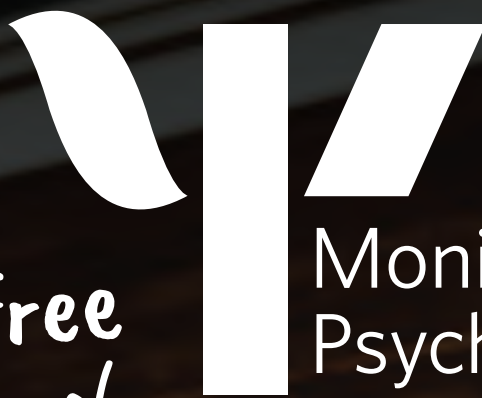




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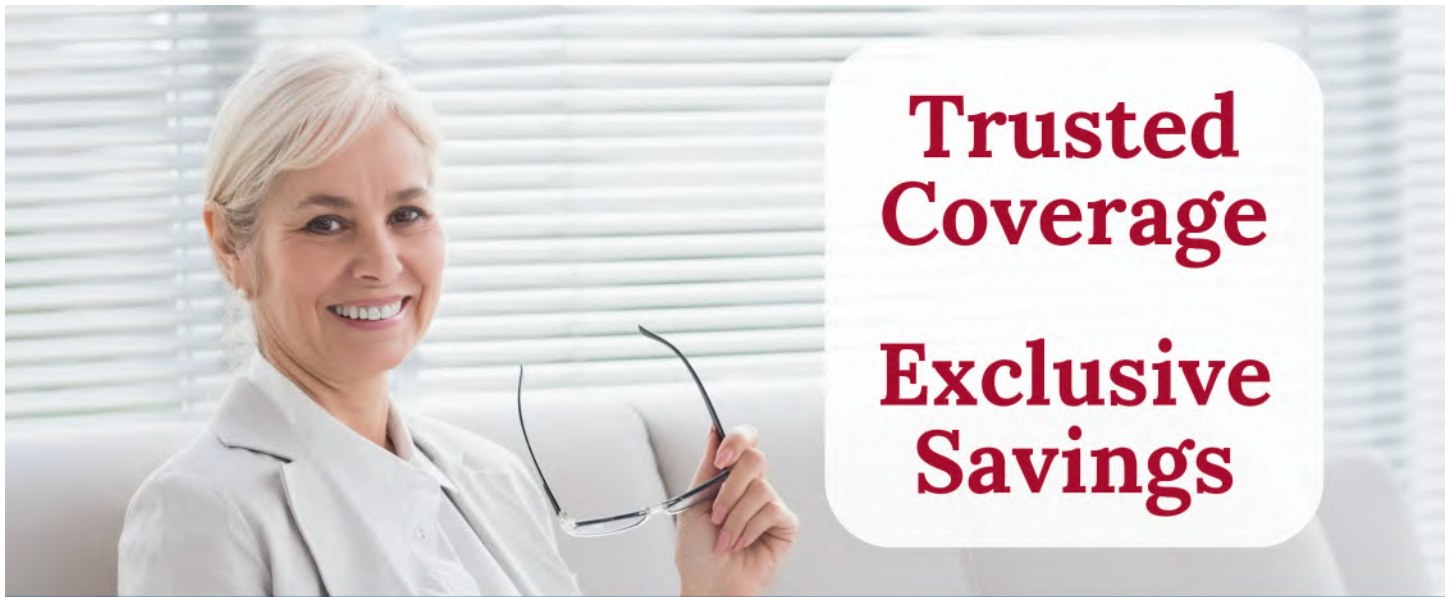
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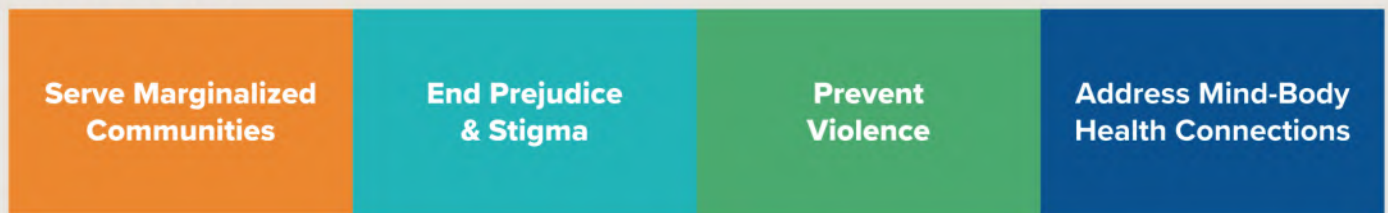


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The Hot List

Resources, opportunities, and news for psychologists from APA



PRESIDENTIAL ELECTION

Choose the Nominees for APA's 2028 President

It's time to cast your vote. In March, APA members with an email address on file received nomination ballots for APA's 2027 president-elect and the 2028 president. Use the electronic ballot search function to explore the names of APA members and nominate up to five candidates for president. Voting closes on April 15, so don't wait. Learn more at www.apa.org/about/governance/elections.



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CONTINUING EDUCATION

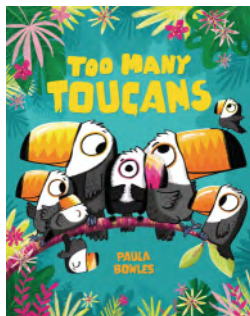
Mastering Sleep Across the Life Span

Sleep disturbances affect nearly 45% of adults and 15% of teens. However, many clinicians feel unprepared to effectively address these disorders in practice. This April 17 webinar (available on demand thereafter) will explore how sleep is a key psychological tool to enhance therapeutic outcomes. The course combines sleep science with practical interventions to provide you with useful tools to incorporate sleep solutions into your therapeutic work. Sign up for this and other webinars at www.apa.org/education-career/ce.

MAGINATION PRESS

New Book About Assertiveness

In *Too Many Toucans*, a new release, Toco the toucan learns the importance of speaking up and setting boundaries. While Toco is building his dream treehouse, well-intentioned neighbors bring their own ideas to him and as a result, Toco ends up with a creation that's far from his original plans. This bright, playful story helps children discern when friendly help becomes excessive and demonstrates how they can bravely say what they need. It includes guidance for adults on how to help children learn how to be assertive and express their wants and needs. Find it, along with other children's titles, at www.apa.org/pubs/magination.



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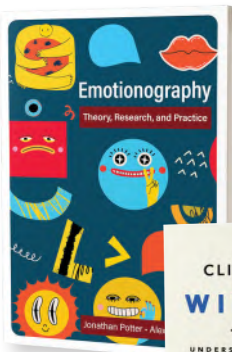
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New Releases from APA Books



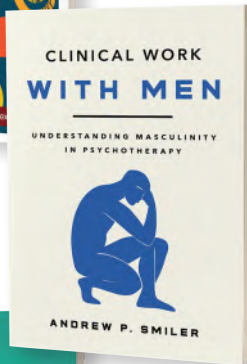
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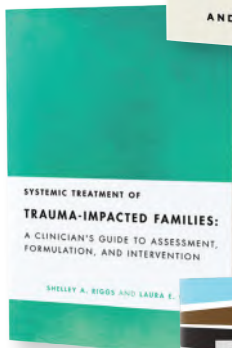
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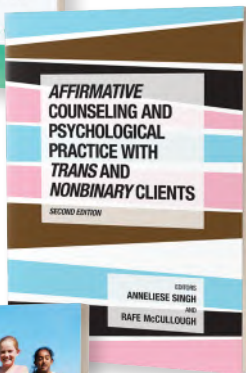
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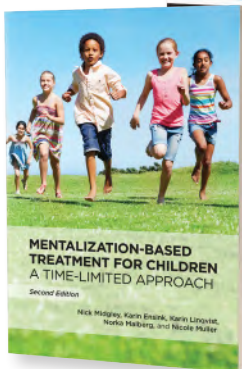
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April/May 2026



48 How Learning Protects the Aging Brain

Researchers are leveraging neuroplasticity to help older adults adapt to change and boost cognitive function.



56 Effective Substance Use Treatment

Contingency management, a treatment for stimulant use disorder that provides incentives for negative drug tests and other recovery steps, has been shown to be highly effective. New policies and programs are increasing access.



40 Why We Use Slang *(cover)*

Slang use, especially in teens, can shed light on how people construct identity and belonging in an increasingly complex digital world.

ON THE COVER: ALBERTO MENENDEZ/GETTY IMAGES

CONTINUING EDUCATION

Treating Obsessive-Compulsive Disorder

About 240 million people worldwide, including 10 million in the United States, meet the criteria for this serious, often debilitating mental health condition (see page 34).



@APA

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100 Psychologists Rising

A new presidential initiative highlights the transformational impact of psychology

BY WENDI WILLIAMS, PhD



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

PSYCHOLOGY'S TRANSFORMATIVE potential knows no boundaries. While the discipline's traditional foundations in clinical practice and academic research remain vital to improving lives, equally important is the profound impact when applied in unexpected contexts—from corporate boardrooms to criminal justice systems, from technology companies to community organizations. My 100 Psychologists Rising presidential initiative demonstrates this expansive reach by recognizing psychologists who are addressing society's most pressing challenges across increasingly diverse settings.

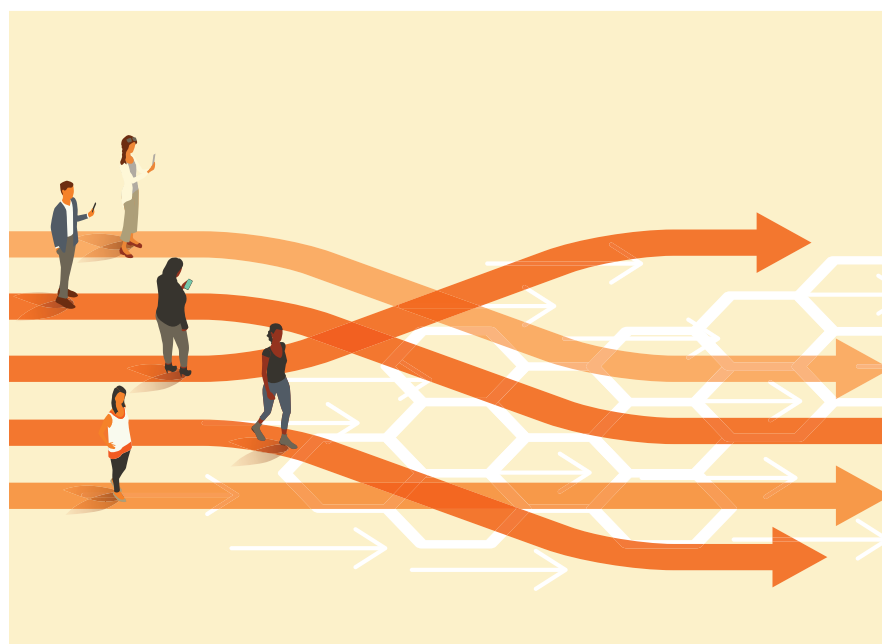
Through TED Talk–style presentations at APA 2026, features highlighting psychologists' innovation across contexts, and formal acknowledgment of their work, the initiative spotlights innovative applications of psychological principles in critical contexts. A psychologist might be designing user experiences for social media platforms, developing intervention programs in prisons, or consulting on public health campaigns. These professionals demonstrate that psychological expertise creates impact wherever human behavior intersects with complex problems—which is everywhere.

