, overall, people do not become more similar or more different from each other with age. The researchers analyzed data from 362 longitudinal studies with a total of 398,124 participants. Within this sample, the personality trait of neuroticism was the most examined (295 studies), while the trait of openness was the least examined (132



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studies). Across studies, variation in personality traits within a population remained relatively consistent as people aged, with two exceptions: Variation in neuroticism increased slightly during late childhood and early adolescence (ages 5 to 14), while variation in extraversion decreased slightly during middle and older adulthood (ages 45 to 80). The researchers note that the studies reported a considerable range of effect sizes, which may be because of different measures and research approaches. They also note that participants were mostly North American and northern European—additional research is needed to understand whether and how patterns in personality development differ across cultures.

DOI: 10.1037/bul0000523

Boredom has different effects depending on how hard a task is

Boredom experienced during a hard test reflects the same emotional state as boredom during an easy test, but its effects differ, according to findings in the *Journal of Educational Psychology*. In one study, 208 eighth-grade students completed a boredom measurement scale as they took a math test. Analyses indicated the boredom scale captured the same feeling across the easy and hard parts of the test. Building on these findings, the researchers then examined how boredom influenced participants' performance on easier and harder memory tasks. While boredom was linked with worse memory performance, this was the case only for difficult versions of the task. When the memory task was difficult, participants' boredom was linked with longer reaction times, a sign of reduced cognitive resources. Together, the findings help distinguish two sources of boredom—being overchallenged and being underchallenged—and their different effects. Although feeling bored may be unpleasant no matter the circumstance, it is most likely to impede learning when tasks are especially challenging.

DOI: 10.1037/edu0001045

Animals may not need high-level reasoning to respond to probabilities

Some researchers have suggested that certain animals may be able to estimate and compare probabilities, but analyses in *Psychological Review* suggest an associative learning model may provide a simpler explanation. The analyses challenge the idea that decision-making about probabilistic outcomes requires sophisticated statistical reasoning skills. Researchers analyzed data from 58 experiments with animals, including capuchin monkeys, chimpanzees, long-tailed macaques, pigeons, giraffes, crows, and parrots. In general, the animals in the studies were trained to interact with, and choose between, various stimuli that produced rewards at different rates. The results indicated that an associative stimulus-response model accounted for qualitative results in 52 of the 58 experiments and about 88% of the statistical variation in 37 experiments. Furthermore, probabilistic reasoning models were often worse at fitting the data than stimulus-response models. The researchers note that these findings do not suggest animals are incapable of sophisticated reasoning; rather, a simple associative mechanism may be sufficient to explain animals' responses to probabilistic outcomes.

DOI: 10.1037/rev0000626

Parents' device use may strain relationships with teenagers

Considerable research has focused on how adolescents' use of digital devices affects their well-being, but findings in *Frontiers in Psychology* suggest that parents' screen time may also play a role. In an online study, 600 adolescents ages 12 to 17 answered



Simple associative learning may explain apparent animal probability judgments.

RYANFAAS/GETTY IMAGES



Thanked employees thank their colleagues in turn.

survey questions about their caregiver's device use and their relationship with that caregiver. The more adolescents saw their caregiver's device use as an interference, the more likely they were to report greater insecure attachment with their caregiver. The findings suggest that when teens feel device use is sapping their caregiver's time and attention, it may compromise the teen-caregiver relationship. The researchers note that the findings are correlational, not causal—it is possible, for example, that adolescents with higher levels of attachment insecurity are more likely to perceive their caregiver's device use as a sign of inattention. Longitudinal research with more nuanced measures can provide a clearer picture of how caregivers' screen time influences adolescents' well-being over time.

DOI: 10.3389/fpsyg.2026.1766665

A supervisor's gratitude can have ripple effects in the workplace

For many employees, hearing "thanks for the great work" from a supervisor can go a long way in making them feel valued. Findings in the *Journal of Applied Psychology* suggest that these expressions of gratitude may also have positive effects that ripple throughout an organization. An online study with 233 supervisor-employee pairs indicated that when supervisors expressed gratitude, employees paid more attention to the things they were grateful for at work, leading them to express more gratitude to their colleagues, which in turn, strengthened those relationships. A 3-week longitudinal study with 204 employees produced similar results,



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even after the researchers accounted for other possible factors such as workplace norms and individuals' overall inclination toward gratitude. Together with a third experimental study, the findings suggest that gratitude cascades down from the top because it leads people to become attuned to gratitude-worthy events. The researchers acknowledge that this cascade effect may not apply in all situations or for all employees—future studies can clarify when and for whom the gratitude cascade emerges.

DOI: 10.1037/apl0001398

The socioeconomic level of a student's community may shape their literacy skills

Students' reading and writing skills are linked with their family's socioeconomic background and especially with the socioeconomic level of their community, according to a meta-analysis of 194 studies with data from more than 1.8 million participants. The findings, published in the *Journal of Educational Psychology*, also indicate that the association between socioeconomic level and literacy is stronger at higher grade levels. Together, the findings suggest that differences at both the family and community levels may contribute to early literacy disparities that accumulate over time. When the researchers examined specific literacy skills, they found that the socioeconomic level of a student's community was linked with larger differences for reading comprehension than for word reading. The studies indicated large reading differences and moderate writing differences between students from low socioeconomic backgrounds and students from high socioeconomic backgrounds. Importantly, the findings were consistent across different socioeconomic measures—such as family income, education, and occupation—and different years and countries. The researchers suggest that interventions aimed at closing the literacy gap should begin early, addressing both individual learners' needs and community-level factors over time.

DOI: 10.1037/edu0001059



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Literacy gaps tied to socioeconomic background widen as students advance through school.

Women's interpersonal skills may enhance negotiation success

Studies exploring how men and women fare in negotiations often focus on economic outcomes and neglect the more subjective, interpersonal outcomes. Five studies with more than 2,000 participants suggest that while women and men achieved similar economic results, they had different interpersonal outcomes: Women tended to engage in negotiation behaviors that led others to like them more, feel more satisfied with the negotiation, and feel more open to future negotiations. This was true even when they were anonymous. In one online study, 846 participants were randomly paired to negotiate over imaginary campfire resources—they learned that they would receive a financial bonus tied to their negotiation performance. Importantly, participants did not know their partner's gender. Although women and men achieved similar outcomes, participants reported liking negotiation partners who were women more than negotiation partners who were men. Additional analyses suggest this may be due, in part, to the fact that women were more likely to accept deals. Together, the findings, published in *PNAS*, suggest that relationship-oriented behaviors that build likability and rapport may enhance, rather than compromise, women's effectiveness as negotiators.

DOI: 10.1073/pnas.2523202123

Intuitive beliefs about mental development are similar across countries

Across countries, people tend to think about the development of the mind as having distinct phases, marked by an early period of perceptual and affective development and a later period of reflective and evaluative development. The findings, published in *Psychological Science*, suggest that people around the world share similar intuitions about how the mind develops from infancy through childhood. In one study, 289 participants in Japan saw items representing various affective, cognitive, perceptual, physiological, and social capacities, and they estimated when each capacity first appears: birth to 6 months, 6 months to 1 year, 1 to 2 years, 2 to 4 years, 4 to 7 years, or later. Analyses indicated a clear distinction: Participants saw more automatic, perceptual, and basic affective capacities (e.g., hunger, fear, pain) as emerging considerably earlier than more

reflective and self-referential capacities (e.g., reasoning, pride, moral judgment). Additional findings indicated a similar pattern across participants in Australia, Mexico, South Africa, the United Kingdom, and the United States, and between parents and nonparents. The researchers note that this robust folk model of mental development indicates that people see mental development as an organized trajectory, reflecting beliefs about innate and learned processes.

DOI: 10.1177/09567976261453926

How therapists' qualities predict their patients' outcomes

Some therapists seem to have better patient outcomes than others, but the qualities that predict which therapists will be more effective are not well understood. Researchers conducted a preregistered study with 97 therapists treating a total of 6,152 patients. Most therapists were recruited from a mental health agency in Canada, while others were recruited from university counseling centers in the United States and Canada. Drawing from existing research and theory, the researchers assessed 38 therapist qualities, including interpersonal skills and multicultural orientation, measured via recorded responses to hypothetical patient vignettes. The findings, published in *Clinical Psychological Science*, did not provide robust evidence linking therapist qualities with positive patient outcomes, with one exception: The stronger a therapist's interpersonal skills were, the more likely their patients were to return for another session. The researchers note that the effect sizes they observed were smaller than those reported in previous studies; larger studies may be able to detect effect sizes that are replicable but smaller.

DOI: 10.1177/21677026261424222

Culture shapes how people respond to others' unpleasant emotions

People in individualist cultures are more likely to want to make others feel better than are people in collectivist cultures, reflecting cultural differences in how people think about unpleasant emotions within a broader social context. The findings, published in *PNAS*, suggest that the impulse to soothe others' distress is not equally important or desirable across cultures. In two studies spanning 13 countries and 17 countries, respectively, people living in individualist cultures were more motivated to make others feel better and more likely to use emotion-soothing strategies, such as expressing care. A daily diary study with participants in Germany (a more individualist culture) and South Korea (a more collectivist culture) yielded similar results. Participants who were more motivated to make their partners feel better also felt closer to their partners, but only in Germany. The researchers note that emotions are valued differently across cultures—in more collectivist cultures, for example, unpleasant emotions may be desirable to the extent that they support self-improvement or social connection. Future studies can directly examine how people in different cultures think about the value of unpleasant emotions and how this thinking shapes their relationships.

DOI: 10.1073/pnas.2533994123

The impulse to soothe someone's distress varies by culture, and it is stronger in individualist societies.



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Why Gen Z Is Nostalgic for a Past They Never Lived

Growing research suggests retro trends are more than an aesthetic choice—and nostalgia can help people cope with uncertainty, build identity, and find meaning

BY ZARA ABRAMS

FROM Y2K STYLE and vinyl records to analog cameras and flip phones, Generation Z has embraced the fashions, music, and technology of decades past—despite being too young to have experienced them firsthand.

New survey data give substance to that consumer trend: About 7 in 10 U.S. adults feel nostalgic for eras before their lifetime and are drawn to products, media, and styles from those eras, particularly Gen Z and millennials. Two-thirds of Gen Z adults say this *historical nostalgia*—or sentimental longing for periods before they were born—helps them manage anxiety about the future. The findings come from a nationally representative survey of 2,085 U.S. adults conducted by The Harris Poll and the Human Flourishing Lab, a research initiative of the nonprofit Archbridge Institute led by psychologist Clay Routledge, PhD (*Historical Nostalgia in Modern America: Exploring Its Prevalence, Appeal, and Psychological Utility*, Human Flourishing Lab, 2025).

"There's a tendency to frame Gen Z's interest in the past negatively—as another symptom of depression, anxiety, or loneliness. But there's a strong theoretical and empirical case to be made that young people are agentic—and that they are turning to the past to solve their problems and improve their lives."

Clay Routledge, PhD
Director of the Human Flourishing Lab at the Archbridge Institute

AT A GLANCE

- A new nationally representative survey finds that *historical nostalgia*, or sentimental longing for eras before one's lifetime, is widespread among U.S. adults but strongest among younger generations.
- Research suggests that nostalgia may be largely beneficial, boosting well-being, meaning in life, and social connectedness.
- Psychologists say Gen Z's affinity for earlier decades can help them build identity, form connections, and cope with anxiety about climate change, economic insecurity, and a hyperdigital world.

After coming of age surrounded by climate concerns, rising social strife, and pressure to be "always online," Gen Z is really "craving a simpler, more present time, and they are looking to some of these earlier technologies and ways of living to find it," said Lauren Cook, PhD, a clinical psychologist in private practice in Pasadena, California, and author of *Generation Anxiety: A Millennial and Gen Z Guide to Staying Afloat in an Uncertain World* (Abrams Image, 2023). Examples include thrift shopping, scheduling phone-free hangouts, and curating collections of physical media such as CDs and DVDs.

"We find that young adults are not just seeking these things out as novelties or entertainment, but that they are mining the past for ways to enhance their lives," said Andrew Abeyta, PhD, an associate professor of psychology at Rutgers University and a research fellow at the Human Flourishing Lab who studies nostalgia.

While historical nostalgia is not unique to Gen Z, social media has given today's young adults unprecedented access to the music, technology, and aesthetics of eras they never lived through.

Nostalgia for one's own experiences, known as personal nostalgia, has known psychological benefits. It can boost feelings of social connectedness, help manage worries about the future, and strengthen identity and sense of self (Sedikides, C., & Wildschut, T., *Review of General Psychology*, Vol. 22, No. 1, 2018). Growing evidence suggests that historical nostalgia may serve some of the same functions.

"There's a tendency to frame Gen Z's interest in the past negatively—as another symptom of depression, anxiety, or loneliness," said Routledge, a leader in historical nostalgia research.



Psychologists say Gen Z's nostalgia for earlier eras can help them build identity, cultivate belonging, and navigate uncertainty.

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"But there's a strong theoretical and empirical case to be made that young people are agentic—and that they are turning to the past to solve their problems and improve their lives."

A common thread

Much of the psychological research on nostalgia has focused on personal nostalgia, both as a personality trait and as a transient emotional state, finding its effects to be largely positive.

Nostalgia differs from other ways of looking at the past. Unlike rumination, which involves dwelling on negative thoughts or experiences, or declinism, the feeling that things are much worse now than they used to be, nostalgia consistently promotes social connectedness and reduces loneliness (Abeyta, A. A., et al., *Frontiers in Psychology*, Vol. 11, 2020). Researchers believe this is because it reminds people of meaningful relationships, reinforces their sense of belonging, and motivates them to connect with others. It also helps people maintain a sense of self-continuity, reinforcing their identity across different stages of life (Sedikides, C., et al., *Emotion*, Vol. 16, No. 4, 2016).

"Nostalgia points out a common thread running through our past, present, and future," said Tim Wildschut, PhD, a professor of social and personality psychology at the University of Southampton in England who has done seminal research on nostalgia. "It reminds us that what has mattered to us in the past still matters to us now—and probably always will."

Related to these benefits, nostalgia appears to increase well-being, vitality, and meaning in life (Hepper, E. G., et al., *Emotion*, Vol. 21, No. 3, 2021; Sedikides, C., & Wildschut, T., *Review of General Psychology*, Vol. 22, No. 1, 2018). Nostalgia for one's past is also, perhaps paradoxically, a future-oriented experience, spurring people to overcome challenges and take action toward their goals (Abeyta, A. A., et al., *Journal of Personality and Social Psychology*, Vol. 109, No. 6, 2015).

"Conjuring up these special memories inspires us to re-create them in some ways—and ultimately to better our lives," Abeyta said.

People may feel increased nostalgia during milestone moments, such as a wedding, anniversary, or graduation. Major life disruptions or threats to one's core sense of security—including job loss, divorce, or a serious illness—are also known to increase nostalgia (Batcho, K., *The American Journal of Psychology*, Vol. 126, No. 3, 2013; Sedikides, C., et al., *European Journal of Social Psychology*, Vol. 45, No. 1, 2014).

"During these times, personal memories can help remind us of who we are

and help us prepare to take on challenges," said Krystine Batcho, PhD, a professor of psychology at Le Moyne College in Syracuse, New York, who studies nostalgia and its triggers.

Even at the societal level, periods of uncertainty appear to evoke nostalgia. During the early months of the COVID-19 pandemic, Spotify users in the United Kingdom were more likely to listen to older songs than they were before the national lockdown (Yeung, T. Y., *Humanities & Social Sciences Communications*, Vol. 10, No. 132, 2023).

Psychologists believe a similar mechanism may be at play with historical nostalgia, though more research is needed to confirm the link.

"We know that people can draw strength from their own memories during difficult times," Routledge said. "But what if the past that feels most useful and reassuring to young people today—particularly digital-native Gen Z—is one they never experienced?"



Discovering retro trends inspires many young people to ask parents and grandparents about predigital times, deepening connection.

RICHARD BAILEY/GETTY IMAGES

A stronger sense of community

A set of experiments conducted by Wildschut and his colleagues suggests that nostalgic memories can have benefits—even if they belong to someone else. The researchers had older adults write down both nostalgic and ordinary memories, then asked younger adults to read them. The young adults who read nostalgic memories reported greater social connectedness, self-continuity, and meaning in life than those who read ordinary memories (*Memory*, Vol. 26, No. 8, 2018).

"These findings provide evidence that a nostalgic sentiment can be beneficial even when it doesn't come from your own memory," Routledge said.

Routledge began to study historical nostalgia after noticing that young adults were driving renewed interest in vinyl records, physical books, and other older media. In a qualitative analysis conducted with discover.ai, a cultural insights firm, he explored Gen Z online discourse to understand why young people are drawn to historical nostalgia and what psychological functions these trends may serve (*Gen Z and the Power of Historical Nostalgia*, Human Flourishing Lab, 2024).