The initiative serves dual purposes: expanding career horizons and fostering inclusivity. By showcasing innovative career paths, it helps students

and early career psychologists envision possibilities responsive to the future demands of the field while also inspiring mid- to late-career professionals to consider career pivots aligned with their passions and values. Simultaneously, it gives voice to psychologists who may feel underrepresented by mainstream professional organizations, validating their contributions to the field's evolution and demonstrating that career transformation is possible at any stage, as is the opportunity to make meaningful contributions aligned with one's values.

Most significantly, the 100 Psychologists Rising initiative

reframes psychology as a dynamic, adaptive discipline capable of addressing multifaceted societal challenges. Whether improving workplace culture, informing policy decisions, or enhancing educational systems, these psychologists prove that our science makes lives better in countless ways. By celebrating this diversity of application, the initiative ensures psychology remains relevant, responsive, and transformative, shaping not just individuals but entire communities and systems. The message is clear: Psychology's future lies in its willingness to venture beyond conventional boundaries. ■



Understanding Your ‘Why’—and Counting the Cost

Doing our work well means holding firm and following the science—even in the face of public skepticism



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

BY ARTHUR C. EVANS JR., PhD

WHEN I STARTED elementary school in the South in the 1960s, schools were segregated. I saw firsthand that “separate but equal” was a fiction. But because we were a military family—recently returned from living in Japan—I was simultaneously part of a community where the stark differences based on race were not the defining reality. The juxtaposition of those two worlds created a tension that has been with me throughout my career: the gap between what is and what is possible.

This tension became my “why.” Its existence revealed that barriers were not inevitable and, importantly, could be overcome. It made me passionate about ensuring that everyone can live their best life—and showed me that my purpose was to fight for those being left behind or ignored. That conviction has guided every leadership role I have held across three decades, and it has carried me through pushback, criticism, and moments when it would have been easier to move on. When you know your “why,” you do not abandon it because the work gets hard.

I believe most of us in psychology share a version of this conviction. We entered this field because we believe the human condition can be improved,

and our science gives us unique tools to do it. APA’s mission makes that explicit: to use psychology to benefit society and improve lives. And the truth is, there are very few critical challenges facing our society—from the youth mental health crisis, to the responsible development of AI, to the deep divisions fracturing our communities—where psychology is not an essential part of the solution.

But having a “why” is not enough. You must be willing to pay what it costs. This work demands sustained engagement when public attention moves on. It demands organizational transformation, not just good

intentions. And it demands the willingness to stand firm in what our science tells us, even when that means navigating criticism and sometimes standing apart from popular opinion.

We are increasingly called upon not only to determine how we will address critical issues, but whether we will accept the cost of those choices. Our willingness to count that cost—without retreating from our commitments—will ultimately define this field and this organization for generations to follow.

Understanding your “why” is clarifying. Deciding to pay for it is defining. ■

From youth mental health to the development of AI to divisions fracturing communities, there are few challenges facing society where psychology is not an essential part of the solution.





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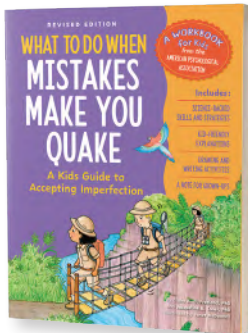
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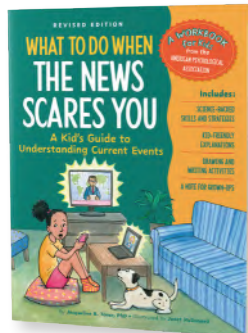
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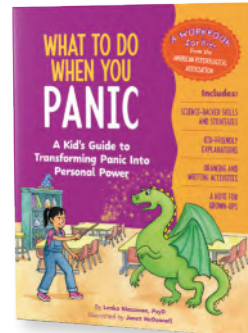
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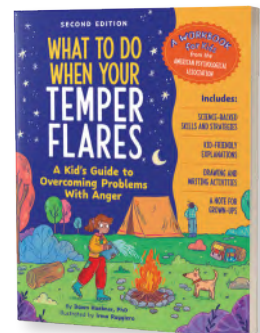
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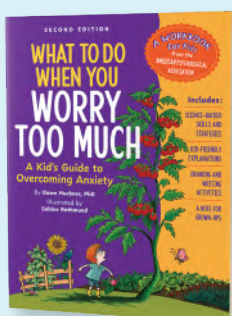
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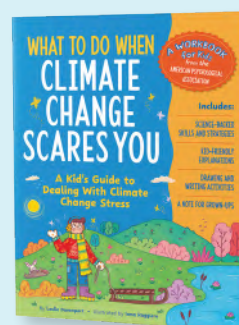
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In Brief

COMPILED BY ANNA MIKULAK, PhD

Social expectations and other factors bias eyewitness identification

Seeing the same person in multiple lineups increases the likelihood an eyewitness will identify that person as the culprit even if the person is innocent, a phenomenon called the repeated-suspect effect. Research in the *Journal of Experimental Psychology: Applied* shows how factors related to memory and social expectations may shape this effect, potentially increasing the risk of misidentification. In one experiment with 316 university students, participants who

saw a biased lineup (in which the innocent suspect stood out) showed a stronger repeated-suspect effect than those who saw a fair lineup (in which all lineup members looked similar). Another experiment with 303 university students highlighted the role of social expectations: Participants were more likely to report feeling influenced by the researcher's presence when they saw multiple lineups or when they saw a biased lineup.

DOI: 10.1037/xap0000553

Research suggests that when the same person appears in multiple lineups—particularly those where that person stands out from the others—eyewitnesses are more likely to misidentify them, underscoring how memory and social expectations can distort identification.



📷 Military members drop out of some PTSD treatments more than others

Data suggest that members of the military—including active service members and veterans—are more likely to discontinue treatment for post-traumatic stress disorder (PTSD) than civilians. But are they more likely to stop some trauma-focused treatments than others? To find out, researchers conducted a meta-analysis of 181 studies that included 124,092 veterans and service members and 232 treatments. The results, published in *Psychological Trauma: Theory, Research, Practice, and Policy*, indicated that the estimated dropout rate across all treatments was 25.6%. Weekly cognitive processing therapy, prolonged exposure therapy, and virtual reality exposure therapy had the highest estimated dropout rates; weekly present-centered therapy, mindfulness-based stress reduction, and group-based exposure therapy had the lowest. The researchers note that treatments with higher dropout rates can still make a meaningful difference; understanding and addressing the reasons for dropout can help keep military members engaged with their mental health care, supporting their health and well-being over the long term.

DOI: 10.1037/tra0002070

Scientific reasoning appears to emerge early in childhood

Children as young as 4 years old can use evidence to dispute false causal claims, an ability that continues to develop through age 5.5, according to a longitudinal study in *Developmental Psychology*. A total of 179 German children participated in the study across two time points. At each session, the children interacted with various blocks, learning which blocks activated a light (e.g., blocks with



📷 Evidence from 181 studies indicates that some PTSD treatments have higher dropout rates than others for service members and veterans, reinforcing the need to address barriers to staying in treatment.

dots). When presented with a false causal claim (“big blocks activate the light; dots do not matter”), 55% of the children produced a valid counterargument at age 4 and 71% did so at age 5.5. When asked to pick between two blocks to disprove the false claim, most children chose the block that provided unconfounded evidence (e.g., small block with dot) over the one that provided confounded evidence (e.g., big block with dot), regardless of age. The findings indicate that the foundation for scientific reasoning emerges early in childhood and continues to develop with age.

DOI: 10.1037/dev0002080

Deceiving is lying, across countries

Across cultures and languages, people show broad similarities in how they think about deceptive statements, according to research in *American Psychologist*. In an online study, 3,666 participants from Chile, China, Germany, Israel, Japan, Mexico, South Africa, Spain, the United Kingdom, and the United States read scenarios featuring deceptive statements, such as a person saying “I ate some of the cookies” when they had eaten all of them. While these kinds of statements are true in a literal sense, they may be interpreted as implying

something untrue. Participants indicated whether they thought the person making each statement had lied and whether they had said something true or false. Across countries, participants' judgments followed broadly similar patterns. When they deemed a statement false, they were also highly likely to deem it a lie, suggesting they considered the implicit meaning when determining deceit. Further studies can clarify whether similar patterns emerge in other contexts and for other kinds of deception, such as lying by omission.

DOI: 10.1037/amp0001626

Big Five traits may independently shape mortality risk

While personality traits are thought to influence how long we live, evidence for specific associations is inconsistent across studies. To bring clarity to these findings, researchers conducted a preregistered meta-analysis of longitudinal studies. The meta-analysis, published in the *Journal of Personality and Social Psychology*, examined data from 569,859 people across 28 eligible studies that included death data and measures of the Big Five personality traits. Overall, higher levels of trait neuroticism were linked with a higher likelihood of early death, and this association was stronger for younger participants. In addition, higher levels of trait extraversion and conscientiousness were linked with a lower risk of premature death, specifically in samples from North America and Australia. Various health factors (e.g., physical activity, anxiety) partly explained the associations between some of the traits, in line with the idea that personality may influence health behaviors. The associations with neuroticism, extraversion, and conscientiousness remained consistent even

when the researchers accounted for all Big Five traits in one statistical model, suggesting each of the three traits has an independent effect on mortality. Further research is needed to determine whether these findings generalize beyond high-income countries.

DOI: 10.1037/pspp0000577

People tend to underestimate depolarizing effects of conversation

Having conversations with someone who holds an opposing viewpoint may shift attitudes more than people expect, according to research in the *Journal of Personality and Social Psychology*. In several online studies, participants in the United States and United Kingdom underestimated how much their attitudes and their conversation partner's attitudes would

change after talking about a topic on which they disagreed. Findings showed that these conversations—on topics ranging from dogs and cats to cancel culture to President Biden's job performance—tended to shift participants' attitudes somewhat closer together, and these shifts lasted up to 1 week. Although participants often assumed they disagreed on fundamental grounds, engaging in conversation tended to reveal unexpected points of connection. Participants who learned that conversations could lead to attitude change were more interested in talking to someone with an opposing viewpoint. Future studies can clarify how factors such as the number of conversation partners, conversational structure, and presence of an audience affect these findings.

DOI: 10.1037/pspa0000469



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🔍 Burnout can lead to more stress at work

Although it's commonly assumed that work stressors lead to burnout, data from 2,131 employees in Germany suggest that the relationship may work the other way around. Researchers collected data from the employees at five points over a 24-month period. The findings, published in the *Journal of Occupational Health Psychology*, indicate that employees who reported increased burnout over a 6-month interval tended to have more work stressors in the following 6 months. This pattern was consistent across different types of work stressors and over longer time intervals. The reverse relationship—increased stressors predicting higher burnout—emerged

only among employees who had consistently low job resources (such as low autonomy and low social support) and employees who had high levels of stressors. Additional analyses indicated that burnout has a stronger overarching effect on stressors than stressors have on burnout. According to the researchers, these findings underscore the importance of examining within-person change across variables to understand causal relationships.

DOI: 10.1037/ocp0000417

🔍 Emerging adults may be connected but lonely

People may experience connection and companionship (social well-being) while also experiencing loneliness

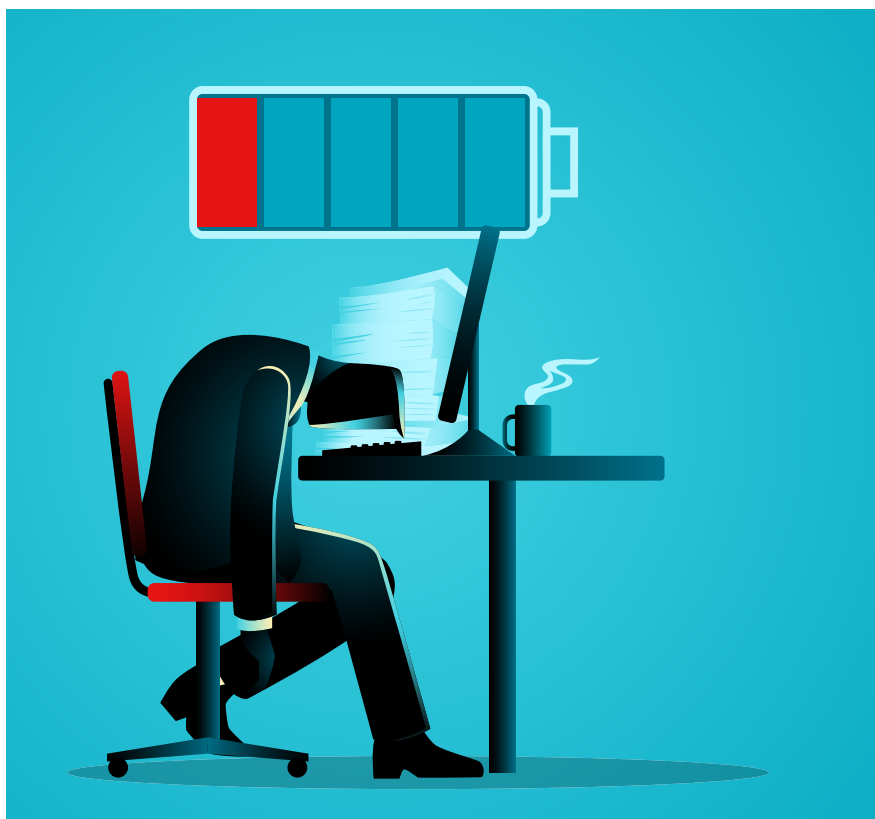
and disconnection (social ill-being), especially during times of social transition, according to a study in *PLOS One*. Researchers collected data from 4,812 adults (ages 18 to 95), including measures of social well-being, social ill-being, recent life changes, perceived stress, and recent relationship experiences. Overall, both young adults and older adults had high levels of social well-being, while young adults had higher levels of social ill-being. Cluster analysis indicated that about 61% of participants clustered into a group characterized by high social well-being and moderate social ill-being. People in this group tended to be younger, more educated, and female; they also reported more life changes over the past year. The findings suggest that feelings of loneliness may be coupled with connection and companionship, especially amid the social transience and life transitions of early adulthood.

DOI: 10.1371/journal.pone.0334787

🔍 When burnout builds, workplace stressors often escalate in the months that follow, suggesting that overwhelm may invite even more pressure.

🔍 Speech hesitation is linked to poorer executive functioning

Word-finding ability is associated with variation in executive function among healthy adults, according to a study of natural speech in the *Journal of Speech, Language, and Hearing Research*. In two studies, 67 healthy older adults (ages 65 to 75) and 174 healthy adults (ages 18 to 90) completed measures of working memory, response inhibition, task switching, and other cognitive abilities related to executive function. They also verbally described two complex images. Natural speech analysis indicated that greater word-finding difficulties in the verbal descriptions were associated with lower executive function abilities in both samples, even after accounting for age, gender, and education. That is, healthy adults who had slower or more hesitant speech tended to perform worse on the executive



function tasks. The researchers posit that natural speech analysis may offer a relatively accessible tool for detecting subtle cognitive changes that is not confounded by practice effects over time.

DOI: 10.1044/2025_JSLHR-24-00268

Brain's predictive nature influences perceptual memory

The brain makes ongoing predictions about what will happen next, influencing how we remember things in motion, a phenomenon called representational momentum. A series of seven online experiments in *Psychological Science* suggests that representational momentum also affects how people remember changes in brightness, color saturation, and proportion. In one online experiment, 215 participants watched an animation of a gray square becoming brighter or darker. The animation stopped at a random point and then disappeared. When asked to pick the frame that looked like the one they had seen last, participants tended to select a square that was about 5.54 frames ahead in the sequence. For example, when they had seen a square getting brighter, they remembered the last frame as brighter than it was. The researchers replicated these results under varying conditions and found similar effects with changes in color saturation and proportion but not changing hue. Together, these experiments highlight the predictive nature of the brain and its effects on perceptual memory.

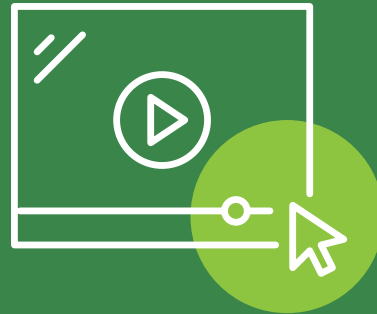
DOI: 10.1177/09567976251395074

Multilingualism may be associated with healthier aging

Does exposure to multiple languages confer health benefits? To find out, researchers examined health data from 86,149 participants in 27 European countries. For each participant, they calculated a biobehavioral age gap, which reflected the difference between the participant's chronological age and their predicted age based on factors such as functional ability, cognition, cardiometabolic conditions, and sensory impairments. Cross-sectional and longitudinal analyses published in *Nature Aging* indicated that people from multilingual countries tended to have smaller biobehavioral age gaps. In other words, people from countries with high levels of multilingualism were less likely to experience accelerated aging, while people from countries with low levels of multilingualism were more likely to experience accelerated aging. These patterns held even after accounting for other country-level linguistic, physical, social, socioeconomic, and political factors. While the findings suggest that living in a multilingual environment may

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📱 Earlier smartphone ownership is linked with greater risk for health concerns, including insufficient sleep problems and depression, by age 12.

confer health benefits, individual-level data are needed to determine whether speaking multiple languages directly affects healthy aging.

<https://doi.org/10.1038/s43587-025-01000-2>

📱 Getting a smartphone at a young age may come with health problems

While some studies have pointed to links between children's smartphone use and health, research in *Pediatrics* indicates that the age at which children get a smartphone may also matter. Examining data from 10,588 participants in the Adolescent Brain Cognitive Development Study, researchers found that 12-year-olds who had smartphones were more likely to meet criteria for depression, insufficient sleep, and obesity than their peers without smartphones. Furthermore, the researchers found small but significant associations with the age of smartphone acquisition: The younger the children were when they got their smartphones, the more likely they were to have

insufficient sleep and obesity at age 12. Participants who got smartphones between ages 12 and 13 were more likely to have clinically significant mental health symptoms and insufficient sleep than their peers who remained phoneless at 13. The links between smartphone ownership

and health were consistent even after accounting for factors such as race, ethnicity, household income, and ownership of other devices. Follow-up data can shed light on whether and how these associations change throughout adolescence.

DOI: 10.1542/peds.2025-072941

🧠 Foreign words, but not sounds, are processed differently in the brain

When you hear someone speaking another language, the sounds that are discrete and intelligible to them may seem completely uninterpretable to you. A study in *Nature* sheds light on what happens in the brain when we hear familiar and unfamiliar languages. Researchers analyzed high-resolution direct brain recordings taken from 20 monolingual participants as they listened to natural speech in their native language and another language (either English, Spanish, or Mandarin). The researchers focused on activity in the superior temporal gyrus, an area of the brain that is critical for speech

🧠 Research suggests that the brain processes the basic sounds of any language similarly but reserves specialized responses for the words and patterns of languages we know well.



perception. While groups of neurons that responded to acoustic-phonetic features of speech tended to do so for both native and foreign languages, groups of neurons that responded to word-specific features (such as word boundaries) tended to do so for participants' native language only. Additional data from eight bilingual participants indicated enhanced neural encoding for word- and sequence-level information for both languages. The findings suggest that the superior temporal gyrus plays a role in processing the fundamental features of speech and the aspects of speech that are learned through specific, daily experience.

DOI: 10.1038/s41586-025-09748-8

Collaboration can align brain activity

Collaborative rule learning may lead

to alignment in brain activity across people, according to research in *PLOS Biology*. Researchers used EEG hyper-scanning to simultaneously record the brain activity of 24 participant pairs as they worked together to establish and apply specific rules for categorizing images. For comparison purposes, the researchers also created a group of pseudo pairs, matching participants who had seen the same images in the same order but had not collaborated as a pair. Using a new technique called interbrain representational similarity analysis, the researchers then measured the degree of information alignment reflected in the brain activity of each pair. Both real and pseudo pairs showed early alignment in brain activity about 50 to 165 milliseconds after an image appeared, suggesting shared visual representations.

However, alignment in brain activity lasted longer among the real pairs and strengthened with feedback across trials, suggesting collaboration-specific neural representations. Together, the findings highlight the social dynamics of information alignment across brains. Future studies can explore how information alignment plays out with different types of social interactions and time scales.