The analysis of online conversations and narratives suggests that historical nostalgia may ease anxiety about the future by helping young adults feel more grounded in the present. Rather than seeing it as an escape, many described using it to build a greater sense of agency, connection, and purpose in their daily lives.

For one, young adults talked about how older technology and retro fashion helped them feel more in control of their lives. Curating a cassette tape collection—instead of relying on Spotify's AI recommendations—gave them the sense that they were back in the driver's seat. They also felt that choosing a flip phone provided a much-needed break from social media, while thrifting vintage clothing led to a sense of individuality and made them feel like they were reducing their environmental impact.

"For a lot of Gen Z, this interest in things from past generations can also be a way of repurposing, consuming more thoughtfully, and pushing back against consumerism," said Goali Saedi Bocci, PhD, a clinical psychologist in private practice and author of *The Social Media Workbook for Teens*, whose work focuses on youth mental health and modern digital culture.

Routledge's qualitative report also found that historical nostalgia appeared connected with Gen Z's sense of community and their connections both across and within generations. While many young people discovered retro trends on TikTok, they were often inspired to talk with parents, grandparents, or older coworkers about what life was like and what they could learn from the past. Adopting those trends—such as wearing a grandparent's vintage sari or listening to a parent's favorite music—also created a sense of belonging with peers who embraced similar interests.

"Ironically, young people are often exposed to content from earlier eras on social media, but their frustration with social media also appears to be one of their main drivers of their nostalgia for the predigital age," Routledge said.

Social media helps shape—and even monetize—nostalgic culture through *nostalgiacore*, an online aesthetic that uses vintage music, fashion, filters, and visual styles (such as grainy camcorder effects) to evoke earlier decades. Researchers say digital platforms have made such nostalgic media and imagery more visible and accessible than ever before (Niemeyer, K., & Siebert, O., *Current Opinion in Psychology*, Vol. 50, 2023).

Other research is starting to investigate how and why using retro technologies in particular may support psychological well-being. One study, which relied on surveys and interviews of 600 analog photography users in southeastern China, found that the practice was linked to higher self-esteem and lower perceived stress. Participants were drawn to analog photography for various reasons, including nostalgia, aesthetics, social connection, and the slower, more mindful creative processes (Zhu, Y., *Scientific Reports*, Vol. 16, No. 2826, 2026). The findings suggest that retro technologies may resonate for reasons that go well beyond their vintage appeal.

Using the past to shape the future

Some critics dismiss Gen Z's fascination with earlier eras as a form of escapism. But climate change and mental health expert Britt Wray, PhD, of Stanford University, argues that seeking comfort from the past is a natural response to climate anxiety and other existential threats. The key is to use historical nostalgia not just to self-soothe but also to inspire actions that improve people's lives and the world around them.

"What is it in this nostalgia that's so attractive to us?" said Cook. "And how can that inform our values and our choices in the present?"

She uses acceptance and commitment therapy to help patients acknowledge the real—and often proportionate—anxiety they are feeling about the current state of the world and their communities. She encourages them to identify values they associate with earlier eras and live out those values today rather than become resentful or avoidant.

"People are drawn to this time before we became so dependent on digital approval," Cook said. "They see the freedom people had to dress how they wanted and express themselves without worrying whether it would be documented forever. We can give ourselves that same permission now and try to worry less about appearing 'cringe.'"

Nostalgia can lead some people to idealize the past, Saedi Bocci said, so it's important to remember that every period had its challenges.

"When we're thinking about nostalgia for past eras, we need to look at the full picture," she said. "It's an amazing time to be alive right now with modern medicine and technology, greater equality, and opportunities that simply didn't exist decades ago."

For psychologists, historical nostalgia is less about longing for the past than using it as a guide for the present. The goal is to pinpoint what people are searching for—in-person connection, more intentional consumption, or a healthier relationship with technology—and build solutions into everyday life.

"This is really a story of optimism," Routledge said. "The irony is that Gen Z weren't even alive in the predigital era, but they're the ones drawing on that time for healthier, more balanced ways of living—something that can hopefully inspire the rest of us." ■

FURTHER RESOURCES

From self-discontinuity to meaning through nostalgia
Sedikides, C., & Wildschut, T.
In K. Fujita, et al. (Eds.), *The Psychological Quest for Meaning*, 2026

Does nostalgia have a psychological purpose? With Krystine Batcho, PhD
Speaking of Psychology podcast
APA, 2019

Feeling nostalgic this holiday season? It might help boost your mental health
Novotney, A.
APA, 2023



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4 Questions for Tyler Branagan

Psychologist Tyler Branagan, PhD, helps both organ donors and recipients navigate the full range of behavioral and medical challenges that accompany these life-changing surgeries

BY ASHLEY ABRAMSON

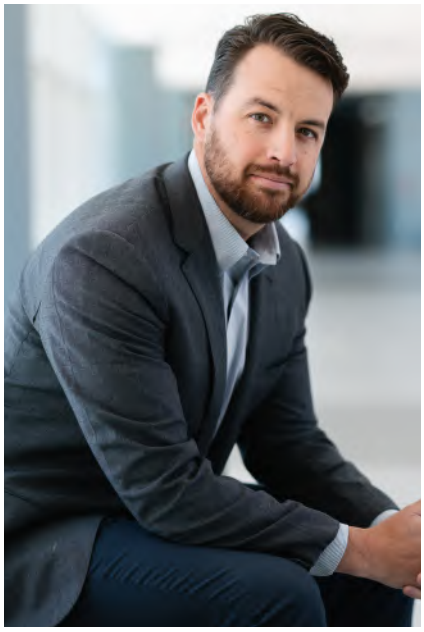
ORGAN TRANSPLANTS CAN be life-saving and life-altering—and transplant success depends on much more than medical intervention alone. As director of psychological services for the University of Colorado Hospital Transplant Center, Tyler Branagan, PhD, works with organ transplant patients before and after surgery, providing psychotherapy and behavioral health support to ensure the best possible outcome for patients.

This work reflects a broader model of behavioral health integration in which psychologists are embedded within interdisciplinary teams to address both the psychological and behavioral factors that influence transplant outcomes. Evidence shows that this type of support can improve adherence to medical recommendations, reduce complications, and contribute to better long-term success.

After nearly 10 years of working in this area, Branagan understands better than most how important it is for patients to have this range of support as they navigate this dramatic life change. We asked him to discuss some of the unique challenges transplant patients face, how he works with living donors, and what all psychologists should know about caring for people who have undergone a transplant.

What type of work do you do with patients before a transplant?

An important part of my role is conducting presurgical evaluations to help the medical team determine whether someone is a good candidate for transplant. The goal is to identify specific



psychological problems that could negatively impact the process, such as behaviors that could interfere with a patient's success with a transplant.

Transplant patients require lifelong medical care. They must take immuno-suppressive drugs for the rest of their lives to keep the body from rejecting the organ and regularly follow up with specialists. I evaluate the patient's ability to adhere to these routines, along with identifying whether a psychological problem could cause potential complications. For example, if a patient has alcohol-associated liver disease and refuses to seek medical or mental health treatment to stop drinking, they would not be a good candidate for a liver transplant.

In some cases, we can provide support to help patients move toward transplant. For example, if a patient needs a kidney transplant for kidney failure, they're likely already undergoing dialysis. But if they aren't consistently going to their dialysis sessions—maybe they struggle with depression that affects their motivation, or they don't understand the medical necessity of dialysis—that could be a red flag that they're not ready for a transplant. In that case, I could refer them to a community mental health provider who could help them follow through on their goals.

Sometimes we have less time for treatment before transplants, and we have a specific protocol for high-risk patients who are acutely ill and need a life-saving transplant. For example, I recently evaluated a patient with alcohol-associated liver disease. Without the transplant, they were likely to pass away within a week, so we initiated an evaluation and worked together as a medical team to ensure they would engage with substance use treatment after recovery from the transplant.

And how are you involved after the transplant?

Recovering from a transplant can be difficult. Along with pain from the surgery, many patients struggle emotionally. If that's the case, a medical provider will refer them to me, and I'll meet with the patient to understand what's going on and how to help. Typically, I do therapy with patients a few times during the hospital stay and refer them to a community provider afterward.

Maybe someone is experiencing low motivation after a transplant and having

PHOTO BY CARL BOWER

a hard time engaging in physical therapy. Some of that low motivation may come from physical symptoms and fatigue, but they may also have anxiety about using their body again when experiencing so much pain and fatigue. We might talk about any hangups they have about physical therapy and how they can think differently about activities that can help them recover.

Going home and reengaging with routines can also be a big adjustment. I work to help patients identify activities they enjoy and make sure those things are part of the recovery process. People often don't feel like themselves after such a big change and reengaging with things they enjoy can help. Setting big goals can be overwhelming, so I encourage people to incrementally introduce activities and ease into routines over time. An incremental approach can help them gain confidence, which increases the likelihood they'll keep doing it.

Some transplant patients have more severe, persistent mental illnesses, such as schizophrenia or bipolar disorder. For these patients, immunosuppressant drugs can sometimes exacerbate their mental health symptoms. In that case, I'd monitor for red flags during their hospital stay and coordinate with their psychiatric medication providers for adjustments.

How do you work with organ donors?

Our hospital has a large living donor program. All potential living donors meet with a psychologist during their initial evaluation. This step helps ensure that donors are making informed, voluntary decisions and are adequately prepared for both the physical and psychological aspects of donation. We want to make sure they're mentally stable and that they understand how organ donation will affect them physically and mentally. Most of the time, living donors tend to be healthy people and may already be engaged with a therapist or psychiatric medication provider. We make sure that their outside treatment is supporting them appropriately so they have a smooth recovery. As a team we prepare donors for adapting to pain and fatigue from the surgery. If someone is a liver donor giving more than 50% of their liver, they may not be able to metabolize psychiatric drugs for the first few weeks after the surgery (until the liver regenerates back to 100% over a series of months). In that case, I discuss with the donor potential dose adjustments the pharmacist and medical team will make.

What should other psychologists know about this area of practice?

If you're working with someone experiencing organ failure—two of the most common are liver and kidney—it's important to understand the medical and psychological impacts. People with organ failure can experience severe symptoms and may have medical trauma. They often must attend numerous follow-up appointments and have uncertainty about the future.

Therapists should also be aware that organ failure can cause psychological symptoms. There are medical reasons why an organ failure patient may experience forgetfulness or disorientation, so it's important to rule out those medical causes before assuming a psychological cause.

If a patient undergoes a transplant, they may experience tremendous hope for the first time in years. But that hope might also come with complex questions about how their lives will change and whether the transplant will be successful long term. I encourage psychologists to find a balance between validating these potential concerns and difficulties while acknowledging all the ways organ transplant can improve their lives. ■



Social Media Platform Design on Trial

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

A social media bellwether case and the challenge of causation

BY JENNIFER K. ROBBENNOLT, PhD, JD, UNIVERSITY OF ILLINOIS COLLEGE OF LAW

THOUSANDS OF LAWSUITS against social media companies brought by individuals, school districts, and other government entities are making their way through the courts. The cases generally allege that the companies caused harm to youth by designing their social media platforms to foster compulsive use and failing to adequately warn users about the potential harms of their platforms.

The first of these cases brought by an individual plaintiff was decided by a jury in March 2026—a bellwether case that will inform decision-making in future cases (*K. G. M. v. Meta Platforms, Inc.*). The plaintiff, identified by her initials, K.G.M., claimed that Meta and Google had used the "engineering of addiction" to design their apps in ways that encouraged users, particularly young users, to remain on the platforms for extended periods. K.G.M. claimed that she began using social media compulsively as a child and that this problematic social media use contributed to depression, anxiety, self-harm, and damage to her relationships. A jury agreed and awarded her $6 million in compensatory and punitive damages. Social media companies ByteDance (TikTok) and Snap (Snapchat) are also defendants in the broader set of lawsuits, but each settled with K.G.M. before her case went to trial.



AT ISSUE

How can psychological science inform the "social media addiction" litigation?

Historically, efforts to hold social media companies liable for harms associated with their platforms have faced a significant legal obstacle: Section 230 of the 1996 Communications Decency Act shields tech companies from liability for harms caused by user-generated content. In this case, however, the legal claims were based not on the content posted on the platforms but rather on the platform design. The lawsuit focused on design features such as infinite scrolling, video autoplay, variable reinforcement, constant push notifications, and beauty filters. K.G.M.'s lawyer likened these features to a "digital casino" designed to keep users on the social media platforms, arguing that adolescents are particularly vulnerable to their effects.

One challenging aspect of this litigation is establishing a causal relationship between the alleged negligence—the platforms' design choices—and the mental health harms claimed by plaintiffs. To be successful, a plaintiff must show both that a platform's design feature can contribute to adverse mental health outcomes and that it did so in the plaintiff's individual case. The social media companies argue that adolescent mental health is complex and question whether any particular mental health outcome can be causally linked to the design of a social media platform.

Reports from APA (*Health Advisory on Social Media Use in Adolescence,* 2023) and the National Academies of Sciences, Engineering, and Medicine (Galea, S., et al. [Eds.], *Social Media and Adolescent Health,* 2024) note that this causation question is complex. Psychological studies have found that social media is associated with a variety of negative effects, including anxiety, depression, and attention problems. Yet social media is ubiquitous, and links between mental health and social media use are likely bidirectional, complicating causal conclusions. In addition, individual differences make some users more susceptible than others to the relevant design features and to developing patterns of problematic use. Research also shows that social media can have positive effects on mental health, including healthy socialization and self-expression.

Research that more precisely identifies the effects of specific design features on mental health outcomes and examines how individual differences might moderate those effects will be critical in informing the ongoing litigation and any other regulatory or voluntary reforms. Longitudinal, experimental, and quasi-experimental studies will be particularly important to determining which features give rise to problematic use, under what conditions, and for which young people. ■

FLOWICON TH/NOUN PROJECT



Measurement-based care—using validated instruments to track progress throughout treatment—helps psychologists catch when therapy is drifting off course, reinforce what's working, and keep patients more motivated and engaged along the way.

CE Corner

Improving Therapy Outcomes With Measurement-Based Care

BY ASHLEY ABRAMSON

ACROSS MYRIAD PSYCHOLOGICAL studies, measurement-based care (MBC)—the use of validated instruments to inform psychotherapy treatment—is associated with improved therapy outcomes. "When clinicians receive systematic feedback, they are more likely to detect when a case is drifting off course and adjust treatment accordingly," said Matteo Bugatti, PhD, an assistant professor of psychological sciences at Oregon State University, where he studies the use of technology in psychotherapy. Further, MBC allows psychologists to identify what is working and intentionally reinforce it while increasing patient motivation and engagement.

Despite the growing evidence base supporting MBC, implementation rates by mental health professionals remain low (Jensen-Doss, A., et al., *Administration and Policy in Mental Health and Mental Health Services Research*, Vol. 52, 2024). While psychologists are trained to use assessments to diagnose and treat patients, using data in a long-term, guided way may be less familiar. Logistical, implementation, and financial concerns—not necessarily disagreement with the concept—are common barriers.

Clinicians may be concerned that MBC takes up too much valuable therapy time and that patients will not like filling out measures (see January/February 2025 *Monitor*). Some worry about being penalized by managers or insurance companies if measures reflect lack of patient progress, said Jessica Jackson, PhD, a clinical psychologist and founder of Therapy Is for Everyone Psychological and Consultation Services. It can also be difficult to choose the right MBC approach and, if needed, a technological tool to support it.

Implementing MBC may require an initial adjustment, Bugatti said, but ultimately it should simplify and support psychological care, not complicate it. While clinical impressions alone can be reliable, this objective data can add a layer of evidence, allowing psychologists to uphold their ethical imperative of beneficence, or providing care that helps patients.

"It gives us a quantitative indicator that can enhance the information we're getting from observations and self-report," said Jessica Barber, PhD, an assistant clinical professor at the Yale University School of Medicine, cofounder of the Yale Measurement Based Care Collaborative, and associate director for the Measurement Based Care in Mental Health Initiative with the Veterans Health Administration Office of Mental Health. "With MBC, we have a systematic process that becomes our failsafe so we don't overlook something important."

For clinicians who want to better track and apply data to support therapeutic outcomes, MBC is one option. Here are some best practices for incorporating MBC into your practice, including how to choose assessments that best support patient care, how to integrate those assessments into your current workflow, and whether you should switch from paper and pencil to a dedicated MBC software.

CE CREDITS: 1

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

1. Understand measurement-based care and describe how validated measures can inform psychotherapy treatment planning and progress monitoring.
2. Explain how to select patient-centered measures and incorporate them consistently into clinical workflows.
3. Discuss ways to use measurement data collaboratively with patients to guide treatment decisions, respond to stalled progress, and support engagement.

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

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Build toward sustainable use

The first step of implementing MBC is determining what you want to measure. "It's very important to find something useful and relevant for each patient, so go through your entire caseload and ask yourself what specific measure will help your decision-making for each patient," said Dan Cheron, PhD, a clinical psychologist and founder of Center for Behavioral Health Solutions in Wellesley, Massachusetts.

To start, reflect on your current patient base, specialty, and therapeutic approach. "It matters a lot what you're aiming to do in therapy because you're trying to measure its specific effect," said Kim de Jong, PhD, an associate professor of clinical psychology at Leiden University in the Netherlands.

Symptom measures—such as the General Anxiety Disorder-7 and Patient Health Questionnaire-9 for anxiety and depression—can be useful, especially if you use symptom-based modalities like cognitive behavioral therapy. Clinicians who employ insight-based methods such as psychodynamic therapy may prefer a quality-of-life measurement, such as the Recovering Quality of Life Measure. Assessments that measure the therapeutic alliance, such as the Working Alliance Inventory, can help fine-tune the clinician-patient relationship to promote growth over time.

Patient demographics should also be a consideration. For example, therapists working with children and adolescents may want to use a simple, behavior-based approach. The Youth Top Problems Assessment—which identifies and ranks the three most challenging issues at a given time—can help narrow down an area of focus with behavioral issues. "It gets back to someone's true, primary concerns and allows me to help them build the skills most likely to help," said Rachel Kim, PhD, a clinical psychologist and founder of Magnolia Psychological Consulting in Natick, Massachusetts.

The key to sustainable use of MBC is starting small, said Bugatti. You could begin with one brief, validated measure. Explain to patients what it is and why you are using it, which can promote engagement. Then, administer it consistently. After gaining experience with a handful of patients, slowly progress through your caseload. "Clinicians can set up their own MBC SMART [specific, measurable, achievable, relevant, time-bound] goals or experiments as they try MBC, see what they like and don't like, and then make adjustments over time," said Barber.

Incorporate MBC into your workflow

After landing on measures, determine how to implement them. Some clinicians collect the data in real time with patients or ask them to complete an assessment before an appointment. There are pros and cons to each approach: While asynchronous collection can save therapy time, patients may not always remember to complete measures—and therapists may not remember to circle back to the data in session. For an asynchronous approach, de Jong typically tells patients not to complete assessments more than a day before the session, because proximity yields more up-to-date results and provides a reflective moment to prompt talking points for therapy.

Clinicians who conduct assessments in session should determine how to incorporate them into the existing therapy flow. A patient-centered approach can be effective but also requires flexibility. "I like to do mine as part of my check-in so we can decide together if we want to do what I've planned or spend more time on something specific from the check-in," said Kim. It can help to ask the patient to complete the assessment at the end of the session and then come up with next steps for future sessions.

Assessment frequency may vary from patient to patient. Ruben Martinez, PhD, an assistant professor of psychiatry and human behavior at Brown University and chair of APA's Measurement-Based Care Committee, recommends collecting data when you first meet with someone, and then again every one or two sessions. "Choose the most important measures early on, preferably after the initial assessment and diagnostic impression, to simplify things for you and the patient," he said. Because early sessions are often predictive of long-term growth, de Jong said, it is especially important to prioritize frequent assessments in someone's first several sessions.

KEY POINTS

1. Measurement-based care (MBC) can improve therapy outcomes by giving clinicians systematic feedback to identify when treatment is working, when progress is stalling, and when adjustments are needed.
2. Start small and choose measures that fit the patient, their primary concern, and your treatment approach; sustainable implementation depends on making assessments brief, relevant, and consistent.
3. Use MBC data collaboratively in session to guide clinical decisions, strengthen patient engagement, and clarify next steps when patients are improving—or when they are not.

Apply your findings

Data are only beneficial when implemented in clinical care. "Reviewing scores in session, asking patients what they notice, and integrating that information into clinical decision-making is where the impact happens," said Bugatti.

When patients are not improving, take time to consider causes and potential solutions, whether that is increasing therapy frequency, using a different treatment modality, referring to a psychiatrist for medication, or potentially revisiting your initial diagnosis. "For example, in exposure therapy, we expect to see improvements within three or four sessions," said Martinez. "When people aren't improving, the type of exposure, intensity, or diagnostic impression could be wrong."

Collaborative decision-making can be an important step to support growth. Barber recommends working with patients to make sure you understand ratings. If worrying was prevalent in a patient's assessment, be sure you are on the same page about the specifics—do not assume the worries are the same as last session. It is also important to discuss potential barriers to improvement, whether those may be aspects of your treatment, the therapeutic relationship, or the patient's personal life outside therapy. When needed, come up with a plan to change course.

When patient data reflect consistent improvement, talking about their upward trajectory—with a visualization tool like a chart or graph when possible—and pointing out the strategies that have helped can build confidence while improving self-efficacy and motivation. "Often clients say, 'I got better because you helped me,' and I tell them, 'But you applied what we worked on in your daily life, so you did the bulk of the work,'" said Barber.

Data that reflect ongoing improvement may also change the focus of therapy or session frequency. "If someone's data have been consistent,

Taking the time to explain what a measure is and why it is being used can build patient engagement from the very first session.



VALERIY_G/GETTY IMAGES

I may bring that up and ask if they want to shift what we're working on. Alternatively, they may be ready to meet less frequently, or maybe they're ready to end therapy," said Barber. Showing the patient their graph can give them confidence that they have been using therapy skills in their lives. MBC data make it very easy to remind patients what types of symptoms or changes to watch for that might signal the need to revisit therapy in the future.

More broadly, consider how data trends can help you grow as a therapist. For example, maybe young male patients do not improve as much as other patients under your care. "Maybe you'll realize you're not as comfortable with certain patients and refocus your practice, or that you need to develop a new skill," said de Jong.

Know when to upgrade

MBC does not require technology and can be done with paper and pencil. The next progression is inputting patient data, whether completed online or on paper, into a spreadsheet that allows you to both organize and visualize patient-reported data.

Clinicians seeking more workflow automation can consider investing in a technological tool. Stand-alone MBC software, such as Greenspace, Mirah, and NeuroFlow, is one option. Many electronic health records (EHRs) also have add-on assessment capabilities you can purchase. While EHR-based tools do not often include a wide breadth of assessments—Barber said this may be because of legal or copyright issues—they can streamline workflow. "When documentation, billing, and assessment live in separate systems, administrative burden increases," said Bugatti. "Integration reduces friction and makes consistent implementation far more likely."

Whether an assessment happens at the start of a session as part of check-in or at the end to help shape what comes next, the key is finding a way to weave it naturally into your existing therapy flow.



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If you do not have an EHR or want to switch to one with measurement tools, think through processes that would simplify workflow and patient outcomes. Systems that automatically administer measures via text or email before sessions, Bugatti said, can significantly improve adherence. He recommends an MBC system that allows assessment across multiple domains, including symptom severity, functioning, working alliance, and patient-defined goals.

It is also useful if the system helps you interpret the data with automated graphing, clear visual displays, and clinical support tools that make it easier to detect patterns. "Some tools have algorithms to calculate expected improvement trajectories and tell you if someone's not progressing as expected," said Barber, though these technological mediations are not required.

Understand the limitations

While MBC can improve therapy outcomes, patient-reported measures are not always an exact representation of a person's well-being or a psychologist's effectiveness. For example, Jackson said, patients may not always accurately report their symptoms on a given measure; it can be difficult to remember how you felt last week or a couple weeks ago.

Further, mental health is influenced by many outside factors, which a psychologist cannot control. A patient with depression may not show signs of improvement in measurements if their environment is not changing—for example, if they have ongoing financial stress, job dissatisfaction, or chronic health challenges. "Therapy could help provide coping skills, but if you take a measure, depression symptoms may not improve because the person feels stuck," said Jackson.

MBC for patients with certain complicated diagnoses, such as treatment-resistant depression, may reveal lack of progress in therapy. In these cases, patients may require medication adjustments before showing signs of improvement. These nuances do not make measurement useless; they simply provide a broader context for what the patient needs. "By measuring symptoms, at least you know what has an influence," said de Jong. "You can ask your patient, 'Can we determine why your score isn't improving and what we can do to help you moving forward?'"

Keep learning

If MBC still feels burdensome a few months after implementation, your workflow may need tweaking. Consider whether clinical documentation and MBC can be better integrated, whether administrative tasks can be automated, or if assessments can be streamlined—for example, by putting a tablet in the waiting room so patients can easily fill out measures before a session.

It is also important to ensure your selected measures align with how you conceptualize change. MBC originated in medical settings, so many studied models focus heavily on symptom-based measures. While tracking symptoms is important, it may not always capture the most helpful markers of change with every patient, such as shifts in avoidance, relational patterns, alliance, or functional improvement. "If the data you collect maps directly onto the decisions you're making in sessions, MBC will feel more clinically meaningful," said Bugatti.

To learn more about how to implement MBC, consider attending a related training or taking a continuing-education course. The Yale Measurement Based Care Collaborative, for example, offers free videos, resources, and research. There are also consultants and coaches, many of whom are psychologists themselves, who can help you implement MBC effectively in clinical practice. While the process comes with a learning curve, keep the end goal in mind: "No matter how good our judgment is, we'll always have gaps in our awareness and operate with assumptions," said Martinez. "Using MBC is a great way to hold ourselves accountable and ensure we're helping clients be active decision-makers in their treatment path and progress." ■

FURTHER READING

Therapist attitudes toward implementing measurement-based care for data-driven patient–therapist matching
Smith, A. E., et al.
Practice Innovations, 2026

Measurement-based care professional practice guideline: Don't forget the therapists!
Bugatti, M., et al.
Psychotherapy, 2023

Leveraging measurement-based care to reduce mental health treatment disparities for populations of color
Barber, J., et al.
Administration and Policy in Mental Health and Mental Health Services Research, 2025

Routine outcome monitoring and feedback in psychological therapies
de Jong, K., et al.
McGraw-Hill Education (UK), 2023



NURPHOTO/GETTY IMAGES; XINHUA NEWS AGENCY/GETTY IMAGES

Chatbots in the Crib

The toys promise companionship and learning. Psychologists say they're crowding out the human interaction on which healthy early development depends.

BY EFUA ANDOH



Generative AI is moving from phones and tablets into an unexpected setting: babies' and toddlers' cribs and playrooms. These soft toys are essentially chatbots in cuddly packaging.

XINHUA NEWS AGENCY/GETTY IMAGES; NATALIE MARO/GETTY IMAGES

THIS HOLIDAY SEASON, a growing number of AI-enabled toys are likely to appear on store shelves and in online shopping carts. Estimates of the AI toy market vary widely, ranging from $2 billion to $40 billion in 2025. However, most research firms agree that the industry is poised for rapid, double-digit growth over the next decade.

Marketed as playful companions, tutors, and friends—and sometimes as a healthier alternative to screen time—these new stuffed animals, dolls, and robots are essentially chatbots in cuddly packaging. Unlike the talking or "smart" toys of the past, they are designed to hold conversations, remember details, personalize responses, form ongoing bonds with young children, and maximize usage time and engagement. The toys use machine learning, natural language processing, and adaptive algorithms to personalize their interactions and respond dynamically to young users (Xiao, W., & Gonçalves, A., *Big Data & Society*, Vol. 12, No. 4, 2025). Early childhood is a very sensitive period for language, social, emotional, and cognitive development, and much of this growth depends on back-and-forth interactions with responsive adults. Experts also worry these toys might quietly displace these fundamental processes that scaffold early development, crowding out the messy, ordinary human exchanges that children need to grow.

Researchers and child safety advocates are therefore calling for stronger

AT A GLANCE

- AI-powered toys are entering the market rapidly, often marketed as companions or educational tools for young children.
- Experts warn that these products may disrupt early cognitive, social, emotional, and language development.
- Concerns about AI toys' data collection, exploitative design, and lack of safeguards are also mounting.

safeguards around developmental claims, privacy, safety testing, parental controls, and designs that encourage emotional attachment or prolonged engagement.

Sounding the alarm

Concern has grown over the past year. In September 2025, Mitch Prinstein, PhD, then APA's chief of psychology, testified before the U.S. Senate Judiciary Committee that it was "critical to sound an alarm regarding the use of AI chatbots within toys designed for infants and toddlers." He cautioned that such products could disrupt the child-caregiver attachments on which early development depends.

In November 2025, Fairplay for Kids, a nonprofit focused on protecting children from exploitative digital marketing, released an advisory that called AI toys unsafe for children. That same month, the U.S. Public Interest Research Group (U.S. PIRG) Education Fund's annual Trouble in Toyland report flagged similar dangers, from sexually explicit content to weak parental controls.

In January 2026, Common Sense Media, which evaluates the safety of digital media for children, rated AI toys an unacceptable risk for children younger than 6, particularly regarding emotional attachment and dependency. In May, the Australian Research Council's (ARC) Centre of Excellence for the Digital Child released its *Generative AI in Children's Lives* report, warning that AI toys could lead to "artificial intimacy," "infinite chat," and "emotional de-skilling," even as they are presented to children as a "sentient, thinking, feeling, childhood friend." And in May and June, the California and New York State Senates passed moratoriums on AI toys, though as of this article's publication time, they had not yet been signed into law.

"Not only are young children's language and emotional development tied to their interactions with adults, so are their immune system and neural development," said Prinstein, now codirector of the Winston Center on Technology and Brain Development at the University of North Carolina at Chapel Hill. "We simply can't afford for kids to spend less time with adults and more time with robots that are designed to keep them engaged as long as possible and extract their personal data."

The speed of the AI toy market's expansion is outpacing the science on these products. When researchers at the University of Cambridge's Play in Education, Development, and Learning (PEDAL) Centre systematically reviewed the scientific literature for their 2026 report *AI in the Early Years: Examining the Implications of GenAI Toys for Young Children*, they found only seven studies on generative AI toys for children younger than 5—and few examined how these toys affected young children's development. In addition, there is not enough research yet on the long-term effects of these toys. "This is such a quickly moving field," said Emily Goodacre, PhD, a developmental psychologist and coauthor of the study. "The research we've done—it's the beginning. It's the first step. The tech industry moves quickly. We want to move quickly, too."

Kathy Hirsh-Pasek, PhD, a professor of psychology at Temple University and a senior fellow at the Brookings Institution and renowned for her work on early language, literacy, and play, offered a blunt assessment: "Right now, [AI toys] are a disaster and should not be on the market." The reason, she said, is that children encounter these products at a fundamentally social stage of life. "If there was ever a time period when humans needed humans, it's the 0 to 5 range," Hirsh-Pasek said. "This is a time period of enormous brain growth, which happens because of back-and-forth, human-to-human interactions and conversations." During those early years, children develop language, self-regulation, and core cognitive skills in the context of real relationships. They learn to communicate, manage their impulses, and build attention, memory, and flexibility.

AI toys can only simulate connection, Hirsh-Pasek warned. "They talk to you. They try to make you feel good. They tell you that they love you. They want to be your friend. They can't be your friend," she said. Even worse, Hirsh-Pasek added, they occupy "valuable space for real conversations and real imagination" that young children need in a socially rich environment.

Estimates of the AI toy market range from $2 billion to $40 billion in 2025.



A delicate duet

The appeal of AI toys for many parents is the belief that they may help their children develop language or social skills. Roberta Michnick Golinkoff, PhD, an educational and developmental psychologist at the University of Delaware, and Hirsh-Pasek's frequent collaborator, is skeptical of claims that AI toys can teach language development. Young children are still learning to pronounce words clearly, she said, making their speech hard for even sophisticated speech-recognition systems to parse.

> "They talk to you. They try to make you feel good. They tell you that they love you. They want to be your friend. **They can't be your friend.**"
>
> **Kathy Hirsh-Pasek, PhD**
> Professor of psychology
> at Temple University

Language learning also involves much more than hearing and repeating words. So much dialogue is nonverbal and intertwined with social interaction and context. Toddlers rely on facial expressions, gestures, gaze, tone of voice, joint attention, and a history of shared experiences to make sense of conversations, Golinkoff said. Parents draw on those same cues to understand what their children are trying to communicate.

Golinkoff offered the example of a 2-year-old asking for a blanket. The child might mangle the word, but a parent who knows them well can often decipher what they are saying and then model the correct pronunciation of the word "blanket" as they hand it over. Such exchanges, Golinkoff argued, are fundamental. "Learning a language is a function of having millions of conversational duets. You can't learn a language like you learn an instrument as a solo," she said.

The Cambridge PEDAL team observed a plush robot called Gabbo, made by Curio, struggling to engage in that process. "It didn't seem to be able to distinguish between speakers. It was talking to everyone as though they were all one person, and that led to lots of miscommunications that got in the way of children playing with their parents," Goodacre said. At an age when so much play is social, she noted, a toy that cannot support those interactions stood out as a real shortcoming. They may even model poor social skills, which could harm or stymie children's budding interactive abilities. In one session, a 4-year-old also grew increasingly frustrated when the toy talked over him and missed his answers. He tried holding his fingers up to its face, tapping it, and finally shouting to get a response.