DOI: 10.1371/journal.pbio.3003479

Whose approval matters for intercultural couples?

Having the approval of friends may boost intercultural couples' relationships more than having the approval of family or society, according to a study in *Social Psychological and Personality Science*. The findings, based on data from 757 adults across three online

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samples, indicated that the approval of friends was particularly linked with relationship quality among non-White couples. When the researchers explored potential cultural differences, they found that family approval was linked with relationship quality only for participants who identified as Latin American or Middle Eastern. Family approval was also linked with relationship quality for participants in newer relationships. According to the researchers, these results suggest that friends may play a unique role in affirming and supporting intercultural couples, many of whom experience discrimination and marginalization.

DOI: 10.1177/19485506251389441

Early language interventions do not replace ongoing support

Researchers found no long-term differences in language skills between children who received a preschool language intervention and those who did not, suggesting that the early effects seen in first grade had faded by fourth grade. The study, published in *Psychological Science*, followed 301 preschoolers in Norway who were identified as having lower vocabulary skills. Some of the children were randomly assigned to a 30-week language-comprehension intervention, while others received instruction as usual. The intervention included story-focused conversation and language training related to vocabulary, grammar, and narrative skills. The researchers found that the initial intervention effects on children's expressive language skills lasted into first grade and seemed to have the greatest benefits for children who began the intervention with the lowest skills. However, the effects did not last into fourth grade. According to the researchers, the findings highlight the importance of viewing interventions

as a starting point for ongoing educational support.

DOI: 10.1177/09567976251392219

Flexible emotion regulation may come with age

Aging may bring experience and perspective, but how does it influence our ability to manage our emotions? Researchers examined daily diary data, collected over 28 days, from 133 younger adults (ages 20 to 35) and 119 older adults (ages 64 to 80). Each day, participants reported the most stressful situation that they encountered and the extent to which they used two emotion regulation strategies: reappraising and modifying the situation. They also reported the

degree to which they felt the stressor was within their control. In general, older adults were more likely to report using both emotion regulation strategies, suggests a study in *Emotion*. Older adults varied their use of situation modification more over time and adjusted their approach in line with how much control they felt they had, indicating flexible, situation-specific use of the strategy. Unexpectedly, both younger and older adults used cognitive reappraisal more with stressors they saw as more controllable. Overall, the findings suggest that older adults may be particularly adept at adjusting their emotional responses to manage the stresses of daily life.

DOI: 10.1037/emo0001617

📷 Compared with younger adults, older adults more often adjust how they manage stressful situations, showing a flexible, situation-specific approach to regulating emotions.



Datapoint

Hands-on Experience Sharpens AI Concerns Among Psychologists

Psychologists who use AI frequently are more concerned about inaccurate outputs than those who infrequently or never use AI

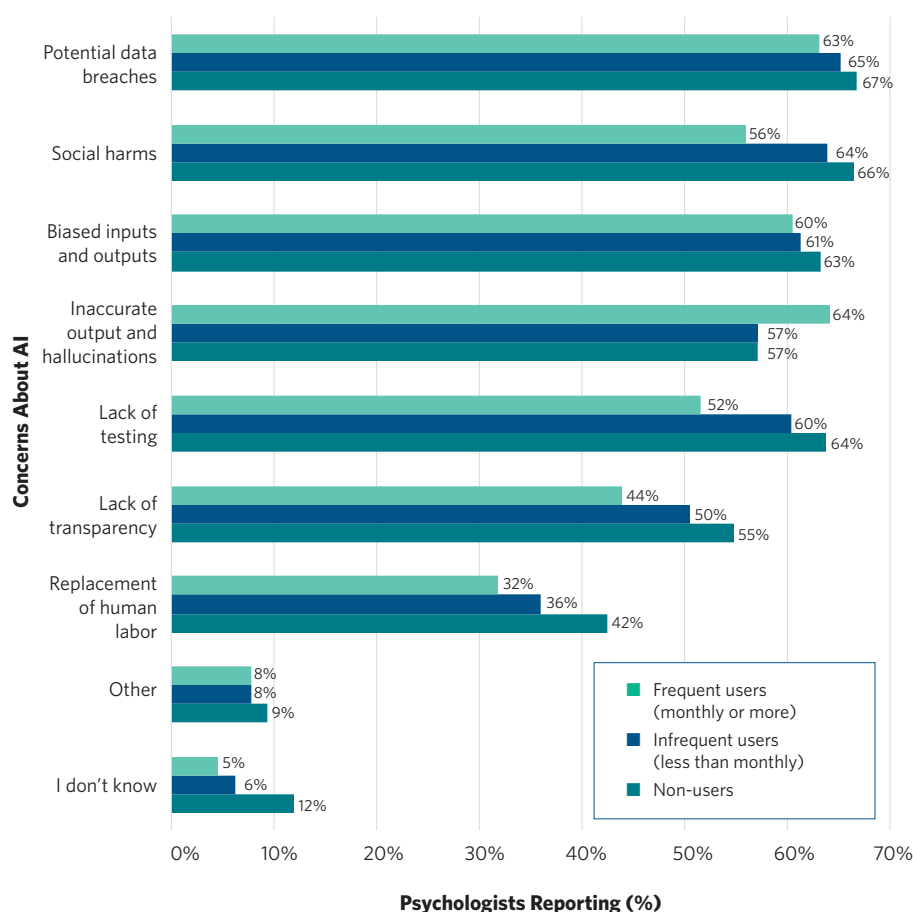
CORY PAGE, MPH, MPP, KAREN STAMM, PhD, AND MERON ASSEFA, MS

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

AS PSYCHOLOGISTS BEGIN exploring AI more broadly in their practices, they are also becoming increasingly concerned about AI. The proportion of psychologists using AI frequently (at least monthly) rose from 11% in 2024 to 29% in 2025, while those using AI infrequently (less than monthly) rose from 18% in 2024 to 28% in 2025. Those never using AI fell from 71% in 2024 to 44% in 2025.

Psychologists' concerns about AI grew by about 10 percentage points during this time period. But where frequent AI users were more concerned about inaccurate outputs and hallucinations, those who infrequently or never used AI were more concerned about unanticipated social harms, lack of transparency in how AI works, and lack of testing and validation to mitigate risks. Concerns about replacement of human labor were higher for psychologists who infrequently or never used AI than those who frequently used AI. Given the differences in concerns between frequent and infrequent users, all psychologists should undertake training in various AI tools to be able to understand the tools' strengths as well as their limitations.

Psychologists' Concerns About AI by Frequency of AI Usage, 2025



SOURCES

American Psychological Association. (2025). *AI in the Therapist's Office: 2025 Practitioner Pulse Survey*. <https://www.apa.org/pubs/reports/practitioner/2025>

Note: Pairs of frequency of AI use groups were tested for statistical significance; comparative statements were statistically significant at $p < .05$. Totals may not sum to 100% due to rounding.

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Financially Stressed and Digitally Tempted

Psychologists are uncovering the risks of modern spending and how consumers can better protect themselves from accumulating too much debt

BY HEATHER STRINGER

A SINGLE TAP, a purchase made, a payment deferred: As AI algorithms predict consumers' desires and new frictionless payment methods dismantle the traditional pain of paying, cognitive psychologists are stepping in to reveal how these converging technologies are rewiring financial decision-making and exacerbating debt-related mental health concerns.

This work comes at a precarious time. Wearing by years of inflation, stagnant income, and elevated personal debt, many Americans believe their finances will worsen in 2026. A 2025 Bankrate survey found that pessimism about personal finances is at the highest level since 2018, with price

increases primarily to blame. And a Gallup survey published in April 2025 found similar attitudes, with nearly 30% of Americans reporting that inflation is the most important financial problem facing their family today, compared with only 3% in 2021.

As a result, debt has shifted from a stopgap to a way of life for many people, with paying down debt the most commonly cited goal in the Bankrate survey. Yet this objective can retreat to the background as consumers struggle with the high cost of living combined with a steady stream of hyperpersonalized online ads that offer new, streamlined payment mechanisms. A prime example is "buy now, pay later" (BNPL) services, where a single click or tap lets shoppers purchase items from groceries to furniture by splitting up the payments into smaller, interest-free installments. Unlike previous generations of installment plans that required monthly payments for a year or longer as well as a credit check, now consumers gain instant approval at checkout and make fewer payments.

"Spending is easier when the pain of paying is minimized," said cognitive and consumer psychologist Abigail Sussman, PhD, a professor of marketing at The University of Chicago Booth School of Business. "And since AI models are better and better at predicting the products we want, targeted

ads can create a constant barrage of temptation."

BNPL services such as Klarna, Afterpay, and Affirm typically allow consumers to divide purchases into four payments over 6 weeks. When users fail to pay, lenders charge late fees or block borrowers from new BNPL loans. If the debt hasn't been paid for 60 to 90 days, the lender can sell the debt to a collection agency. While most BNPL loans have not appeared on credit reports, FICO—the most widely used credit scoring company—announced in 2025 that its new models will incorporate BNPL data about payment history and other information into an individual's credit profile.

The popularity of BNPL has surged in the past several years, with more than half of Americans reporting that they have used these services in the past 12 months (Hudson, A., & Paustian, S., Numerator, Feb. 14, 2025). Clothing and fashion was the top category for this type of financing, followed by electronics and gadgets and furniture and home décor. According to a 2025 survey by the online loan marketplace LendingTree, more than 40% of BNPL users said they paid late in the past year, and 33% saw BNPL as a bridge to their next paycheck. Unlike credit cards, BNPL schemes do not require an official approval process, and there is little federal oversight of these products.

AT A GLANCE

- Buy now, pay later financing bypasses a number of cognitive and physical barriers to impulse buying, heightening the risk of financial and psychological stress for many people.
- Younger people and people with certain mental health conditions are among those more likely to use these payment mechanisms, sounding alarm bells about the need for more consumer awareness.
- Behavioral scientists and applied practitioners can help by continuing to research the real-world impacts of the cognitive mechanisms underlying these behaviors, while health service psychologists can help by asking patients if they are open to talking about their relationship with money.



People who are already under economic strain have less room for error in financial decisions. Even a small mistake, like missing a minimum payment, can trigger penalties or additional interest payments.

While these loans can help with short-term budgeting for individuals who can make the payments on time, they can increase stress when users stack up multiple BNPL loans simultaneously and start missing payments. Researchers recently found that people with certain mental health conditions were more likely to use BNPL products, and unsecured debt—debt that is not backed by collateral—is correlated with worse mental health (Richardson, T., et al., *Clinical Psychology Review*, Vol. 33, No. 8, 2013).

To better protect consumers, researchers are studying the psychological mechanisms that shape financial decision-making in the ecommerce environment and how to help people resist spending that may exacerbate financial stress. “When people are under economic strain, one of the challenges they face is that they have less room for error in financial decisions,” said Sussman. “Once they are in debt, a small error like missing a minimum payment

can trigger penalties or additional interest payments that leave people without money for the things they need.”

The illusion of affordability

After realizing how much they actually owed, 1 in 4 Americans say they’ve regretted using BNPL (Caporal, J., Motley Fool, Nov. 14, 2025), and a new study is shedding light on why these plans are so tempting. “Presenting an installment amount rather than the full price lowers a consumer’s perception of the cost,” said Rhys Ashby, PhD, a professor in the department of management and marketing at Swinburne University of Technology in Australia. “This is due to the numerosity effect.”

In one of Ashby’s studies, participants shopped for a refrigerator online. People in the BNPL group saw the total price of \$600 alongside the installment price of four payments of \$150. The credit card group saw only the full price of \$600. The BNPL participants perceived the refrigerator as

less expensive and were more likely to buy it than the credit card group. In a second experiment, participants could choose cheap or expensive concert tickets. More people in the BNPL group opted for the expensive tickets (*Journal of Retailing*, Vol. 101, No. 1, 2025).

“With these installment plans, people may not be fully internalizing the cost of a purchase when deciding whether to buy or how much to spend,” said Sussman. In comparison, “the pain of paying can help people make good financial decisions.”

Similarly, online BNPL shoppers may have less energy to evaluate the risks and benefits of making a purchase by the time they reach checkout. Processing information about details such as brand, size, and color can exact a high cognitive load, wearing the brain down and draining energy for making decisions (Mateja, A., et al., in Hernes, M., Hernes, M., et al. [Eds.], *Emerging Challenges in Intelligent Management Information Systems*, Springer-Verlag, 2024). By clicking on a BNPL plan, a shopper will likely also start receiving promotional offers or alerts about discounts tailored to their interests, based on previous purchases, which can further the cognitive load and risk of impulse buying.

These risks are compounded by another factor that increases the risk of impulse buying: The cognitive brakes that encourage shoppers to pause in a brick-and-mortar environment are largely absent online. Impulse buying—a sudden act of purchase with no preshopping intentions, low effort in decision-making, and a powerful emotional charge—is prevalent in the ecommerce industry (*Journal of Behavioral Economics for Policy*, Vol. 6, No. 1, 2022). “Online, people are not bound by place and time,” said Marco Mandolfo, PhD, an

assistant professor who studies consumer neuroscience at Polytechnic University of Milan in Italy. “Shoppers can buy from their couch late on a Friday night rather than exerting the effort to travel to stores to find what they want during open hours.” Ecommerce also tends to bring less social pressure than in-store shopping, where the presence of friends, family, or other consumers might create the perception of being judged for what or how much a shopper buys. Young adults appear to be more prone to impulse buying, research finds (Nyrhinen, J., et al., *Computers in Human Behavior*, Vol. 153, 2024). “Some of their risk assessment functions are not fully developed, and they tend to have more drive toward immediate gratification,” said Mandolfo.

What’s perhaps not surprising is that people tend to underreport or justify their impulse purchases, said Mandolfo. His preliminary findings suggest that there are physiological signs that indicate someone is engaging in online impulse buying, including increased sweat gland activity, a slower blink rate, and distinct patterns of brain activity in the cerebral cortex. Self-reports of impulse buying are not as accurate as the self-reports combined with the physiological markers.

Dangers to both psychological and financial well-being

Researchers are most concerned about consumers who start to make a habit of using BNPL. “Financial stability and mental health are intertwined,” said Catherine Ettman, PhD, an assistant professor at the Johns Hopkins Bloomberg School of Public Health. “People experiencing poor mental health may have lived experiences that shape their economic choices and vice versa. People under financial stress are more likely to have poor mental

health.” In a study of more than 2,000 U.S. adults, her team found that people reporting signs of depression and anxiety were almost twice as likely to have used BNPL plans compared with those who did not report these symptoms. Participants with symptoms of post-traumatic stress disorder were at even higher risk of using BNPL (*JAMA Health Forum*, Vol. 6, No. 12, 2025).

Ettman hopes that the findings will build momentum to strengthen consumer awareness about the benefits and risks of using products such as BNPL. There are signs that policymakers are eager to increase protections, with attorneys general from California, Connecticut, Colorado, Illinois, Minnesota, North Carolina, and Wisconsin recently launching a joint inquiry into the six largest BNPL providers (McCorvey, J. J., Bloomberg, Dec. 1, 2025). The inquiry is exploring whether consumers receive adequate protections compared with traditional credit products.

Researchers are also worried that millennials and Gen Z consumers—who were more than twice as likely to make late payments for BNPL than other age groups in a recent survey—may unknowingly increase their risk of accruing a level of debt that leads to social exclusion (Caporal, J., Motley Fool, Nov. 14, 2025).

In a small, qualitative study of people ages 18 to 25 who were over-indebted (their debt had been sold to a collection agency), researchers found that the participants experienced significant limitations in key areas for transitioning to adulthood (Eriksson, E., & Davidsson, T., *Journal of Youth Studies*, 2025). In the housing market, many had struggled to find landlords who would rent to them or struggled to secure loans for a mortgage to buy a home. Some had abandoned their ambitions to go to college because

they were fearful of taking on new loans that could increase their debt. Others were hesitant to apply for new jobs because they were worried about making changes that could introduce risks to their reliable source of income. Many did not have the funds to participate in social events with friends and felt shame about their debt, so they withdrew from activities and felt more isolated.

Many of the participants also reported high levels of stress and anxiety, and more than half had suicidal ideation. The debt also increased tension between partners. “Dreams about having kids became a strain for some because they couldn’t invest in a common future,” said Erik Eriksson, one of the study’s authors and an associate professor in the school of social work at Lund University in Sweden. His team also discovered that in most cases, over-indebtedness was not the result of overconsumption. Instead, participants were accumulating debt to pay for rent, food, clothes, and other necessities.

Finding a way through

Heightened financial anxiety is also emerging in the clinical setting as health service psychologists work with patients. “I’ve been a psychologist for 40 years, and I have never seen so many people feeling paralyzed with stress and fear related to finances,” said Mary Gresham, PhD, a financial psychologist in Atlanta. “The cost of living is becoming unaffordable, debt is increasing, the job market is shaky, and there are unsettling changes to federal financial institutions.”

Although money can be viewed as a taboo topic for therapy, Gresham said it is critical for psychologists to start asking patients about this topic at the beginning of therapy. “Often what I see is that money is harder to talk



Psychologists are using behavioral insights and AI tools to make saving feel more doable—helping people choose small daily steps that add up over time.

about than sex,” she said. She starts by asking if patients feel comfortable talking about their relationship with money. If they are open to discussing the topic, she guides them to consider their values around money, their emotional connection to money, how they spend their money—and whether their spending behavior matches their values.

“Many couples do not talk about money unless they are having a fight about it,” she said. “I help them team together to explore how they are spending and whether this fits with their view of partnership.”

Encouraging people to accurately forecast monthly expenses is another important strategy for reducing financial anxiety, though research suggests that people usually underpredict future spending. “Our studies have found that people are pretty good at predicting standard expenses each month, but there are often atypical expenses each month, too,” said Sussman (*Journal of Marketing Research*, Vol. 59, No. 2, 2021). “This can be Halloween costumes and decorations one month or the cost of an unexpected car repair the next month.” She encourages

individuals to add a buffer each month for atypical expenses.

Psychologists are also studying how to help more people save money. One finding leverages the numerosity effect that BNPL schemes are using—but also in a way that helps people squirrel away savings rather than accrue debt. In one study, participants were asked if they wanted to save \$5 per day or \$150 per month. The people in the \$5 per day group were 4 times more likely to sign up for the savings plan. Framing the savings in smaller amounts also reduced the participation gap between lower- and higher-income consumers (*Marketing Science*, Vol. 39, No. 6, 2020).

“When people think about saving \$5 a day, they can easily call to mind a number of things they could give up to reduce their spending, such as one coffee per day,” said Hal Hershfield, PhD, one of the study authors and a professor of marketing and behavioral decision-making at the University of California, Los Angeles. “But there are fewer things that come to mind that cost \$150.”

Hershfield is also using AI to explore how to increase willingness to save

for the future. A common barrier to putting aside money is people’s difficulty empathizing with the economic needs of their future selves. In a recent study, Hershfield used an aging filter that showed people in one group an image of themselves in 20 years. The tool increased the percentage of people who opted to save for retirement in a recurring deposit plan as well as the amount they wanted to save, (*Behavioral Science & Policy*, Vol. 9, No. 1, 2023). “A vivid visual example helps people feel like they know this future self and want to save for them,” Hershfield said. “It doesn’t mean people have to stop spending money now—just spend differently so they have more things they can do in the future.” ■

FURTHER READING

Whose assets? Individual and household income and savings and mental health in a longitudinal cohort
Ettman, C. K., et al.
Social Science & Medicine, 2025

BNPL and financial fragility in U.S. households
Donou-Adonsou, F., & Leslie-Piper, N.
Finance Research Letters, 2025

Disclosing the costs of co-holding liquid assets and high-interest debt has limited impact on behavior
Batista, R. N., et al.
SSRN, 2025

How Psychologists Are Shaping the High-Pressure World of Esports

Researchers and psychologists from a variety of backgrounds are working to prevent burnout, optimize performance, and safeguard the mental health of esports players

BY EFUA ANDOH

ORGANIZED COMPETITIVE VIDEO gaming—known as “esports”—has ballooned into a global phenomenon. Some analysts value worldwide esports at \$1.6 billion, with more than 220 million players participating, according to *Esports Insider*. Others estimate that the industry’s true market value is \$24.9 billion with game publishers controlling 64% of esports revenue (Ahn, J., et al., *International Journal of Esports*, Vol. 1, No. 1, 2020). The rise of livestreaming platforms like Twitch, Discord, and YouTube—and the charismatic personalities of some of the athletes leveraging these platforms—has fueled this growth. The first Olympic Esports Games are set for Riyadh, Saudi Arabia’s capital, in 2027.

Esports differ from casual video gaming because they constitute

organized, higher-stakes competitions with formal ranking systems rather than a casual hobby. Players often compete as teams on digital platforms through systems run by amateur, semiprofessional, or professional leagues (Gisbert-Pérez, J., et al., *Current Psychology*, Vol. 43, 2024). Popular genres of esports include fighting games (e.g., *Mortal Kombat*), shooting games (*Counter-Strike*), role-playing games (*Dungeons & Dragons*), and multiplayer online battle arena games (e.g., *League of Legends*).