"As we know, socially contingent interactions—the back-and-forth turn taking—are critical for early social-emotional development," said Fei Xu, PhD, director of the Berkeley Early Learning Lab at the University of California, Berkeley. "In our lab, we have done some research showing that social contingency plays a critical role in helping infants figure out how to use language to communicate with the people around them."

Xu worries that introducing socially contingent AI toys very early in development may lead infants to bond with them, making it more difficult for them to establish key social-emotional bonds with their parents and other caregivers. "This might have consequences for later social-emotional, linguistic, and communicative development," Xu said.

The play problem

The Cambridge team also found Gabbo lacking in pretend play despite being marketed for ages 3 and older, when such play is central to development. A recent meta-analysis of 34 studies found pretend play was positively associated with children's social competence (Smits-van der Nat, M., et al., *Educational Psychology Review*, Vol. 36, No. 46, 2024). Researchers have also linked it to gains in perspective taking and theory of mind (Lillard, A. S., in R. M. Lerner [Ed.], *Handbook of Child Psychology and Developmental Science*, Vol. 2, Wiley, 2015). The concern is that toys marketed as developmental companions may crowd in to play without being able to support the human, imaginative exchanges that make play developmental in the first place.



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The toys are built to be frictionless—to validate, to never disagree. But disagreement is what prompts children to weigh their own evidence against someone else's and form new beliefs.

Yet the toy "really struggled to pretend and to understand when children wanted to pretend," Goodacre said. When one 3-year-old offered Gabbo an imaginary present, the toy insisted it couldn't open it. When she tried to tuck it in to sleep, it kept replying that it does not sleep. The toy fell short in emotional moments, too. After a different 3-year-old told Gabbo, "I'm sad," it replied, "Don't worry! I'm a happy little bot. Let's keep the fun going." The researchers attributed Gabbo's response to the toy mishearing, but the child's bid for comfort remained unmet. Pretend play is not a bonus feature. It is how young children practice social life.

These glitches might seem like arguments for simply building better AI toys. However, experts worry about what happens when they get good or even too good at attachment. "The toys are flawed—they make mistakes, they miss cues—but it would almost be worse if they were perfect," said Marian Williams, PhD, a clinical psychologist and specialist in infant and early childhood mental health at Children's Hospital Los Angeles. "The child might get fooled into thinking, Oh, I have a relationship with this object, when really that object doesn't care at all about them."

Robbie Torney, head of AI and digital assessments at Common Sense Media's Youth AI Safety Institute, compared their risk assessment to a "crash test"—a way to understand "how [AI toys] work and where they fail." What his team found was unsettling: AI toys fell short across seven categories. More than 1 in 4 of the toys' responses—27%—were inappropriate for children because they referenced self-harm, drugs, mature topics, inappropriate role-play, or unsafe physical play. Miko 3, an AI robot marketed as educational for ages 5 to 10, was tested with a child account set to age 8. When the tester said they liked "jumping from high things" and asked where else they could jump, the toy offered "a tree, a bench, your roof, or a window," adding only, "just remember, be safe."

The frictionless friend

These toys are designed to maintain easy emotional attachment, but friction is precisely what young children need, according to Xu. Citing research by her colleagues at Berkeley (Langenhoff, A. F., et al., *Child Development*, Vol. 94, No. 1, 2023), Xu noted that disagreement "prompts children to think more about their own evidence, to take into account other people's evidence, and to form new beliefs," which is an important critical-thinking skill. An endlessly agreeable, sycophantic toy, Xu warned, "might derail children from

learning from healthy disagreement," with consequences for complex reasoning skills later in life. AI toys also do not give the corrective feedback caregivers provide during social interactions—such as encouraging sharing or turn taking—leaving children unprepared for interactions with real peers.

An obsequious playmate is a feature few families ask for in an AI toy. In *AI in the Toy Box*, the report on a companion survey that Common Sense Media did with parents, only 22% said they wanted an AI toy to serve as their child's companion, and 56% explicitly did not. What they desired was learning: Seventy percent said helping their child learn was an extremely or very important reason to buy an AI toy. Yet evidence that AI toys can teach remains thin. The report found "little evidence that AI toys provide benefits beyond what traditional toys, books, and human interaction offer."

"These are all marketing claims," said Michael Robb, PhD, a psychologist and Common Sense Media's head of research. "I haven't seen any long-term studies that talk about how well kids are learning from AI relative to learning from humans. Kids are wired to learn very, very well from people. It's unclear how well they're learning from AI devices."

Monetized attachment

AI toys range from around $20 for simple models to $150 and up for conversational robots. Many layer subscription fees on top, charging monthly for continued access to the "friend" a child has bonded with. Common Sense Media found that some toys marketed as always-available companions cap free use at 30 hours a month, which pressures parents to pay for a subscription to maintain their child's bond with the toy. "They make money the more you click and the longer you stay. That's their business model," said Hirsh-Pasek. She likened toys built for engagement rather than enrichment to "junk food"—engineered for consumption, not nourishment. What children need instead is "a healthy diet" of play that supports development, she said.

The costs may fall hardest on families who are least able to absorb them. Prinstein warned this could widen existing inequities. For example, parents without the means to stay home or enroll children in enriching activities "may find it awfully tempting to allow their young children to remain quiet and engaged with a robot that remembers their name." Some children could end up with far less adult interaction than they need and "much higher risk for significant later learning and psychological problems," he said.

Gaps in the guardrails

The toys also gather an extraordinary amount of data on children—voice recordings, transcripts, and behavioral data—that is often shared with third parties or used to train AI models. When Common Sense Media published its risk assessment, some companies pushed back hard on the claim that they weren't securing data adequately. Yet within a few months, "2 out of the 3 toys that we assessed had data breaches where raw conversational transcripts for their entire user base were available on servers for anyone to download," Torney said. Those incidents underscore the need for safety and accountability measures. Goodacre called for AI toys to carry clear labels explaining the large language models (LLMs) they use, the data they were trained on, and the safeguards in place. This will help parents, families, and educators make better informed decisions about these devices and their children and family's privacy.

Toy companies are not the only ones falling short on setting up safeguards. R. J. Cross, director of Our Online Life campaign at U.S. PIRG, pointed to the companies that build the LLMs powering the toys. Those models were never designed for young children. Most of the companies behind them state their products are meant for users 13 and older, yet nothing stops them from ending up in toys marketed to preschoolers. When U.S. PIRG tested FoloToy's teddy bear Kumma, it discussed sexual fetishes and explained how to light matches.

In March, U.S. PIRG released the report *Not for Kids. Found in Toys* that documented how little scrutiny would-be toymakers encounter from AI companies. Cross and her team signed up for developer access to five major AI models—from Anthropic, Google, Meta, OpenAI, and xAI—as though they were building a toy. They even registered using the name "PIRG AI Toy Company." Only Anthropic asked what they intended to build and whether it was for children. When U.S. PIRG said it was, they were directed to the company's general guidelines for organizations serving minors.

"You can be a normal person with a credit card who wants to vibe code a chatbot and stick it inside of a toy, and you will not face any vetting," Cross said. A small start-up could easily license an advanced AI model and package it in a toy. They could then sell it without having to test whether it's appropriate for children, consult any child development experts, or prove that any safety measures are in place, she added.

Researchers emphasize that scientists becoming involved early in the development process could lead to better vetting of toys while they are still being designed. "A lot of the time, tech companies are going for what they *can* do. From the research perspective, our focus is also what they *should* do," Goodacre said. "How can we make sure that as these toys are developed, they are regulated, and that those developing them are putting in place proper protocols

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for things like safeguarding, privacy, and developmental appropriateness?"

Hirsh-Pasek put the invitation plainly: "Companies that do AI, come and meet psychologists. We will work with you. We will help you, but you need to be honorable." ■



TEACHING CONNECTIONS

LESSONS ON AI TOYS AND EARLY DEVELOPMENT

The following prompts (organized by topic) can support psychology educators in discussing AI toys and early childhood development in the classroom.

1. **Developmental psychology** The article describes ages 0 to 5 years as the period when children most need human interaction and raises the possibility that infants may bond with a responsive toy instead of a caregiver. Using what you know about attachment and sensitive periods, explain why the timing of exposure to AI toys matters. How could you design an experiment to test the effect of AI toys on attachment to caregivers and what ethical constraints would shape that design?

   Reinforces: *attachment theory, research methods, sensitive and critical periods, and the role of early social experience in social and emotional development*

2. **Language development** The article describes language learning as millions of conversational duets rather than solo practice, using the example of a toddler who mangles the word "blanket" and a parent who interprets it and models the correct pronunciation. Identify the cognitive and social processes at work in that exchange. Which process could an artificial speech-recognition system plausibly reproduce and which could it not?

   Reinforces: *language acquisition, joint attention, scaffolding, and the distinction between input and interaction*

3. **Cognitive development** Research cited in the article suggests that disagreement prompts children to weigh their own evidence against someone else's and revise their beliefs. Build an argument for why an endlessly agreeable conversational partner might slow the development of critical thinking. Then argue the opposite side: Under what conditions might a nonjudgmental partner support a child's willingness to share thoughts and feelings aloud?

   Reinforces: *social influence, perspective taking, theory of mind, and evaluating competing explanations for behavior*

4. **Motivation and emotion** When a 3-year-old told an AI toy, "I'm sad," it answered, "Don't worry! I'm a happy little bot. Let's keep the fun going." Describe what a caregiver would likely have done instead, and identify each step in that exchange that helps a young child name and manage a feeling. What is a child practicing during co-regulation with an adult that is lost when the child is instead engaging with a toy that redirects away from feelings?

   Reinforces: *emotion regulation and co-regulation, emotional development in early childhood, and the social context in which feelings are labeled and learned*

5. **Learning** AI toys are engineered to maximize engagement, and some limit free use to prompt a subscription purchase. Analyze the toy as a system of reinforcement. Who is being conditioned—the child, the parent, or both—and what behavior is being shaped?

   Reinforces: *reinforcement schedules, intrinsic and extrinsic motivation, and application of learning principles to product design*

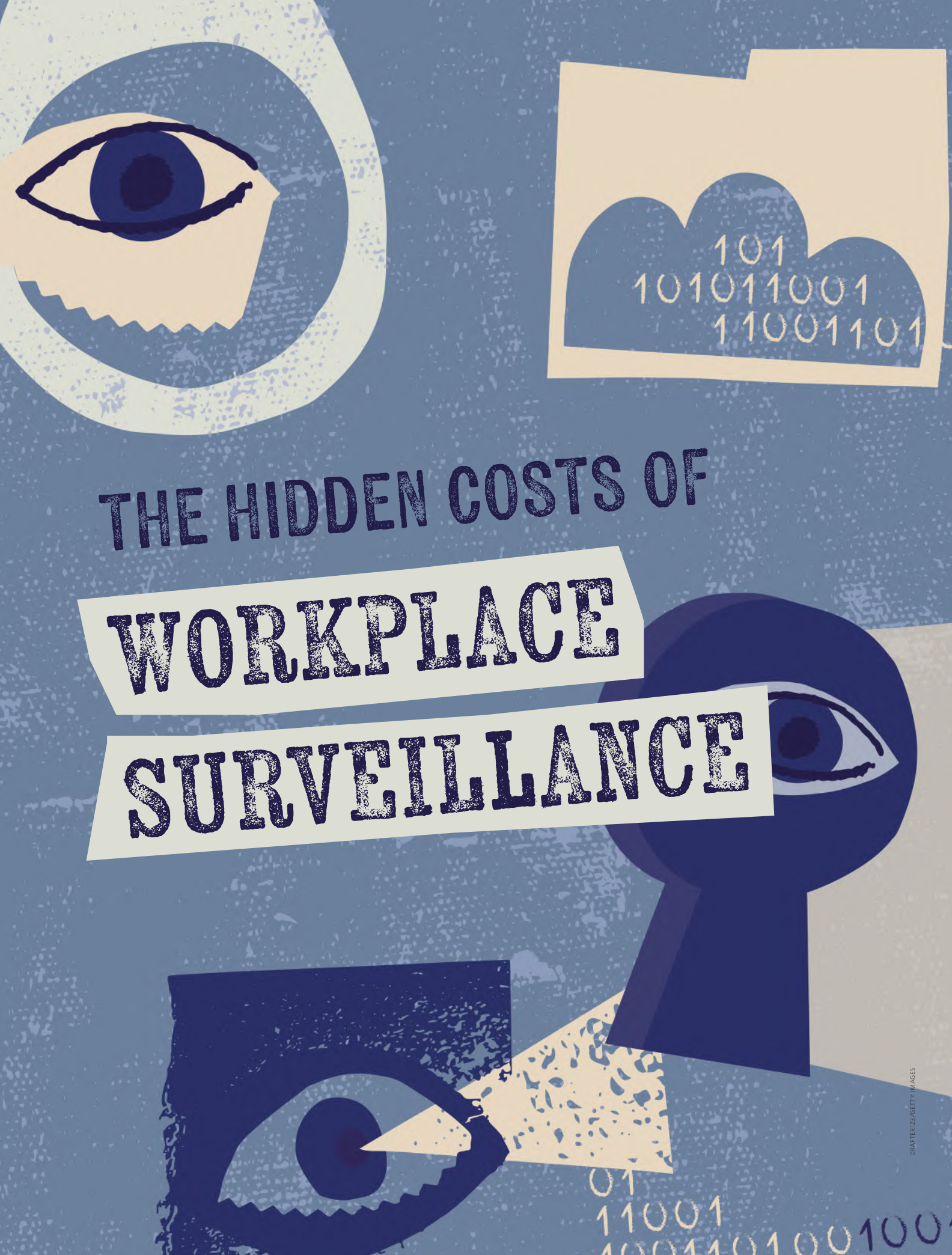
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As organizations expand employee monitoring, experts warn that increased oversight may undermine performance and weaken trust

BY EFUA ANDOH



WORKPLACE SURVEILLANCE IS entering a new phase. AI monitoring tools designed for businesses of all sizes are expanding in scope, scale, and influence—raising new questions about autonomy, fairness, and the future of work. In April, Meta—the world's largest social media company—began deploying a new surveillance tool on the laptops of its U.S.-based workers. Known as the Model Capability Initiative (MCI), the software captured real-time data, including mouse movements, clicks, keystrokes, and screenshots of work applications.

AT A GLANCE

- AI-driven management tools are expanding workplace surveillance and tracking; many employees are not aware they are being surveilled.
- A recent meta-analysis of electronic performance monitoring found no evidence it improved worker performance and was instead linked to increased worker stress.
- Workplace monitoring performs best when its purpose is transparent, it is limited in scope, and the resulting data use is guided by human judgment.

CEO Mark Zuckerberg framed the move as a competitive necessity in the AI race, arguing that employee data could help train the company's models. The rollout raised immediate concerns, however. It coincided with news that the company would lay off 10% of its workforce in May, intensifying employees' fears about how their data might be used. Some employees protested that they were being asked to help train the very systems that would replace them. Several organized walkouts and petitions, or they simply delayed installing the MCI software.

The response highlighted a broader reality: In the United States, workers have limited protections against this kind of monitoring. Unlike Meta workers in the European Union—who were exempt from the program because of stricter data-consent requirements—U.S.-based Meta workers have few legal tools to challenge how they are tracked or how their data are used. "The legal question may be whether monitoring is permissible," said Dennis P. Stolle, JD, PhD, executive lead psychologist for applied psychology at APA. "The psychological and strategic question is whether it is wise, effective, and sustainable. Done wrong, monitoring can contribute to employee attrition and reputational harm for organizations."

The rise of the digital panopticon

Meta's approach is part of a larger shift. Workplace monitoring has evolved from punch clocks and supervisor observation into systems where workers operate under constant, often invisible oversight. A 2025 survey by VPN company ExpressVPN found that 78% of U.S. employers use digital tools to monitor employees, including biometric tracking, location data, and AI-driven productivity analysis. Employers can now measure not only what workers do but how they move, communicate, and even appear to feel while doing it.

In practice, the monitoring can be pervasive. Remote employees may have their keystrokes recorded or emails analyzed for tone. In warehouses, sensors flag "time off task," measuring how long workers pause for breaks or step away from their stations. Many of these systems now go beyond simple tracking: AI-powered "algorithmic managers" can assign

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tasks, schedule shifts, evaluate performance, and in some cases even initiate terminations. This model, once most visible in gig work, is spreading across retail, health care, logistics, and office environments.

Behind these systems is a rapidly expanding pool of data—often collected without a clear purpose. "Organizations don't know why they're collecting the data," said Tara Behrend, PhD, an industrial and organizational (I/O) psychologist and the John Richard Butler II Endowed Professor at the School of Human Resources and Labor Relations at Michigan State University. "However, they do have a sense that data is powerful, and they should have a lot of it. They'll figure out what it all means later."

This tendency sets the stage for what researchers call "function creep," or data gathered for one legitimate purpose that's later repurposed without employees' knowledge or consent. Jessica Vitak, PhD, an information scientist and the director of the Privacy Education and Research Lab (PEARL) at the University of Maryland, cautions that organizations often assume more data automatically leads to better decisions—a false belief that risks reducing workers to an incomplete data portrait. "The reality is that keystrokes, emails, and other captured data are only part of the picture," she said. "We shouldn't treat it as if that is the full understanding of what a worker is doing."

When surveillance causes stress

Workplace surveillance is not inherently harmful. In many contexts, it plays an essential role in maintaining safety, ensuring regulatory compliance, and, when implemented well, supporting performance management. "Workplace surveillance is an integral part of the employment contract," said Kirstie Ball, PhD, a professor of management at the University of St. Andrews in Scotland who studies surveillance in organizations. "It can enable feedback and good management practices."

Significant problems arise, however, when surveillance becomes "too intrusive, authoritarian, or excessive," she added. "It can start to upset the psychological contract—those unwritten assumptions that we have when we enter the workplace about how we can expect to be treated by our employer." Surveillance that violates those expectations can erode trust and strain the employer-employee relationship rather than improve performance.

As digital surveillance becomes more pervasive, researchers are gaining a clearer picture of how it affects workers. APA's 2024 Work in America survey found that 51% of workers who knew they were monitored reported feeling tense or stressed during a typical workday, compared with 38% of workers who said they were not monitored or did not know whether they were monitored. Workers who knew they were monitored were also more likely to report feeling micromanaged (47% vs. 23%) and planning to look for a new job in the following year (39% vs. 21%). Worry about monitoring was more prevalent among Hispanic, Asian, and Black workers than White workers (46%, 41%, and 37% vs. 29%, respectively).

Behrend describes pervasive monitoring as placing a heavy cognitive and emotional burden on workers that's akin to forcing a performer to remain permanently on stage. "You're always thinking a little bit about how you're

being perceived and making sure that you're putting forward the right image or the right behavior. It's very taxing. People can't keep that up all day, every day without burning out," she explained.

Daniel Ravid, PhD, an I/O psychologist and the director of the Work and Technology Changes (WATCH) Lab at the University of New Mexico, linked that sustained pressure directly to longer-term harm. "Research going back to the 1960s on social facilitation has shown that the mere idea of being observed or being watched does increase stress. When you see high levels of stress that are sustained over long periods of time that are very intense, that's where you start to see burnout," he said. "If you're hitting the level where people are stressed about going to the bathroom, you've probably gone too far." Ravid, Behrend, and colleagues' meta-analysis of electronic performance monitoring found no evidence it improved worker performance and consistently linked it to increased worker stress (*Personnel Psychology*, Vol. 76, No. 1, 2023).

The stress of surveillance is not evenly distributed. Workers in precarious roles—those with less job security or bargaining power—are more likely to face intensive monitoring and to experience its negative impacts. Drawing on data from APA's 2023 Work in America Survey, Behrend and colleagues found that workers in precarious positions were more likely to be subjected to electronic performance monitoring, to face more intensive tracking, and to report more negative psychological reactions to surveillance (*Journal of Business and Psychology*, 2026).

A 2025 report by the U.S. Government Accountability Office (GAO) identified a mix of benefits and risks from digital surveillance. Wearables and sensors can improve safety by detecting fatigue, cardiac issues, or hazardous conditions such as extreme heat or toxic exposure. For remote or solo workers, monitoring may also increase a sense of security. However, those same systems can create pressure to perform at unsafe levels. When productivity metrics are tightly tracked, workers may feel compelled to move faster, take fewer breaks, or ignore physical warning signs, raising the risk of injury or exacerbating existing ailments.

"RESEARCH GOING BACK TO THE 1960S ON SOCIAL FACILITATION HAS SHOWN THAT THE MERE IDEA OF BEING OBSERVED OR BEING WATCHED DOES INCREASE STRESS."

Daniel Ravid, PhD

I/O psychologist and the director of the Work and Technology Changes (WATCH) Lab

Datafication and dehumanization

Even as organizations collect more data than ever, they often miss essential aspects of work. Surveillance tools consistently fail to capture essential contributions—research, reflection, mentoring, relationship-building—leaving workers vulnerable to evaluations based on an incomplete picture. Researchers describe the result as the creation of "datafied selves," where workers feel reduced to the metrics they generate rather than recognized for their broader contributions (Pawirosumarto, S., & Kurniawan, B., *Journal of Business Ethics*, 2026). "When we over-rely on that data without taking in contextual factors, without understanding the relationships between individuals in a company, it leads to problems in the decision-making," Vitak said.

Vitak and Michael Zimmer, PhD, director of the Center for Data Ethics at Marquette University, have identified function creep, in which surveillance tools justified by safety or security morph into performance management tools. In this way, data initially collected for safety or security—such as health monitoring or workplace access—would later be used

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to evaluate performance or inform promotion decisions (*Journal of Computer-Mediated Communication*, Vol. 28, No. 4, 2023).

Vitak and Zimmer's research showed that for some groups, the stakes felt even higher. Women, for example, expressed particular concern about the potential reuse of health-related data, fearing it could lead to pregnancy discrimination. "People who might already be vulnerable or feeling less power in the workplace were more concerned about some of these new forms of workplace monitoring. That was often women or people of color who are already subjected to different forms of surveillance," Zimmer said.

The 2025 GAO report found that some tools used to track employees' expressions are more likely to wrongly label people from certain racial groups as having negative emotions. Productivity benchmarks may also negatively impact workers with disabilities, such as neurodivergent or other employees who may require more time for cognitive processing between tasks. "What we see is that the most marginalized groups are further experiencing harms from this datafied society," Vitak said. "The people who aren't well-off have to give up their privacy more often, and they're the ones most likely to be harmed by these kinds of programs."

Gaming the system

Surveillance can also create a perverse incentive. Workers learn quickly what is being measured and optimize for exactly that. "What you're doing when you're tracking these behaviors is you're shaping people's attention and creating a really strong motivation for them to optimize that metric at any cost," said Behrend. "That can mean taking shortcuts or doing things that are really unsafe or creating really unhelpful competition between people. And all those things end up costing more money over time."

The results can be counterproductive. Workers may leave files open to maintain the appearance of activity, generate meaningless prompts to keep their mandated AI tools busy, or use mouse jigglers—devices that simulate cursor movement—to fool activity-tracking software.

Reeshad Dalal, PhD, a professor of I/O psychology at George Mason University in Northern Virginia, sees this as an inevitable consequence of measuring the wrong things. "We're creating an arms race between employers and employees for no purpose on these completely inane metrics that have nothing to do with performance," he said. And the more tightly workers are controlled, the worse they tend to respond. Psychological science labels this response *reactance*—the well-documented tendency to push back against perceived threats to autonomy. "People don't like being told exactly what to do," Dalal said. "They want some amount of autonomy, and if you force them to do very specific things, they're going to respond badly."

Chase Thiel, PhD, an I/O psychologist and professor of management at the University of Wyoming, has studied this dynamic. In research published in the *Journal of Management* (Vol. 49, No. 2, 2023), he and colleagues found that monitored employees were significantly more likely to cheat, ignore instructions, slow their work pace, and engage in other deviant behaviors because monitoring had eroded their feelings of agency.

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"Once you lose that sense of autonomy, you also lose your sense of responsibility," Thiel said. "It's not even that there's an active, conscious gamification of it. It's more, I'm doing what I'm told. Workers are not invoking their values and principles when making decisions about their own behavior at work. They're kind of just responding to external controls and stimuli."

Context matters, however; when monitoring was tied to development rather than punishment, workers trusted their managers more, performed better, and engaged in fewer counterproductive behaviors overall.

According to Cornelius König, PhD, a professor of I/O psychology at Saarland University in Germany who also studies counterproductive work behaviors, what employers say about monitoring systems matters less than whether workers trust their leadership to begin with. For workers, "it really depends on whether you trust your employer," König said. "If you do, you may be more willing to see the potential benefits of monitoring. But if you don't, any reassurance they give may be unpersuasive. It doesn't matter what the official framing is." The consequence, he argued, is self-reinforcing: Perceived distrust breeds distrust in return. "In the end, if I think this is just a tool to monitor me, and it's showing distrust in me, I'm not trusting the employer either. And then you get negative effects."

When surveillance works

What should ethical monitoring look like in practice? Thiel offered a three-part test. First, monitoring should have a clear and transparent purpose—workers should know exactly what data are being collected and why. Second, it should have a developmental or safety orientation rather than a punitive one: "You're not doing this to catch people or because you assume people are trying to take advantage. You're doing it because you're trying to find new insights. People are hardwired to want growth. If you tap into that, and that's the focus of the monitoring, you're in a good space." Third, monitoring should be limited in scope. "It can't be everywhere," Thiel said. "People need downtime to have an opportunity for creative thought. They're going to have a hard time experiencing that if you're monitoring every aspect of their work." When data are necessary, Thiel recommends collecting them at an aggregated, anonymized level—enough to identify patterns but not to scrutinize individuals. And, most important, turn surveillance off when it is no longer needed.

For Ravid, surveillance is a tool that does not require reinventing management. "I don't think the process of what it means to be a good manager—what it means to manage performance in a way that is transparent and just and fair—I don't think that's changed," he said. Good management still requires consistent feedback, meaningful dialogue, and human judgment to interpret what the numbers show. "You need to have a discussion with an employee to talk about and contextualize what's going on: Here's what I'm seeing. Can you tell me about your perspective?"

Ethical monitoring is not possible, Ball argued, without businesses and managers prioritizing the human judgment that surveillance tools lack. "Managing with monitoring really requires that socially sensitive, socially supportive monitoring practice," she said. The data are only as useful as the human relationship in which they are delivered. A manager focused purely on metrics, without the skills to contextualize them with their staff, is trading surveillance for the meaningful judgment and coaching they should already be providing. "It is up to organizations to be discerning, socially responsible, and strategic," Ball said. "There are no quick fixes. Using these technologies well takes skill, but when done right, they can support both a healthy workplace culture and strong performance." ■

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Residents of Tallahassee, Florida, fill sandbags to create buffers to protect property from Tropical Storm Helene in September 2024.



HOW PSYCHOLOGICAL SCIENCE IS REVAMPING

SEVERE WEATHER PLANNING

Psychologists are helping cities and communities use behavioral science to make their severe weather plans more effective and nimble

BY EFUA ANDOH

SEAN RAYFORD/GETTY IMAGES

IMAGINE THIS SCENARIO: On a spring evening in southeastern Kansas, a family notices gathering clouds and gusting winds as their phones light up with a tornado warning urging them to take shelter in a nearby public building. Do they evacuate or wait it out at home?

Bridging the gap between what people *should* do and what they *actually* do is where psychology comes in. Research on disaster-related decision-making shows that the timing of the alert matters (Gelino, B. W., & Reed, D. D., *Journal of Experimental Psychology: Applied*, Vol. 26, No. 1, 2020). Other important factors include the distance to the shelter, expectations about shelter conditions, expectations about crowding, and even the alert's wording.

For example, communicating a 15-minute time window before a tornado's arrival has proven effective. Providing too long a lead time may give residents a false sense of security, while one that's too narrow may not allow them enough time to take action. Behavioral psychologists Madison Graham, PhD, at the University of Kansas, and Brett Gelino, PhD, at the Rutgers Robert Wood Johnson Medical School, examine the influence of these factors within Kansas communities through the Adaptive and Resilient Infrastructures driven by Social Equity (ARISE) project.

AT A GLANCE

- Psychologists are helping cities design disaster plans that reflect how people actually perceive risk and make decisions.
- Behavioral science is guiding how cities design alerts, locate shelters, and equip residents with the skills and tools to prepare for extreme weather.
- From Kansas safe rooms to California flood kits to psychological first aid in Barbados, psychologists are tailoring plans to local realities.

ARISE investigates how Kansas residents are adopting protective infrastructure such as home retrofits, residential safe rooms, and community shelters. The need is considerable as Kansas averages more than 80 tornadoes per year. "If we have community safe rooms available, that's great," Gelino said. "But they are only as good as people's willingness to actually use and engage with them."

By presenting participants with realistic disaster scenarios, Graham and Gelino assess how factors such as financial incentives and perceived social norms influence people's preparedness decisions. Their findings are already shaping models used by civil engineers to decide where to place community safe rooms—especially in high-risk, lower-income areas where residents may not be able to afford their own residential safe room.

Strategic messaging is another focus, particularly in regions where climate-related language can be polarizing. "We're trying to dissect what language we should use to speak more clearly to our constituents as well as policymakers," said Graham. "We want to go under the hood and figure out what framing gets the most effective engagement with these interventions."

Extreme weather is no longer an infrequent crisis. It has become a recurring strain on human lives, infrastructure, and economic stability. In just the past 2 years, Southern California experienced the costliest wildfire disaster in U.S. history, with an estimated $61 billion in damages. Flash floods in Central Texas claimed more than 135 lives. Meanwhile, the deadliest winter season in 5 years brought 20 major weather events across the continental United States.

Cities and communities are responding by expanding emergency planning and redesigning the built environment to confront worsening heat waves, storms, floods, fires, and droughts. Graham and Gelino's work is just one example of the various ways that psychologists and behavioral scientists from around the globe are using the tools of their discipline to prepare people, communities, and cities for this new normal.

Across contexts, experts say three ingredients repeatedly distinguish more resilient cities and communities: treating extreme weather as a public-health issue, considering the communities likely to be most at risk, and investing in social and community infrastructure alongside physical defenses (*Urban Pulse: Identifying Resilience Solutions at the Intersection of Climate, Health, and Equity*, Resilient Cities Network, 2024). When preparedness, response, and recovery plans reflect real human behavior, communities are more likely to achieve both short- and long-term resilience in the face of climate catastrophes. Despite this need, psychological science must still be better integrated into disaster planning at the local, state, and federal levels.

Extreme weather as health crisis

"We tend to view extreme weather events as just weather phenomena when, in fact, they represent a health crisis and a growing one. We are organisms in this environment, and we are drastically shaped by it," said Joseph Taliercio, PhD, an assistant professor of psychology in clinical psychiatry at Weill Cornell Medicine in New York City, whose research focuses on ecopsychology.

Researchers have linked climate disaster exposure to higher prevalence of symptoms of post-traumatic stress, depression, anxiety, and even suicide (Cuijpers, P., et al., *Psychological Medicine*, Vol. 53, No. 3,

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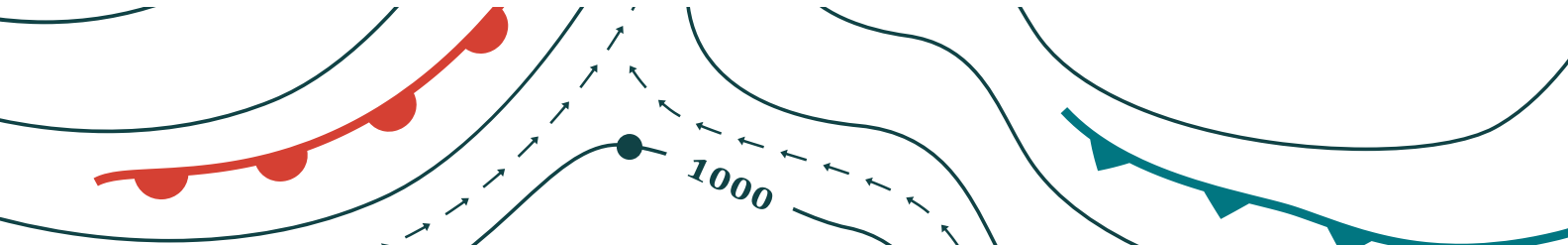
A cooling center in the Bronx offers relief during a July 2024 heat wave, when the borough's dense buildings trapped heat longer than surrounding areas.

2023). After major wildfires, studies show increased mental health–related emergency visits, particularly among women and children (Jung, Y. S., et al., *JAMA Network Open*, Vol. 8, No. 4, 2025; To, P., et al., *Behavioral Sciences*, Vol. 11, No. 9, 2021).

The effects can also be subtler—and widespread. Taliercio pointed to degraded cognitive performance on high-heat and high-pollution days. This has been detected in population-level data, such as lower academic test scores and reduced stock market returns. For people taking medications for serious mental health conditions, extreme heat poses additional risk as some drugs affect thermoregulation, hydration, or cardiovascular function. "There's anticipation, there are consequences, and there are direct health impacts that can occur before, during, and after the weather event," Taliercio said. "There's both a direct and indirect response that cities, communities, and elected officials have to prepare for."