There is growing demand for psychological support, especially for athletes at the highest levels of esports competition; however, there is a dearth of appropriate evidence-based practices and ethical and professional standards (Horne, G., et al., *Journal of Electronic Gaming and Esports*, Vol. 2, No. 1, 2024). Many professional players face intense performance stressors that contribute to burnout and psychological distress. While there are more sports psychologists and certified performance coaches entering the esports space, there is still a significant shortfall of qualified professionals who understand the psychological factors that shape cognitive skills and performance in esports (Pedraza-Ramirez, I., et al., *International Review of Sport and Exercise Psychology*, Vol. 13, No. 1, 2020).

Esports psychology is growing alongside esports, but professional

pathways into the space are somewhat informal. Professionals who have appropriate training in psychology are not limited to licensed health service psychologists. They come from many parts of psychology, including clinical, cognitive, sport, and performance psychology. Some—such as performance consultants or mental skills coaches—may not legally use the title “psychologist” but still offer valuable, evidence-informed support grounded in sport science and behavioral principles. The Certified Mental Performance Consultant (CMPC) credential has emerged as a pathway into the field for master’s-level clinicians. Esports is one of the few performance environments where multiple psychological subdisciplines naturally converge, allowing experts with different training to approach challenges from multiple angles.

Many esports players begin competing professionally in adolescence, facing intense pressure, unstable schedules, and public scrutiny while still developing emotionally and socially. Esports psychologists are stepping into this space to help players enhance performance, manage stress, and build sustainable careers rather than burn out early.

Ryan Terao, PsyD, an esports and licensed clinical psychologist and owner of PsychSensei, LLC, in Tempe, Arizona, likened the power of esports

AT A GLANCE

- Esports are a fast-evolving multibillion-dollar industry that draws hundreds of millions of competitive video game players worldwide.
- Esports psychologists come from many different subdisciplines and are working to bring evidence-based approaches to performance, mental health, and player development.
- Psychology researchers and applied professionals are partnering with teams, organizations, and schools to build stronger support systems for esports athletes.



As competitive esports has grown into a multibillion-dollar global industry with hundreds of millions of players, esports psychology is emerging as a multidisciplinary field focused on performance, well-being, and sustainable careers.

and gaming to fire: “It’s beautiful. It’s useful. It helps you cook your food and heat your house,” he said. “At the same time, if left unsupervised, it can burn you and your house down. It can be very destructive. How can we make sure kids are learning to use fire properly? How can we put safeguards in place so they can use it to their benefit without getting burned?”

A high-pressure arena

Unlike traditional sports that rely much more on physical prowess, esports competition draws more heavily on players’ cognitive and psychological skills. Their execution depends on rapid decision-making, emotion regulation, and the ability to process complex visual information under time pressure. Players must maintain precise motor control, manage attention across multiple game elements, and adapt strategy in real time, often in front of large online audiences.

Emerging research suggests that the way players think about stress can shape their performance. In one study of *Counter-Strike* players, researchers found that getting players to reconceptualize stress as being beneficial and a challenge to overcome rather than a debilitating threat improved shooting accuracy, attentional control, and cognitive effort during high-pressure performance. In addition, a mindset-reappraisal intervention that encouraged players to view stress as beneficial lowered players’ anxiety and led to faster completion times (Sharpe, B. T., et al., *Applied Psychology*, Vol. 73, No. 4, 2024).

Researchers are also examining *tilt*—strong negative emotions that lead to suboptimal decisions during games. Tilt can lead players to perform reckless and self-destructive actions such as hurtling their character, unprotected, at an enemy. This would be akin to a player committing

a flagrant foul in basketball or rushing the mound in baseball.

In a surprising finding from a study of 95 high school *League of Legends* players, players were tilted most often by their own teammates (36%) or other collaborative players (22%) rather than their opponents (2%) (Wu, M., et al., *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*, 2021). Players experiencing tilt also tended to direct the harshest reactions toward themselves. However, mindset and self-efficacy are key. Players who believed they could change how easily they got tilted were more likely to use constructive coping strategies, while those who saw tilt as a fixed trait within themselves were more likely to employ abusive or negative strategies toward others.

Much remains to be understood of the contributors to improved performance among esports athletes. In one cross-sectional study, researchers looked at 480 high-level players across seven popular games. They found that traditional sport psychology measures, like mental toughness and resilience, do not significantly predict competitive achievement in esports. Digital gaming may create unique cognitive and tactical demands that traditional tools do not capture. This highlights the need for more research into psychological constructs that are specific to esports (Young, M. G., et al., *Psychology of Sport and Exercise*, Vol. 82, 2026).

Grappling with ‘grind’ culture

Research shows that elite esports players often experience poor mental health outcomes. In one recent study of professional *Counter-Strike* players, about 1 in 4 reported moderately severe or severe symptoms of depression. More than half (54.9%) reported experiencing psychological distress, and nearly three quarters (72.5%) reported low

levels of mental well-being. Despite these challenges, almost 70% said they lacked access to mental health support (Birch, P. D. J., et al., *Journal of Electronic Gaming and Esports*, Vol. 2, No. 1, 2024).

The ultracompetitive “grind culture” of esports may contribute to these outcomes. Players often practice for long stretches with minimal physical movement and irregular sleep schedules. One study found that professional gamers spend more than 22 hours per week on gameplay (Palanichamy, T., et al., *Industrial Psychiatry Journal*, Vol. 29, No. 2, 2020). Long hours of practice do not automatically translate to success. A study with *Counter-Strike: Global Offensive* and *League of Legends* players found that deliberate practice did not meaningfully predict long-term rank. Instead, younger age was a stable predictor of success across both titles, while visual attention was a key predictor specifically for *Counter-Strike* (Martončík, M., et al., *Collabra: Psychology*, Vol. 10, No. 1, 2024).

Research shows that esports athletes may face similar levels of psychological pressure as traditional athletes

do. In one study, researchers found 51 stressors, such as communication problems and pressures of competing before live audiences, resembled those affecting professional athletes in traditional sports (Smith, M. J., et al., *International Journal of Gaming and Computer-Mediated Simulations*, Vol. 11, No. 2, 2019).

Benjamin Sharpe, PhD, a senior lecturer in cognitive psychology and director of the Human Attention Laboratory at the University of Chichester in the United Kingdom, expressed concern about the high rates of stress, burnout, sleep disruption, and performance-related distress reported among esports players. “Players describe how mental health difficulties degrade their strategic thinking and reduce motivation, creating a cyclical pattern where performance decline further exacerbates stress and emotional distress,” Sharpe said. He also pointed to inequities in access to support: “While elite players within formal organizational structures often have access to professional psychological services, non-elite players must rely on inconsistent online resources or navigate support systems on their own.”

“The evidence base is expanding rapidly, but it lacks the rigor necessary for evidence-based practice,” Sharpe added. “What troubles me is that we’re developing support frameworks and interventions without the longitudinal data to understand long-term outcomes or the intervention research to know what actually works.”

Toward global guidance

A major effort is underway to develop international mental health guidelines tailored to esports. In 2024, the global men’s health charity Movember recruited esports psychology researcher Dylan Poulus, PhD, a senior lecturer in sport and performance psychology at Southern Cross University in Lismore, Australia, to lead development of the first standards of this kind. Last year, Poulus, Sharpe, and collaborators conducted a scoping review of 89 studies, convened expert workshops, and held focus groups with players as young as 16. Many participants said they understood that high-volume gaming could have negative effects on their psychological well-being but reported that when they sought professional help, clinicians often recommended quitting gaming altogether, overlooking the social connection and sense of belonging that esports provide.

While research shows that professional gamers suffer higher rates of gaming disorder than nonprofessional gamers (Maldonado-Murciano, L., et al., *Addictive Behaviors*, Vol. 132, 2022), Poulus noted that clinicians sometimes rely too heavily on internet gaming disorder as a diagnosis when they learn of the long hours of gaming among esports competitors. However, a more nuanced approach is necessary when esports competitors often require those hours to train and remain competitive. Rather than an



Many esports players report poor mental well-being because of the intense grind culture, long practice hours, and sleep disruption, yet nearly 70% say they lack access to adequate mental health support.

RESEARCH

BRINGING A LONGITUDINAL LENS TO ESPORTS

Although esports research is growing, most studies offer only a snapshot in time. In the scoping review of 89 studies that Dy

lan Poulus, PhD and his team conducted for the Movember project, 94% were published within the past 5 years, and 56% used cross-sectional designs. Only 7% were longitudinal and 5% were intervention studies. To fill this gap in the evidence base, Poulus and colleagues have launched a longitudinal study that will track young esports players over time to determine how gaming affects them as they develop. The “Goldilocks Study” is designed to identify the amount of gaming that maximizes benefits while minimizing risk for young players. “What we really need to do is track young people over their development to understand when [gaming] is good and when it is bad, and then how to mitigate the bad and maximize the good,” Poulus said.

all-or-nothing approach, Poulus advocated for clinicians to adopt a deeper understanding of the benefits of competing in esports and encourage players to create a safer relationship with a core component of their lives rather than pull away from it totally.

In November 2025, Poulus and colleagues convened game publishers, tournament organizers, International Olympic Committee representatives, and mental health experts to finalize nine pillars of mental health support for amateur, semiprofessional, and professional players worldwide. The forthcoming guidelines, expected this spring, aim to set evidence-based standards in a largely unregulated industry, with input from both stakeholders and players.

Demonstrating esports psychology's value

Professionals within esports psychology perform roles that combine high-performance coaching, clinical or counseling skills, and deep game literacy. Many of them compete with unregulated performance coaches or self-described mental-skills gurus with little formal training. This is often because teams and esports organizations often view esports

psychologists' services as optional or expensive. As a result, psychology professionals must frequently demonstrate their value by showing detailed knowledge of specific games and competitive structures as well as their expertise in sport and performance psychology.

“My first hurdle is convincing somebody that I have something to offer them as a doctor,” Terao said. “I often tell them that the time they’ve been spending in the game, I’ve been spending outside of the game to learn all these skills and merge them with my passion for the game.” Through his YouTube channel, Terao translates research on anxiety, cognitive load, communication, and teamwork into accessible content for players and teams.

In his consulting work, Terao helps players and teams shift from chasing instant gains in online rank to building systems for performance and self-regulation that are sustainable for the long term. “We don’t just try to fix. We try to create processes and systems for our clients to get consistent results.” He often prepares clients to expect a temporary dip in performance as they reconstruct habits around sleep, practice structure, and postgame review. During video-on-demand (VOD)

sessions where players watch recordings of their games, he helps players and teams analyze their communication patterns, identify how conflicts emerge, and spot the emotional cues that may signal tilt or disengagement.