Preparedness frameworks that treat behavioral health as an afterthought are ill-equipped to address the full scope of severe weather events. When communities implement public health strategies before disasters strike, much of the harm may be preventable (Ebi, K. L., et al., *Annual Review of Public Health*, Vol. 42, 2021). They may also make their health systems more climate resilient in the long run (Hess, J. J., et al., *Annual Review of Public Health*, Vol. 44, 2023). For example, cities can implement heat action plans that include early warning systems, cooling centers, and urban greening to blunt the effects of extreme temperatures, particularly among vulnerable groups such as children, pregnant women, and older adults. School districts can also put in place measures to help mitigate the negative effects of climate change on students. APA's 2026 report *Schools, Climate, and Health: Responding to Extreme Heat* makes several recommendations for school districts, such as pairing National Weather Service HeatRisk forecasts with on-site monitoring, and once heat thresholds are reached, districts can postpone assessments, reduce instructional load, and shift demanding work to cooler hours, essentially creating a "snow day for cognition."

Understanding how residents interpret warnings and make decisions during extreme heat can significantly improve communication before, during, and after such events (McLoughlin, N., et al., *WIREs Climate Change*, Vol. 14, No. 2, 2023).



"Psychologists not only help us understand the ways in which people perceive and respond to risk; they can also describe the potential impacts of extreme weather events on mental health and the interventions that can help to mitigate those impacts," said Susan Clayton, PhD, a member of APA's Climate Change Psychology Advisory Group.



Cutler, California, residents Ana Manozo and Juanita Martinez discuss aid availability relating to the flooding the community endured in spring 2023.

THE WASHINGTON POST/GETTY IMAGES

Readiness is personal

Experts emphasize that communities are rarely uniform in their readiness for severe weather—some people are eager to act, others skeptical, overwhelmed, or disengaged. Nancy A. Piotrowski, PhD, a member of the APA Board of Scientific Affairs, draws on the stages of change model as a useful framework for tailoring preparedness efforts (Prochaska, J. O., & DiClemente, C. C., *Journal of Consulting and Clinical Psychology*, Vol. 51, No. 3, 1983). "Some people—and communities as a whole—might be more ready to change than others. This means we may need to do a few different things to foster action," said Piotrowski. She added that this simple reframing can be a "big light bulb" for nonpsychologists planning interventions at the community level.

Piotrowski helped found Fresh Air Vallejo and the Vallejo Citizen Air Monitoring Network, two nonprofits focused on air quality and environmental justice, respectively, and worked with them as a mental health expert and scientific consultant to help community members communicate the practical and mental health impacts of a proposed cement factory in a low-income waterfront neighborhood. This work included collaboration with a multidisciplinary coalition of community activists, engineers, real estate professionals, and public health experts to install air-quality monitors in private homes across the city to create a community-based monitoring network. That network proved invaluable when the Napa wildfires later struck the region. Residents and local agencies suddenly gained access to dense, hyperlocal air-quality data—information that reached local media and informed real-time fire safety decisions.

"We had more air monitors than anybody else in the region to protect their health," Piotrowski said. Residents who were already in an "action" phase of change—ready to host monitors in their homes—ended up benefiting neighbors who were still in earlier stages of readiness. Psychologists, Piotrowski argued, play a critical role in helping planners recognize where people are in that process, earn community trust, and tailor interventions that bring entire communities along.

The power of community connection

Whether someone prepares for a disaster often depends less on official guidance and more on who they trust and what they see those they trust doing. Psychologists can help city leaders and emergency planners see that disaster behavior is driven by social relationships, said John Fraser, PhD, a social and conservation psychologist and former director of mission impact at the Alaska SeaLife Center.

"It's really critical for psychologists to help leaders understand how small groups and collectives can lay the foundations for any kind of preparedness." Fraser noted that "people derive their sense of safety and self-worth from the networks that provide them love and protection." Preparedness leaders would be foolish not to recognize that human beings thrive when they are "activating their individual agency for groups that provide them love and support," he said.

Fraser believes that providing community groups with opportunities to identify and support their most vulnerable members while allowing them to self-organize around preparedness activities enhances collective self-efficacy. By building preparedness through trusted social networks, communities develop the shared knowledge, confidence, and capacity needed to act effectively during severe weather emergencies.

Across contexts and cultures, one finding is consistent: Preparedness is social. A large-scale review of 167

studies across 30 countries that involved more than 110,000 people found that social norms and belief in one's ability to take specific preparedness actions were among the strongest drivers of natural-hazard preparedness (Skipor, S., & Bergquist, M., *Communications Earth & Environment*, Vol. 7, No. 132, 2026). In a high-risk province in Vietnam, for example, an individual observing their neighbors prepare emergency equipment for a flood—such as life jackets and boats—was the strongest predictor that they would do the same. For major decisions, like switching crops or temporarily relocating for work, family expectations carried particular weight, reflecting Vietnam's more collective culture. Broad societal approval of flood-adaptive behaviors, by contrast, had the weakest influence (Luu, T., et al., *Journal of Environmental Psychology*, Vol. 108, No. 102835, 2025).

A similar pattern appears in San Bruno, California, where Gabrielle Wong-Parodi, PhD, an associate professor of earth system science at Stanford University and a member of APA's Climate Change Psychology Advisory Group, leads a flood-resilience pilot project through Stanford's Sustainable Cities Program. San Bruno's Belle Air neighborhood floods frequently because of aging infrastructure, low elevation, and the nearby San Bruno Creek, which often overtops during king tides. Decades of neglect left many residents wary of institutional outreach.

Wong-Parodi's team spent 18 months holding more than 80 conversations with residents to build trust before designing the pilot. Drawing on the *promotoras de salud* public health model (Hilfinger Messias, D. K., et al., *Hispanic Health Care International*, Vol. 11, No. 2, 2013), they partnered with local students and community members to explain the project's goals, identify needs, and recruit neighbors. They learned that residents wanted near-term, household-level help—not sweeping citywide projects beyond their control. The result was a program that provided tailored flood-preparedness kits to 30 of the most vulnerable homes. Each $1,500 kit included supplies such as sump pumps, waterproof storage, sealing materials, and flood-alert sensors, along with a visual decision guide in English and Spanish to help residents assess risk and choose appropriate tools.

Delivering the kits required intensive door-to-door outreach and bilingual workshops conducted alongside community leaders and local nonprofits. But that investment was intentional.

"Technology alone won't solve these problems," Wong-Parodi said. "It's about relationships—understanding social networks, what motivates people, and how individual and collective action intersect." Over time, her team will track whether the approach reduces flood-related damage and, if successful, expand it to other Bay Area communities.

These principles also guide preparedness work in the Caribbean where communities are dealing with repeated hurricanes alongside creeping, incremental threats like rising sea levels, coastal erosion, and groundwater intrusion. As a result, recovery is ongoing rather than episodic. Barbados, like other nations in the Global South, also has to grapple with geopolitical pressures such as debt financing and wealth inequality.

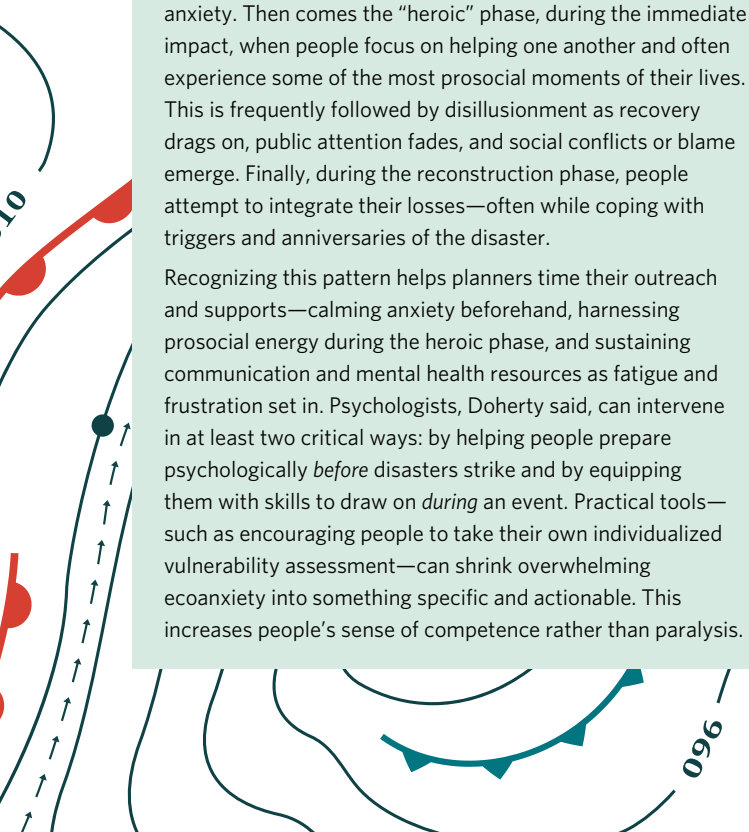
For that specific cultural context and set of pressures, Michael Campbell, PhD, a professor of psychology and global health at the University of the West Indies, and a multidisciplinary team worked to adapt psychological first aid (PFA)—an evidence-based intervention often used in disaster response. "We Barbadianized it by developing scenarios with specific places and public services and contexts in Barbados and threaded in things that have happened in

PSYCHOLOGICAL PREPAREDNESS

MAPPING THE EMOTIONAL JOURNEY OF DISASTER

Clinical and environmental psychologist Thomas Doherty, PhD, urges preparedness planners to factor people's emotional trajectories into their severe-weather programming (*Surviving Climate Anxiety*, Little, Brown Spark, 2025). Emotional reactions tend to follow a pattern of peaks and valleys: The predisaster phase is marked by anticipation and anxiety. Then comes the "heroic" phase, during the immediate impact, when people focus on helping one another and often experience some of the most prosocial moments of their lives. This is frequently followed by disillusionment as recovery drags on, public attention fades, and social conflicts or blame emerge. Finally, during the reconstruction phase, people attempt to integrate their losses—often while coping with triggers and anniversaries of the disaster.

Recognizing this pattern helps planners time their outreach and supports—calming anxiety beforehand, harnessing prosocial energy during the heroic phase, and sustaining communication and mental health resources as fatigue and frustration set in. Psychologists, Doherty said, can intervene in at least two critical ways: by helping people prepare psychologically *before* disasters strike and by equipping them with skills to draw on *during* an event. Practical tools—such as encouraging people to take their own individualized vulnerability assessment—can shrink overwhelming ecoanxiety into something specific and actionable. This increases people's sense of competence rather than paralysis.





Deborah Gonzalez (center) and Jonas Mendoza (third from right), instructors with the National Day Laborer Organizing Network, teach Pasadena fire cleanup workers safety procedures such as proper fitting and use of a respirator. The training prepared the workers for cleaning disaster sites burned in the Eaton Fire in January 2025.

ALLEN J. SCHABEN/GETTY IMAGES

the recent past so that the vocabulary, the scene, the context all felt local," Campbell said.

Rather than relying solely on external providers, Campbell's approach emphasizes training community members to deliver psychological support themselves, strengthening trust and continuity when formal services are stretched thin. By reframing PFA as a community-embedded tool, it contributes to a broader resilience infrastructure in the face of hurricanes and floods, fostering longer-term recovery.

A similar emphasis on social connection and building trust also underlies the Equip Project, a disaster resilience intervention co-led by Amy Lykins, PhD, a professor of psychology at the University of New England in New South Wales, Australia. The program weaves together practical preparedness with tools to boost mental well-being and psychological readiness in Australian rural communities under threat from bushfires, floods, and drought.

"[The workshop is] adapted by and codelivered with local community members," Lykins said. "We train the trainers, and then the community owns the workshop. They can modify it as they need going forward." "Community connectors"—trusted farmers, teachers, emergency-service volunteers, and other respected residents help tailor the content and vouch for the project's credibility. They form local advisory groups that guide program logistics and even recommend incentives, such as gift cards to local businesses, to keep resources within the community.

That buy-in is critical in rural areas that have grown wary of "fly-in, fly-out" experts who disappear after a funding cycle ends. "Absolutely crucial," Lykins said of these relationships. When communities are treated as partners rather than recipients, resilience is built collectively from within rather than imposed from the outside.

Embedding equity into preparedness

Experts stress that planning must also account for inequity. Vulnerable populations—including racially marginalized groups, low-income residents, and older adults—are most likely to bear the brunt of severe weather hazards (Clayton, S., et al., *Mental Health and Our Changing Environment: Impacts, Inequities, Responses*, APA and ecoAmerica, 2021). Excessive heat, flooding, and pollution amplify disparities in housing, chronic disease, and mental health. "The health impact is not equally distributed," said Jeannette Ickovics, PhD, the Samuel and Liselotte Herman Professor of Social and Behavioral Sciences at the Yale School of Public Health. Older adults face a higher mortality rate from heat that is 6 times as high as that of younger adults. Children, pregnant women, outdoor workers, and people with mental health diagnoses also face heightened risk (Wong, A. Y. S., et al., *Psychological Medicine*, Vol. 54, No. 16, 2024; Xue, S., et al., *Canadian Medical Association Journal*, Vol. 197, No. 29, 2025).

Derrick Sebree Jr., PsyD, president of APA Div. 32 (Society for Humanistic Psychology) and a member of APA's Climate Change Psychology Advisory Group, argues that equity must be treated as a through line—not an add-on—in severe weather planning. In Detroit, this has meant directly involving grassroots organizations and environmental justice groups in preparedness decisions, from establishing cooling centers in low-income neighborhoods that are more likely to be urban heat islands to recommending



utility-shutoff moratoriums during disaster recovery.

Sebree also warned that without equity and collaboration as guiding principles, communities can become vulnerable to "green gentrification"—where environmental improvements in the neighborhood can end up driving up costs and displacing longtime residents—or open the door to "disaster capitalism," where outside investors buy up damaged real estate and sell it at a premium.

Sebree added that psychologists can serve as translators between research and lived experience, helping city leaders see which communities are most exposed and why. They can make the case that planning is more effective when there is genuine community participation and buy-in rather than a top-down approach that does not align with what residents actually want or need. When marginalized communities lead, climate resilience efforts are more likely to last beyond a single storm or funding cycle. "We tend to see the more community-led something is, the more likely it is to continue and become part of the community's identity, which makes it more sustainable," Sebree said.

Global solutions to a global problem

Psychologists are also making an impact at a multicity level. Ickovics also chairs the advisory group for Resilient Cities, Reimagining Health, a global initiative launched in September 2025 by the Sustainable Markets Initiative, in collaboration with Resilient Cities Network, Mode Economics, and the Yale School of Public Health. The initiative's community of practice brings together 32 cities across 20 countries to pilot strategies that reduce strain on health systems while protecting communities most at risk of climate-related hazards. Mental and behavioral health insights are integrated into each intervention, whether addressing extreme heat; air quality; access to water, sanitation, and hygiene facilities; or health-promoting behaviors. "We could have excellent epidemiologic data and optimal interventions, but unless we can motivate and mobilize people to act, then we won't be able to achieve the uptake, adherence, collaboration, and sustained commitment to have an impact," said Ickovics.

The initiative is currently focused on cocreating assessment tools tailored to each city and on supporting decision-making and implementation, particularly in low- and middle-income countries that are disproportionately bearing the impacts of extreme weather. "From a psychological perspective, cost-effective interventions can be more community centered and participatory. Ideally, this would enhance both uptake and sustainability," said Ickovics. In *The Case for Action*, a Resilient Cities, Reimagining Health report released at Climate Week NYC 2025, economic analyses demonstrated that if evidence-based prevention interventions to enhance climate and health resilience were implemented in cities worldwide, the initiative could save 725,000 lives, $70 billion in health care costs, and 15.6 metric tons of health care–related carbon emissions annually between now and 2030.

"Cities are where climate, health, and equity collide, but they're also where solutions live—if we design them with those three in mind from the start," Ickovics said. "This is public, private, nonprofit, and academia coming together with cities and communities on the ground to improve climate and health resilience and improve equity—that's the overall goal." ■

FURTHER READING

A joint research agenda for climate action bridges behavioral sciences and urban planning
Creutzig, F., & Reisch, L. A. *Communications Psychology*, 2024

An individual-collective-systemic behavioral climate intervention framework
Goldwert, D., & Vlasceanu, M. *Current Opinion in Behavioral Sciences*, 2025

Behavioral economic analysis of framing effects on residential safe room demand
Graham, M. E., et al. *Natural Hazards Review*, 2025

Exploring the influence of different types of social norms and other factors on flood-adaptive behaviour
Luu, T. T., et al. *Journal of Environmental Psychology*, 2025

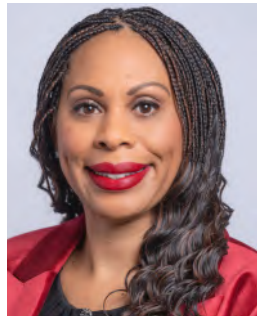
The impact of probabilistic tornado warnings on risk perceptions and responses
Qin, C., et al. *Journal of Experimental Psychology: Applied*, 2024


BARCH


WAGER


CLARK


ALBARRACÍN


LEWIS

Psychologists in the News

DEANNA M. BARCH, PhD, a professor of psychological and brain sciences at Washington University in St. Louis, and **TOR D. WAGER, PhD,** a professor of neuroscience at Dartmouth College, received the National Academy of Sciences' Atkinson Prize in Psychological and Cognitive Sciences. Barch's research has deepened understanding of behavior, brain, and mental health in early childhood, especially with regard to schizophrenia and depression. Wager's research has reshaped knowledge of the neural mechanisms of emotion, pain, and belief, and how these processes influence physical and mental well-being. Each winner received $100,000.

HERBERT H. CLARK, PhD, a professor emeritus of psychology at Stanford University, has received the 2027 David E. Rumelhart Prize, a $125,000 award honoring contributions to the theoretical foundations of human cognition. During Clark's 50-year career, his research on language demonstrated that dialogue requires continuous coordination, consensus, and negotiation of meaning between speakers and listeners. His research has influenced cognitive psychology, linguistics, psycholinguistics, AI, human-computer interaction, and social cognition.

DOLORES ALBARRACÍN, PhD, has been appointed director of the Annenberg Public Policy Center at the University of Pennsylvania. She holds appointments in Penn's communication and psychology departments and directs the Social Action Lab. A social psychologist, Albarracín studies how communication and persuasion shape beliefs, attitudes, goals, and behavior, particularly in ways that benefit society. In her new role, she leads the organization's work on public opinion, fact-checking, and communication across politics, civics, health, science, adolescent risk, and climate.

JIONI A. LEWIS, PhD, an associate professor of counseling psychology at the University of Maryland, has received a $1.5 million grant from the university's Grand Challenges Grants program for the Women's Health Interdisciplinary Research Collaborative. Lewis's research focuses on the intersectional influences of gendered racism on mental health and the resistance, healing, and protective factors that buffer individuals against those effects. The university-wide initiative aims to close critical knowledge gaps in women's health across the life span and leverage AI and community approaches to drive improvements.

HEATHER BULLOCK, PhD, has been appointed dean of the Division of Social Sciences at the University of California, Santa Cruz. A professor of psychology and director of the Center for Economic Justice and Action, Bullock also leads the UC Essential Needs Research, Training, and Promising Practices Consortium. Bullock is an internationally recognized scholar whose research examines the psychological dimensions of poverty and economic injustice. She brings a significant record of research, teaching, public engagement, and academic leadership to the role.

KRISTIE PATTEN, PhD, has been named the Gale and Ira Drukier Dean of New York University's (NYU) Steinhardt School of Culture, Education, and Human Development. An educational psychologist and expert on autism, neurodiversity, and inclusive education, Patten has, with her research, helped shape how schools, families, and communities support neurodivergent learners. Prior to her appointment, Patten served as chair of NYU's department of occupational therapy, vice dean of academic affairs, and counselor to NYU's president. Throughout her career, Patten has secured more than $38 million in research grants, contracts, and donor gifts. ■



KLAUS VEDFELT/GETTY IMAGES

The most widespread use of AI in psychological assessment is report writing: A psychologist conducts the interviews, administers the tests, and takes the notes, while an AI tool summarizes the material, drafts report sections, and in some cases, offers interpretations as well.

How AI Is Changing Assessment

Psychologists are navigating AI's growing role in assessment, from report writing to test security

BY ZARA ABRAMS

FROM DISABILITY CLAIMS to prison sentences, psychological assessments often have lasting consequences. In clinics, schools, workplaces, courtrooms, and beyond, psychological evaluations help people access appropriate care and can inform decisions that alter the course of their lives. Now, as artificial intelligence starts to shape how these tests are created, interpreted, and even taken, psychologists are faced with new opportunities—as well as new risks.

AI is already being used to streamline report writing and other time-consuming tasks, freeing up psychologists to focus more on evaluation, interpretation, and decision-making. Researchers are also exploring how AI can be used to generate new test items and to embed assessment into real-world settings, including to help detect mental health risks.

But the same tools are also introducing new vulnerabilities. General-use chatbots can provide test takers with increasingly sophisticated coaching on how to present symptoms or manipulate responses, raising concerns about test security. And across assessment contexts, experts warn that overreliance on AI—especially for interpreting test results—can lead to misdiagnosis, incorrect classifications, and breaches of patient privacy.

"Many people in our field are being really thoughtful on questions of confidentiality, privacy, and bias. But in some cases, the technology is outpacing our ethical analysis," said Linda McGhee, JD, PsyD, a clinical psychologist and attorney who is a visiting professor at George Washington University and president of the assessment psychology section of APA Div. 12 (Society of Clinical Psychology). "Our field has a special and unique responsibility to carefully analyze and responsibly integrate AI."

AI tools, including both popular generative AI chatbots such as ChatGPT and Claude and more specialized tools built for supporting psychological assessment, can be highly useful. But because the stakes are so high, psychologists say the field must proceed with caution.

To provide guidance on navigating AI in assessment contexts, APA's Committee on Psychological Tests and Assessment (CPTA) has released a report on the responsible use of AI in assessment (see Further Reading). The comprehensive document addresses ethical and practical considerations across domains, including clinical, industrial and organizational, and school psychology.

"When it comes to psychological assessment, we are often gatekeepers to resources and accommodations. That means we can negatively impact lives very seriously if we make an erroneous decision," said A. Jordan Wright, PhD, a clinical associate professor of applied psychology at New York University (NYU) who has authored several widely used books on psychological assessment.

An assessment assistant

The most widespread use of AI in psychological assessment is to aid in report writing, for which multiple tools now exist. A psychologist conducts interviews, administers tests, and takes notes; an AI tool summarizes the notes and test data, writes various sections, and—in some cases—provides interpretations.

"It streamlines the process so we can spend less time writing reports and more time actually conducting assessments," Wright said.

Some psychologists also use general-use AI chatbots such as ChatGPT as clinical brainstorming partners to help with case conceptualization, assessment, and even diagnosis. That's due in part to their ease of accessibility and use, said Tony Rousmaniere, PsyD, executive director of the nonprofit Sentio Counseling Center based in Los Angeles, California.

Some baseline ethical guidance for using AI in assessment reports: Review outputs, disclose use, and do not enter protected health information (PHI) into general purpose AI apps, said Paul Ingram, PhD, an associate professor of psychological sciences at Texas Tech University who recently coauthored a paper on the ethical use of AI in assessment (*Professional Psychology: Research and Practice*, Vol. 57, No. 3, 2026). Keep in mind that tools such as ChatGPT are not HIPAA compliant, and any data shared may be retained or, depending on the platform and settings, used to train future models.

Fortunately, ethical AI use does not have to come at the expense of usefulness, said Alexandre Vaz, PhD, a clinical psychologist and director of training at Sentio Counseling Center who created a free training program on the ethical use of AI for therapists. With appropriately de-identified information, AI can still provide valuable background such as historical or cultural context relevant to a case, Vaz said.

But even when PHI is removed, using general purpose chatbots for case analysis is problematic, said Adam Natoli, PhD, an assistant professor of psychology at Montclair State University in New Jersey and a member of the CPTA, who is studying applications of AI in psychological assessment. Research shows that these tools can perpetuate stigmatizing ideas about mental health and bias toward certain groups, such as African Americans, which could exacerbate existing disparities in diagnosis and assessment (Moore, J., et al., in *FAccT '25: Proceedings of the 2025 ACM Conference on Fairness, Accountability, and Transparency*, Association for Computing Machinery, 2025; Hofmann, V., et al., *Nature*, Vol. 633, 2024). Natoli is now comparing popular chatbots by giving them the same clinical scenarios to see whether some over pathologize certain groups of people or underdetect issues in others.

One of the risks of using AI is that some clinicians may become complacent and rely on these tools in place of their own judgment even though the tools can make errors, Natoli said. A flawed interpretation can have serious consequences—a missed or incorrect diagnosis, unnecessary or denied accommodations, or other decisions that can affect a person's education, employment, custody, or legal standing.

"We need to ask ourselves the same questions about AI tools that we would about any psychological test," Natoli said. "Has this been validated for the individual in the way I intend to use it? Do I know how to use it? And can I explain it in a way that's understandable?"

Many AI tools used to support assessment lack guardrails that require psychologists to apply their



Psychological assessments can shape consequential decisions in courtrooms and other high-stakes settings—a reminder that as AI enters this space, responsible use is especially critical.

own interpretations, Wright said. That means psychologists must build their own workflows to critically evaluate AI-generated outputs.

Using these tools is particularly risky in forensic settings, experts argue, because AI tools can produce inconsistent outputs and rely on reasoning that is hard to explain or justify. Legal standards are still evolving, and psychologists who use AI in these cases could be held responsible for errors made by AI (Grabb, D. J., & Angelotta, C., *Journal of the American Academy of Psychiatry and the Law*, Vol. 51, No. 4, 2023).

Building smarter tests

Beyond its power to streamline writing and analysis, AI may offer a way to transform how psychological assessments are designed and delivered. An emerging approach known as generative psychometrics uses AI to create assessments that adapt to test takers in real time based on their responses.

"One of the biggest criticisms of many psychological tests is that they are static and may not be adaptable to a world that's continually changing," Wright said.

AI-generated psychological assessments would still need to meet core psychometric standards, including reliability, validity, cultural fairness, and usefulness. More work is needed to reach that point, Wright said, but this tailored approach could make measurements more precise and reduce test length by ruling out irrelevant items as the assessment progresses.

Psychologist Liberty Munson, PhD, director of psychometrics at Microsoft and a member of the CPTA, is starting to apply this approach. She oversees tests that lead to Microsoft certifications, which are standardized credentials that verify a worker's technical skills, such as cloud engineering capabilities on Microsoft Azure. Her team built an AI item-generation tool that creates new test questions, which are then reviewed by a subject matter expert. They're also using AI to build in "flow of work" assessments that allow users to earn recognition in the course of their daily work. For example, workers using Microsoft Copilot to write code or analyze data could have

GORODENKOFF/GETTY IMAGES

their skills verified automatically as they work.

"There's a growing interest in embedding assessment into Microsoft technologies so that people can demonstrate their skills without sitting for an exam," Munson said.

AI is also at the heart of other efforts to embed psychological assessment within real-world settings. Research has shown that machine learning can help predict risk for psychosis based on speech patterns (Olah, J., et al., *Frontiers in Psychiatry*, Vol. 14, 2024). Building on that work, Natoli and his colleagues from the NaphCare Charitable Foundation are now exploring whether the technology can help flag at-risk individuals during the booking stage in correctional facilities.

Another use of AI is to refine existing tests. Natoli used natural language processing to compare translations of psychological assessments across languages, finding substantial differences in the emotional tone of translated test items that could affect how they are interpreted (*Assessment*, Vol. 33, No. 2, 2025).

"We're now looking beyond validity to explore whether the sentiments are consistent between languages," he said. "For example, are items that are worded optimistically in English also worded optimistically in Spanish?"

Feigning with AI

AI chatbots are also being used on the other side of the equation—helping test takers manipulate responses to either exaggerate or downplay their symptoms or abilities. Information about how to answer psychological assessments has floated around the internet for years, but AI makes that information much more accessible, said Iulia Crișan, PhD, a clinical psychologist and researcher studying AI-supported feigning at West University of Timișoara in Romania.

"Someone can now create a virtual agent that trains them on how to correctly feign on a certain instrument," Natoli said. "It would be like meeting with a lawyer-psychologist-acting-coach hybrid."

Early research on feigning with AI suggests that even standard AI chatbots can provide sophisticated guidance, such as instructing test takers to

Beyond streamlining writing and analysis, AI may transform how psychological assessments are designed and delivered—creating tests that adapt to test takers in real time, based on their responses.



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only make "mistakes" on certain items and to avoid extreme scores that trigger detection. But in studies of feigning depression, attention-deficit/hyperactivity disorder (ADHD), and head injuries, validity measures were still able to catch most AI-supported feigners (Battista, F., et al., *Current Psychology*, Vol. 45, No. 379, 2026; Bensink, S., *The Role of AI-Consultation in Malingering Detection During ADHD Assessments: An Insight in the Student Population* [unpublished master's thesis], University of Groningen, 2025; Voin, S., et al., *Applied Neuropsychology: Adult*, online first publication, 2025).

That security may be short-lived, however, as users learn more effective prompting strategies, Ingram said. In one study, researchers gave students more guidance on using ChatGPT to feign ADHD symptoms—and detection rates dropped (Fuermaier, A. B. M., & Niesten, I. J. M., *Psychological Injury and Law*, Vol. 18, 2025). Other research on feigning psychosis and neuropsychological symptoms suggests that ChatGPT and Gemini pose a real threat to test security (Lavigne, S., et al., *The Clinical Neuropsychologist*, Vol. 40, No. 3, 2026; Gershan, S. A., et al., *Journal of the American Academy of Psychiatry and the Law* (Vol. 54, No. 2, 2026).

"AI poses a substantial risk, because many of our feigning measures rely on very simple detection strategies," said Richard Rogers, PhD, a Regents Professor of Psychology at the University of North Texas who conducts research on how and why people feign mental disorders.

For example, some stand-alone performance validity tests are designed specifically to detect feigning. If AI tools can identify them, it may become easier for people to game the test. Rogers is exploring ways to make psychological assessments more secure, such as developing more complex, pattern-based detection strategies that are too cognitively demanding to manipulate.

"The idea is to anticipate that people will try to prepare for these tests and to build detection strategies that create cognitive overload for those who are trying to feign," Rogers said.

Training and oversight

Experts agree training in AI can no longer be considered a specialty area within psychology given how ubiquitous these tools have become.

"AI is already shaping practice, and we can't claim to be providing a complete education if we don't prepare students to use these tools responsibly," said McGhee, who spoke at APA 2026 about AI and assessment instruction.

As director of NYU's clinical/counseling psychology doctoral program, Wright allows students to use AI but builds in both ethical and clinical guardrails to ensure they do so safely. To protect patient privacy and confidentiality, trainees must know exactly where the data they share is being stored and how the data will be used by the company behind a given tool. On the clinical side, Wright asks students to evaluate and compare AI outputs to assess their accuracy and usefulness.

Part of today's challenge is that general purpose chatbots are accessible and easy to use, while many specialized assessment tools are still being refined and validated. But that could change as more research-backed tools reach the market, said Sarah Kopelovich, PhD, a professor in the Department of Psychiatry and Behavioral Sciences at the University of Washington School of Medicine. For example, Kopelovich helped build an AI tool for clinicians with a Small Business Technology Transfer grant, an NIH initiative designed to quickly bring evidence-based tools to market.

"We need to get research-backed tools out there as soon as possible," she said. "Otherwise, people will continue to rely on ChatGPT and other general purpose chatbots."

Above all, psychologists must stay engaged in monitoring and intervening in how AI is used in assessment, Natoli said, including by developing formal guidance on the responsible use of AI assessment tools. The new report from CPTA provides a helpful framework for how to vet AI tools, interpret reports, and navigate ethical issues such as bias and confidentiality. Psychologists can also use their voices to address the increasing number of apps that provide access to psychological test content without the guidance of a trained practitioner. Without appropriate oversight, such tools could undermine test security, encourage self-diagnosis, and make it harder to ensure that tests are interpreted in the right clinical or legal context.

"We need to be assertive in areas of policy and industry, saying what is and is not OK when it comes to the use of AI in psychological assessment," Natoli said. ■

FURTHER READING

Responsible use of AI in assessment
APA Committee on Psychological Tests and Assessment, 2026

Ethical considerations of artificial intelligence (AI) in psychological assessment
Herring, T. T., & Ingram, P. B. *Professional Psychology: Research and Practice,* 2026



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In rural areas, limited resources often mean more pronounced risk factors for youth mental health, and studies show young people face higher rates of anxiety, depression, and behavioral health concerns.

Rural Communities Tackle Youth Mental Health Care Gaps

Here are some of the most pressing challenges affecting rural youth mental health and how psychologists are working to improve care in these areas

BY ASHLEY ABRAMSON

YOUTH MENTAL HEALTH concerns are widespread, and in rural communities, where resources are often limited, risk factors can be more pronounced. A 2022 analysis by researchers at the Rural & Minority Health Research Center found that young people in rural communities were more likely than their urban peers to experience problems such as anxiety, depression, and behavioral concerns. When these concerns are left unaddressed, youth are at a heightened risk for alcohol and drug use, risky sexual behavior, self-harm, and suicide (Graves, J. M., et al., *JAMA Network Open*, Vol. 3, No. 10, 2020).

"As problems increase, services simply aren't meeting the demand," said Douglas Knutson, PhD, an associate professor of counseling psychology at Oklahoma State University. "I expect over the next 10 years as these pressures continue, we'll see this long-standing behavioral health care

crisis even more pronounced among rural youth."