Callum Abbott, a chartered sport and exercise psychologist based in Suffolk, England, describes the esports landscape as “almost kind of the Wild West. People are still trying to find the systems that work best and are most efficient.” Serving primarily as an external consultant, he works either as a team’s main sport psychologist or as part of broader performance units alongside coaches, analysts, and physical trainers. Much of his work centers on psychological well-being and burnout prevention, including helping players manage sedentary routines, build offline relationships, and develop sources of meaning outside their gaming identity.

Abbott still feels more research is needed on effective coaching practices, pathways to burnout, and optimal practice volume: “I would love to see research asking the question, Where does quantity tip into diminishing returns? Where does quality become more important?”

Whole-player development

Some esports psychology professionals have worked to build systems that develop esports athletes as whole people, not just performers. Doug Gardner, EdD, founder of ThinkSport Consulting Services, an applied sport psychology firm with locations in California, began working in esports in 2016 after decades as a sport psychology consultant with Major League Baseball and the National Football League. In 2018, he built what he describes as the first player development department in North American professional esports for the Immortals organization.

“Esports is a sport without a childhood pipeline. Many pros go straight from an anonymous position on a ladder to a contract, with no Little League, no college team, and no off-ramp when it ends,” Gardner said. The end can often come too soon, with the average professional esports career only lasting 3 years and most players finishing before age 21, according to Gardner. Gardner and his team prioritized exercise, sleep routines, and intrinsic motivation, helping the Immortals players build healthier daily structures supporting performance and long-term well-being. They also incorporated transition planning, encouraging players to apply to college or complete a GED.

Esports on campus

There are more than 300 esports programs at higher education institutions in the United States, according to the National Association of Collegiate Esports. Many programs are working to develop structures that balance high-level competition with student well-being and academic progress. At Michigan Technological University, cognitive scientist and human factors engineer Kaitlyn Roose launched the first varsity esports program at a public university in Michigan in 2020.

Roose intentionally housed the program within the athletics department and adopted the NCAA’s 20-hour rule for sanctioned activities, limiting weekly gameplay to create space for academics and recovery. Students gained access to an athletics-based sport psychologist, nutrition programming, and twice-weekly morning workouts aimed at normalizing physical conditioning and protecting against over-competition and burnout. Previously sedentary students reported that their in-game performance improved as their fitness

increased. Teams were also encouraged to develop their own norms around culture, accountability, and conflict management, fostering self-sufficiency and leadership skills. Although Roose left Michigan Tech in 2023 for a human factors engineer role elsewhere, the varsity esports program has continued.

In K–12 settings, psychologists and educators are leveraging esports to promote social-emotional learning and broaden access to extracurricular opportunities. In New Jersey, school and sport psychologist Matthew Strobel, PsyD, and colleagues at Garden State Esports developed the Esports Personal and Performance Improvement Curriculum (EPPIC), which embeds social-emotional learning, sport psychology, and wellness content into school-based esports practice. Designed for educators and coaches as well as mental health specialists, EPPIC addresses communication, teamwork, leadership, health and wellness, and navigating online toxicity and hate speech. The curriculum has been adopted by more than 60% of New Jersey school districts, reaching over 400 schools and roughly 12,000 students.

Strobel views esports as widening accessibility for students who may be marginalized in traditional sports, including neurodivergent youth. “Esports has really opened up a lot of opportunities for those individuals who weren’t always so available through a more traditional sport model,” Strobel said. As a result, neurodivergent youth in esports get “to be the captain of the team” versus the “helper” role they are often relegated to in traditional sports. Strobel believes the systems-level approach Garden State Esports is taking will magnify its impact. “I very much like to take a systems-level approach to my work,” Strobel said. “If I can work one-on-one

with someone, that’s great, but if I can teach a coach to do some of this and they have access to a team of 20 players, that’s even better.”

Esports psychology is still a young field, but researchers and psychologists from a variety of backgrounds are rapidly building a foundation for evidence-based support across all levels of competition. New studies on stress, tilt, practice demands, and attention will sharpen understanding of what drives performance in the digital game environment. At the same time, large-scale initiatives like the Movember Project and EPPIC are setting encouraging standards across esports organizations, schools, and university programs. “There’s so much potential for the next generation of psychologists coming through to build on a foundation of what is being created here,” Abbott said. ■

FURTHER READING

The psychology of esports: Trends, challenges, and future directions

Pedraza-Ramirez, I., et al., *Psychology of Sport and Exercise*, 2025

Leveling up: Using the tracer method to address training needs for esports players

Roose, K. M., & Veinott, E. S., *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, 2021

Psychology of esports special issue: A catalyst for change

Sharpe, B. T., & Birch, P. D. J., *Journal of Electronic Gaming and Esports*, 2024

Taxonomy of toxic behaviors in multiplayer gaming environments: An extension of the context of peer aggression

Zsila, A., & Demetrovics, Z., *Journal of Behavioral Addictions*, 2025

4 Questions for Mark Standing Eagle Baez

The clinical psychologist is a leader in developing culturally responsive methods for Indigenous mental health assessment and treatment

BY RACHEL CROWELL

MARK STANDING EAGLE BAEZ, PhD, is an associate professor of counseling and clinical psychology and codirector of the Indigenous Students in Psychology Training program at Bemidji State University in Minnesota. He is president of the Society of Indian Psychologists. A member of the Coahuiltecan Tribe, he is of Mohawk, Pawnee, and Mexican descent.

Baez developed the Sweetgrass Method, which integrates the best of Indigenous practice-based methods and Western evidence-based practices to build long-lasting, culturally intentional support for Indigenous communities in the area of mental health and substance use disorder. Additionally, Baez designed the Indigenous Suicide-Assessing Factors of Event (S.A.F.E.) Screening tool to assess suicide risk in a culturally responsive, respectful, and safe way for Indigenous clients.

The *Monitor* spoke with Baez about how he has applied a cultural strength-based approach in his work with Indigenous clients.

How has the Sweetgrass Method been effective?

In a nutshell, the Sweetgrass Method is a culturally responsive method for

working with our people—American Indian, Alaska Native people. I chose the name “sweetgrass” because the plant is sacred. We use this plant in ceremony when we’re trying to focus and ground ourselves—for protection, for motivation. What better instrument or understanding to use when working with clients?

This model represents a healing process based on three pillars, or three strands, which are introspection, communication, and continuation. When you’re looking at that framework, instead of a rigid, one-size-fits-all approach, this model encourages the flexibility of the grass itself—community-centered methods that respect our Indigenous ways of knowing while also weaving in Western techniques with a continuous spectrum of active, culturally intentional services.

This framework is for the professional, whether that individual is Native or non-Native, who would come to the table with this cultural humility. Whether I am working with a Native

student who has a disability or with a Native individual who has some behavioral issues, these cultural approaches are woven in when those services are applied.

For our people, the relationality [between clinician and client] begins at the very beginning. If we want change to happen, we need to have trust. To do that, we have this framework that is culturally centered, culturally grounded, and culturally responsive.

In terms of substance use disorders, what does your recent research show about the most effective ways to work with American Indian and Alaska Native clients?

We want to continue to have joy in our life. We want to continue to have healing be a part of our life. It’s difficult when a Western frame of thinking of “evidence-based practices” does not work for our people. It’s not because our people don’t want to be healed or they don’t want to have joy in their life. In plain terms, they do not like what you’re serving.

My understanding from clinicians—Indigenous and non-Indigenous—is changing the service delivery or the “menu.”

We are empowered by our own stories, our own ceremonies, our own traditional ways, and those are the ingredients that can be woven in. The Sweetgrass Method is leaving in the best evidence-based practices and weaving in the very best of Indigenous-practice-based evidence, with ongoing cultural intentionality of services for the clients.



PHOTO COURTESY OF DR. MARK STANDING EAGLE BAEZ

Why did you need to develop the Indigenous Suicide-Assessing Factors of Event (S.A.F.E.) Screening tool?

Right off the bat, the challenges that we continue to see are not only that we have the highest rate of suicide among all ethnicities, [but] there are also cultural mismatches in the screening. I have been conducting suicide screening [assessments] for a good part of 15 years. The majority of suicide screening tools are not designed for our people and communities. [Those tools] lead to this insensitivity and even potential harm or triggering with some of the first questions. I don't even know the person across the desk, I haven't built a relationship with them, and the first question is, "Have you thought about killing yourself?"

These approaches can create mistrust and decrease engagement. It may be the last time I see that person. [The standard screening tools] fail to capture the unique risks of our people, but what are some of the protective factors that continue to be grounding for our people?

This hit home for me. Relatives were saying, "What are you going to do about it?" It was a loud, resounding call for me to be more proactive than reactive. A culturally tailored screening tool—like the S.A.F.E. tool—within a respectful, relationship-focused framework had to be created.

How does the Indigenous S.A.F.E. Screening tool differ from standard Western suicide screening tools?

[When developing it,] I met with elders and clinical practitioners working in the field in the United States, Canada, Australia, and New Zealand. With our people and elders, it is taboo to bring [suicide] up, but elders were saying, "It can be done if it is done in a way that honors our peoples' experiences." To do that, we first check in with them and who they are and what gives them strength.

This moves beyond a simple checklist by providing a structure for a more respectful way of identifying risk factors. It frames more of the story of our clients rather than a rigid, detached process.

The Indigenous S.A.F.E. Screening tool consists of nine questions. While most standard screening tools are quick—typically taking 3 to 5 minutes—the Indigenous S.A.F.E. tool requires about 7 to 10 minutes. Some might say, "That's way too long." My response is, "Seven to 10 minutes is not too long when we're talking about saving a life." Those additional minutes matter. This process builds trust, strengthens the relationship, and ensures the data we gather is accurate and culturally grounded.

This tool is rooted in cultural humility and relational accountability. It helps the client feel seen, respected, and understood. And while the Indigenous S.A.F.E. Screening tool can stand alone, it can also serve as an extension of other standard tools, complementing them with a deeper, more culturally grounded approach. ■

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Public Remorse After High-Stakes Failure

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

Research on self-protection and reputation management illuminates Sam Bankman-Fried's post-FTX statements

BY AKSHAT DONTI, BA, JENNIFER K. ROBBENOLT, PhD, JD, AND VERITY WINSHIP, JD, UNIVERSITY OF ILLINOIS COLLEGE OF LAW

WHEN PEOPLE CAUSE harm, they face a fundamental tension between preserving a self-image of competence and integrity and taking responsibility for their actions. When potential legal consequences loom, this tension intensifies, forcing them to navigate the competing demands of legal self-protection and moral repair. Sam Bankman-Fried's response to the FTX collapse illustrates how the psychological dynamics of self-justification and reputation management play out in high-stakes public failures.