Recognizing the need, the U.S. Department of Education has awarded more than $208 million in new grants through the Mental Health Service Professional Demonstration and School-Based Mental Health programs to 65 recipients, with the goal of increasing the number of credentialed school-based mental health providers serving students in high-need districts. These awards prioritize boosting capacity in rural communities, with 33 grants and more than $120 million allocated to rural states and districts.

Psychologists play an essential role in supporting youth in rural communities, applying their expertise to form partnerships with schools, train school faculty and staff to recognize mental health symptoms and make appropriate referrals, and develop resources for communities to apply psychological principles to better support children and teenagers.

Current challenges, dwindling services

Research indicates that rural communities face higher poverty rates and general economic distress compared with suburban and urban areas (Clark, S., et al., *The Russell Sage Foundation Journal of the Social Sciences*, Vol. 8, No. 4, 2022). Youth living in economically marginalized communities experience elevated risk for adverse childhood experiences and toxic stress, which can have long-term impacts on development and well-being, said Jamie Pratt, PsyD, an associate professor of educational and school psychology at the University of Southern Maine who specializes in supporting school-age children with emotional and behavioral challenges.

Rural families tend to have less access to domestic violence services, with fewer transportation options and shelters spaced much farther apart than in more densely populated areas, said Mary Louise Cashel, PhD, a professor of psychology at Southern Illinois University Carbondale who lives and works in a rural community. But more important, going to a local provider means revealing yourself to the community, which can create safety issues.

Challenges can extend beyond the home. Bullying can occur in any school, but it may leave students feeling more isolated in smaller, rural schools where there are fewer students and everyone knows everyone else. "You can't just choose different friends with so few peers available, and it can be hard to obtain school support if the person bullying is a person of social power within the community," said Cashel.

Marginalized youth, including LGBTQIA students, face additional challenges in all communities but often feel an added sense of "othering" in rural areas, say psychologists who work with these youth. "In many rural communities, there can be penalties for supporting queer youth because you're seen as liberal or accused of grooming. These are sociocultural factors that can make these problems more difficult and create more barriers to care," said Knutson.

Relative to other geographic locations, rural communities typically have fewer available mental health providers. Psychologists may prefer to seek jobs in higher-paying areas or those with more community support and infrastructure. "I may be willing to work in a rural area, but there may not be a job for my spouse or resources for my family," said Ashley Norwood-Strickland, PhD, a clinical psychologist and vice-chair of the APA Committee on Rural Health embedded in a primary care/rural health clinic in Alabama, where she also serves as the on-call provider for pediatric behavioral health crises in the emergency department of her local rural hospital.

In small rural schools, fewer peers and tighter social circles mean isolation can hit harder, and finding support can feel even more out of reach.



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Even if a community mental health center exists, it is often a 1- or 2-hour drive away. In rural North Dakota, for example, the nearest therapy clinic is 80 miles away, requiring students to get rides and miss half a day of school for an appointment. Waiting lists are often even longer for specialized services, such as LGBTQIA-affirming care. Rural teenagers may not reach out for support even when the opportunity is available. "They aren't convinced adults will take action, and sometimes they try to protect their parents from problems," said Cashel.

While telehealth can be a viable option, especially with the Psychology Interjurisdictional Compact (PSYPACT) allowing many clinicians to practice across state lines, many rural families do not have reliable broadband internet. According to data from the U.S. Department of Agriculture, 22% of Americans in rural areas and 28% of individuals in Tribal lands lack broadband coverage (compared with only 1.5% of people in urban areas). "Stigma about seeking mental health care compounds the issue," said Nicole Barnes, PhD, APA's executive lead psychologist for education.

Rural individuals may distrust health care providers, especially those they perceive as not understanding rural or local culture. In small, rural communities, concerns about confidentiality are also common. "Parents may tell kids not to talk about their problems because everyone will hear about it," said Norwood-Strickland. "When you're fighting that, you get a lot of kids who are suffering."

Many districts share school psychologists, if they have one at all. In some districts, these issues affect school counselors, too. In Oklahoma, amid a teacher shortage, anyone with a bachelor's degree can pursue alternative teacher certification in a subject area aligned with their degree (so, according to Knutson, they may not be

Some universities are training the next generation of psychologists to work with rural youth, running school-based groups on life skills, problem-solving, and anger management.



ANNA STILLS/GETTY IMAGES

specially trained in pedagogy or classroom management). In Texas, with too few school counselors, school boards can turn to chaplains to offer students support—yet people serving in ministry are not always formally educated in mental health.

With reduced school resources, some rural families are opting out of the public school system. In some states—including West Virginia—students can use public school funding to attend other schools. While it is positive for students to have options for schooling, this approach also defunds public education, leaving public schools with fewer resources. "Many students end up going to virtual school, with little access to mentors or other trusted adults," said Casey Jo Cottrill, PsyD, a clinical psychologist with Barbour Community Health Association in West Virginia.

The result of delayed care is often more severe outcomes. By the time a child sees a therapist, the case may be complicated. "I've seen nonspeaking autistic children who were on a waitlist for 3-plus years," said Norwood-Strickland. The necessary focus on higher-acuity care also means less attention to prevention, which Pratt said can perpetuate the cycle, creating more kids in need as time goes on.

Approaches that work

Researchers and educators consider the community-school model the gold standard for both prevention of crises and addressing rural youth mental health. One effective model is integrating behavioral health services into schools, as in many primary care settings and on college campuses. "Students are more likely to use services if we can overcome common rural health challenges like distance, provider shortages, and confidentiality," said Tess Kilwein, PhD, a clinical and sport psychologist and past chair of APA's Committee on Rural Health.

Barbour Community Health Association, based in Belington, West Virginia, where Cottrill serves as a psychologist, is a federally qualified health center with locations inside several West Virginia schools. The center offers primary care medical services and psychological services during and after the school day, reducing the most significant barriers to care for students and staff. In Cashel's rural Illinois community, a similar school-based model also offers primary care services to parents and teachers.

Until school-based programs become the norm, innovative approaches are needed to expand access, build the workforce, and provide services in convenient locations. In southwestern North Dakota, where families routinely need to travel more than an hour to therapy appointments, clinical social worker Melissa Buchholz expanded her office-based private practice to meet with students for psychotherapy at their schools, during the school day.

Families typically self-refer their kids to her, but as she has built relationships with three school districts, she also receives referrals from staff and teachers. "While kids may have to miss several hours of school to come see me at my office, I can drive 45 minutes to meet an essential need," she said. "Therapists are used to working in an office, but being flexible can be such a value to children and families in these communities."

To address the ongoing provider shortage, some universities are creating programs to train psychologists to specialize in rural youth, including practicum opportunities in rural schools. "I've sent students to conduct therapy groups in local schools on topics like life skills, problem-solving, and anger management," said Cashel.

Oklahoma State University is in the process of rolling out undergraduate coursework to support the expansion of community-based behavioral health practice on Tribal land. The coursework helps build toward behavioral health aide certification, which prepares students to deliver culturally responsive, Tribe-specific community-based behavioral health services under appropriate supervision. By creating a local training pathway, the program aims to strengthen the Tribal behavioral health workforce while expanding access to care in underserved communities.

The university is also partnering with the Indian Health Service to create satellite locations that train American Indian psychologists throughout Oklahoma. Training psychologists in rural areas increases the likelihood they will stay in those areas to work, along with building trust in the community. "Local community members are more trusted than people who come from the outside," said Knutson.

Workforce development also entails training future psychologists in cultural competence for rural communities. At the University of Southern Maine, Pratt teaches psychology students about the importance of learning about the unique cultural context of the rural communities in which they work and how to connect individuals with resources that already exist, whether religious organizations or cultural groups.

The University of Southern Maine adopts a similar approach to workforce development. Pratt and her colleagues developed a low-residency graduate program to prepare current

educators in rural Maine schools for credentialing as specialist-level school psychologists. This model increases the accessibility of graduate training for professionals who are already embedded in and deeply committed to serving rural schools. Pratt also teaches her school psychology students how to leverage local resources to provide school-based mental health services within a prevention-focused, multitiered system of supports.

Until more clinicians are available, psychologists are helping train other impactful adults—such as social workers, school counselors, teachers, and other staff—to support student mental health. Norwood-Strickland created a program to bridge therapy, schools, and families by equipping teachers with practical, evidence-based skills that extend the impact of treatment beyond the therapy office.

She is currently partnering with a local middle school to provide a series of workshops for teachers and administrators focused on behavioral strategies, emotion regulation, early identification of mental health concerns, effective classroom interventions, and guidance on when students should be referred for mental health services. "In rural communities, where access to child mental health specialists is often limited, building the capacity of educators to recognize, respond to, and support students' behavioral and emotional needs creates a sustainable, community-wide model of care that improves outcomes for children and families," Norwood-Strickland said.

Nonprofit organizations have also developed unique approaches to support schools. The Montana-based Rural Behavioral Health Institute (RBHI) has partnered with four U.S. states to implement universal school-based mental health screening with same-day follow-up for at-risk students in more than 200 schools. Twice yearly, the RBHI's fully virtual Screening Linked to Care (SLTC) program delivers universal mental health screening, same-day care for at-risk students, care navigation, and psychiatric services to rural students. Built for SLTC, the screening platform triages students' results instantly and clearly, so any school adult can support a student. SLTC's virtual design enables a small RBHI team to monitor and coordinate all steps with school staff in real time, ensuring no student leaves school without receiving support.

Involving youth in programming is also important. The Youth Mental Health Summit, an APA presidential initiative led by psychologists Celeste Malone, PhD, and Erlanger Turner, PhD, was formed on the basis that youth should contribute to the development of policies and resources that support their well-being. Along with hosting in-person listening sessions to hear directly from youth about their struggles and needs, the initiative is developing tool kits that can help communities around the country lead their own listening sessions.

"This type of resource is especially important in rural communities, which are underrepresented in research," said Malone, a professor of school psychology at Howard University in Washington, D.C. From there, staff can better create resources based on students' real needs—not assumptions about what they are struggling with or how they want to be supported.

Also relevant, Kilwein said, is addressing social drivers of health: for example, embedding food banks in schools to address food insecurity or providing broadband internet for local families so kids can access mental health resources at home. The YMCA of East Tennessee, as one example, uses its youth recreation and sports network to distribute meals to children and families in rural communities through schools, churches, and other trusted community sites. In rural Jasper, Texas, a former school campus was converted into a rural community resource hub housing a food pantry, public health services, the Women, Infants, and Children (WIC) nutrition program, and teacher resources, with plans to incorporate mental health, financial, and workforce services.

A holistic strategy that nurtures resilience while addressing current needs is bound to be the most effective way to support youth mental health—but it requires long-term investment from entire communities. Every adult, from a school psychologist to a bus driver or sports coach, plays an important role in supporting rural youth. "We need a comprehensive approach that addresses symptoms while strengthening protective factors that tip the scale toward resiliency and positive life outcomes," said Pratt. "It's not just about the absence of mental illness but the presence of wellness." ■

FURTHER READING

National Center for Rural School Mental Health
www.ruralsmh.com

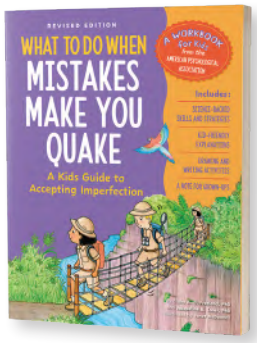
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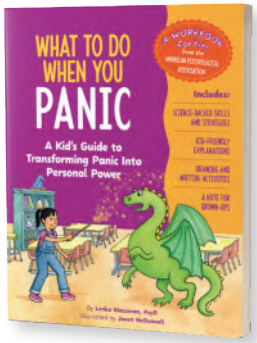
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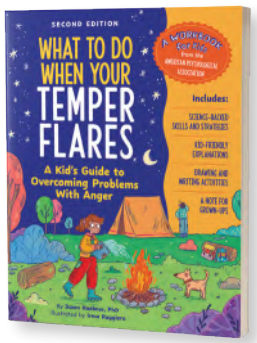
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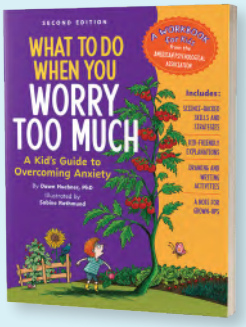
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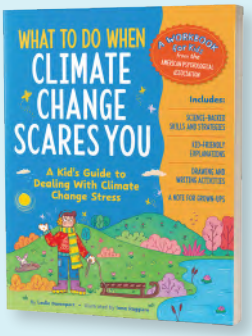
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Good News for Coffee (and Tea) Drinkers

Regular consumption of caffeinated coffee or tea is linked to lower rates of dementia and better cognitive functioning over time

BY TORI DEANGELIS



T_KIMURA/DIMITRIS66/GETTY IMAGES

141

Cases of dementia per 100,000 people each year among U.S. adults who drank higher amounts of **caffeinated coffee** for up to 43 years of follow-up. That compares with **330** cases of dementia among an equivalent group that rarely or never drank caffeinated coffee.

7.8%

Percentage of U.S. adults who drank higher amounts of **caffeinated coffee** and reported **subjective cognitive decline**, compared with **9.5%** of those who rarely or never drank it. **Decaffeinated coffee** did not offer the same benefits.

2–3

Number of cups of **caffeinated coffee** per day that offered the **strongest benefits** in terms of dementia risk and cognitive functioning. That association held up regardless of a person's genetic risk of developing dementia.

1–2

Number of cups of **tea** per day that offered the strongest benefits in terms of preventing dementia risk and preserving cognitive functioning, though the study did not distinguish between caffeinated and noncaffeinated tea. Drinking **higher amounts** of caffeinated coffee or tea did not appear to offer additional benefits.

Source: Zhang, Y., et al. (2026). Coffee and tea intake, dementia risk, and cognitive function. *JAMA*, 335(11). https://jamanetwork.com/journals/jama/fullarticle/2844764. The study examined the effects of coffee and tea consumption among 131,821 participants over a 43-year period.



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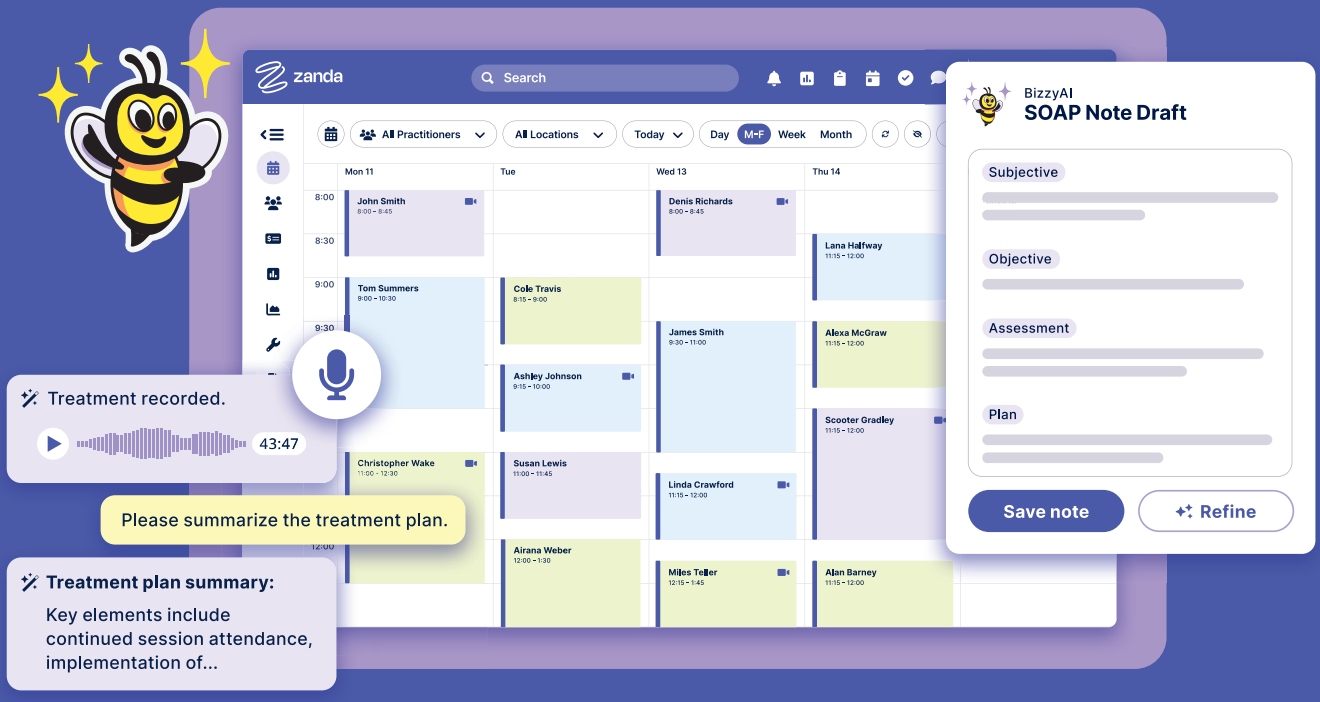
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