In November 2022, the cryptocurrency exchange FTX, once valued at \$32 billion, collapsed after revelations that its founder, Bankman-Fried, had funneled billions of customers' assets into risky investments, lavish purchases, and political donations. He was convicted of seven counts of fraud and conspiracy, sentenced to 25 years in prison, and ordered to pay \$11 billion in forfeited assets. Despite his lawyers' advice to remain silent before trial, Bankman-Fried embarked on a public apology tour, including extended interviews with media, a 22-tweet apology thread, a lengthy letter to employees, and a statement at his sentencing hearing. In each, he expressed regret and accepted responsibility for poor oversight while maintaining his innocence, blaming the pressure he was under, and denying intent to commit fraud.

Bankman-Fried's blend of apology, explanation, responsibility-taking, and blame-shifting reflects the cognitive and motivational processes people use to manage the fallout of wrongdoing. Doing harm creates cognitive dissonance and acknowledging wrongdoing threatens moral identity. People are motivated to maintain an image of themselves as good and well intentioned, and research shows how they protect that self-image even when confronted with harmful outcomes. Reframing harmful actions as mistakes or the result of external pressures, justifying or explaining

their actions, emphasizing good intentions, morally disengaging, and shifting blame are all cognitive strategies that allow decision-makers to acknowledge harm without accepting full moral blame.

But self-conception is only part of the story. People are also motivated to repair public perceptions and moral reputation, and public apologies often serve strategic signaling functions that are distinct from internal moral reckoning. Bankman-Fried's decision to speak publicly—and his lawyers' advice not to—underlines the tensions between the legal risks of apologizing and the potential legal and interpersonal benefits of apologies. Accepting responsibility can be perilous when criminal consequences or civil liability is at stake. Yet apologies can also shape how observers judge intent, remorse, and trustworthiness, potentially reducing anger, mitigating punishment, increasing willingness to settle, and making forgiveness more likely.

Psychological research further shows that apologies can be more effective when the violation is seen as a lapse in competence rather than a breach in integrity. Failures of competence—such as errors in judgment, mismanagement, or overconfidence—are generally perceived as more situational, correctable, and compatible with a fundamentally good moral character. In contrast, integrity violations signal dishonesty or corruption, traits that are seen as more stable and more predictive of future behavior. As a result, public audiences are more willing to restore trust after competence-based failures than after moral transgressions. This distinction matters: Bankman-Fried's emphasis on oversight failure and external pressures invites observers to interpret his failure as incompetence rather than fraud. Public reactions to Bankman-Fried's statements may depend on whether people interpret the collapse of FTX as resulting from ineptitude or as evidence of deeper moral failure. ■



AT ISSUE

Are public apologies after major wrongdoing genuine admissions of responsibility or strategic attempts to manage legal risk and public perception?

Millions of people with obsessive-compulsive disorder go undiagnosed or misdiagnosed for years, delaying effective care and raising suicide risk. Better screening and clinician education connects patients to proven life-saving treatment.



CE Corner

Diagnosing and Treating Obsessive-Compulsive Disorder

BY ZARA ABRAMS

UMA CHATTERJEE has had unwanted, distressing thoughts for as long as she can remember. As a child, she repeated a series of prayers 39 times hoping to keep her parents safe. As a young adult, fear of financial ruin sometimes kept her in the grocery store for 8 hours comparing prices. But she was not diagnosed with obsessive-compulsive disorder (OCD) until age 22 and did not receive the recommended treatment until age 25.

Chatterjee's story is not uncommon. OCD affects nearly 10 million people in the United States, but more than 80% of cases are estimated to be undiagnosed, according to an analysis of more than 10 million electronic health records. Of those with a diagnosis, as few as 2% may be receiving the recommended treatment (Deusser, R., et al., *America's OCD Care Crisis*, International OCD Foundation [IOCDF], 2025). Research suggests that on average, people with OCD have symptoms for nearly 13 years before they are correctly diagnosed (Ziegler, S., et al., *PLOS One*, Vol. 16, No. 12, 2021).

"Patients with OCD often suffer for many years before receiving an accurate diagnosis, sometimes getting treatments that perpetuate the condition or—even worse—being hospitalized when they disclose scary intrusive thoughts that are misinterpreted as indicating suicidality or homicidality," said Tamar Gordon, PhD, a licensed clinical psychologist specializing in OCD who founded and directs Gordon Therapy Group in New York City.

Misdiagnosis and underdiagnosis are largely due to misconceptions about OCD, both by the public and among

health care providers, as well as insufficient training to help clinicians distinguish it from other conditions, such as generalized anxiety disorder (GAD), post-traumatic stress disorder (PTSD), and psychotic disorders. Many people living with OCD struggle in silence, either too ashamed to disclose

obsessions or not realizing that something is wrong.

Compared with the general population, people with OCD face a suicide rate that is nearly 5 times higher and an 82% higher rate of premature death (Fernández de la Cruz, L., et al., *BMJ*, Vol. 384, 2024). Better understanding of how to screen for, diagnose, and treat OCD is a critical step toward connecting these individuals with potentially life-saving care.

"Providers don't need to specialize in OCD to be able to help," said Chatterjee, who is now conducting research on OCD as a neuroscience doctoral student at the University of Wisconsin–Madison and advocating for improved recognition of the condition. "By questioning what they know about this condition and continuing to learn about it, they have tremendous power to relieve the hopelessness and pain that many people with OCD are secretly living with."

CE CREDITS: 1

Learning objectives

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

- 1 Describe obsessive-compulsive disorder (OCD) and several common symptom themes.
- 2 Discuss why OCD is underdiagnosed and name several conditions with overlapping symptoms.
- 3 Explain how OCD is treated, including through medications and tailored cognitive behavioral therapies.

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

The OCD Cycle

Popular understanding of OCD often reduces the condition to a strong preference for order or cleanliness. In reality, it is a distressing and often debilitating disorder that can span many different themes, from contamination concerns and repeated checking to intrusive moral, sexual, or relationship-related concerns.

KEY POINTS

1

Obsessive-compulsive disorder (OCD) involves a cycle where intrusive and distressing thoughts trigger mental or behavioral acts aimed at reducing that distress.

2

People with OCD spend an average of 13 years with symptoms before they are diagnosed and face a risk of suicide that is 5 times higher than the general population.

3

Exposure and response prevention, a widely recommended behavioral treatment for OCD, helps patients learn to coexist with intrusive thoughts without trying to neutralize, avoid, or control them.

People with OCD experience obsessions—persistent and intrusive thoughts, urges, or images—that cause significant distress or anxiety, often by triggering intense doubt, guilt, or shame. To reduce that distress, they perform compulsions—repetitive behaviors or mental acts—that are not realistically connected to the feared outcome they aim to prevent but are instead a way to gain certainty and relieve doubt. The obsessions or compulsions are either time-consuming, cause significant distress or impairment, or both.

Distress is often anxiety but can also include disgust, obsessional guilt (guilty feelings about something that has not occurred), or “not just right experiences,” which are overwhelming feelings that something is wrong. Some people have the same intrusive

thoughts every day, while others have thoughts that change.

OCD can occur at any age, but it typically starts between ages 7 and 12 or between the late teen and early adult years, around age 20. Prevalence rates do not differ substantially across sexes, races, or ethnicities (“About OCD,” IOCDF). Severity can range from mild, with manageable symptoms that cause little daily disruption, to extreme, with symptoms that are incapacitating.

Many people with OCD experience intrusive thoughts that are horrific or taboo, such as the fear they may kill themselves, harm a loved one, or sexually harm a child in their care. Importantly, these thoughts are ego-dystonic, or inconsistent with a person’s values or identity (as opposed to ego-syntonic thoughts or urges, which feel acceptable or desirable). Distinguishing between the two is critical, because people with OCD are sometimes unnecessarily hospitalized or reported to authorities after sharing ego-dystonic thoughts they have no intention of acting on.

“Clinicians need to know what intrusive thoughts are and how to identify them—and they need to be comfortable discussing taboo topics,” Gordon said.

Compulsions (sometimes called rituals) can be behavioral, such as repeatedly checking locks, but they can also be covert and internal. Covert compulsions include rumination, silent counting or praying, neutralizing a “bad” thought with a “good” one, or mentally reviewing memories to ensure something bad did not happen.

“Rituals may look like things many of us do on a day-to-day basis, but they tend to be extreme in nature, and the primary goal is to get rid of an internal feeling,” said Nathaniel Van Kirk, PhD,



a licensed clinical psychologist and program director of the OCD Institute at McLean Hospital in Belmont, Massachusetts. “Performing rituals actually reinforces obsessions—making them more intense, more frequent, and harder to [tolerate].”

Though OCD is not classified into formal subtypes, it presents in several common symptom themes. These include contamination (where a fear of germs or toxins leads to excessive cleaning or avoidance of certain places), harm (where a fear of causing injury to self or others leads to repeated checking of memories, objects, or situations), not just right experiences (where things feel uneven, incomplete, or not quite right),



OCD presents in several common symptom themes, including contamination, in which a fear of germs or toxins leads to excessive cleaning or avoidance of certain places.

sexual taboos (fear that one will act in an unacceptable sexual manner, leading to avoidance or mental checking), and scrupulosity (excessive concerns about blasphemy or religious wrongdoing).

Getting diagnosis right

Primary-care providers and mental health clinicians can help identify people who may have OCD using brief scales such as the OCI-4, a four-item version of the obsessive-compulsive inventory scale, or simply by routinely asking patients whether they

have intrusive thoughts, said Dean McKay, PhD, a professor of psychology at Fordham University and a clinician specializing in OCD (*Journal of Anxiety Disorders*, Vol. 78, 2021). Patients can then be referred to a trained provider for in-depth assessment.

Diagnosing OCD requires distinguishing obsessions—intrusive, unwanted thoughts, images, or urges that cause significant distress or anxiety—from worries, such as concerns about finances or social responsibilities. Clinicians must also assess

the presence of compulsions and the extent to which they interfere with daily functioning. Central to diagnosis is identifying whether compulsive behaviors are performed in direct response to obsessions.

“If clinicians focus on the content of a ritual rather than the purpose it serves, OCD can be overlooked,” Van Kirk said. “Compulsions can take many forms, but they are defined by their function—efforts to reduce distress or neutralize unwanted thoughts and obsessional fears.”

OCD is often missed because, on the surface, it can look like several other conditions. GAD is among the most common, because obsessions often cause significant anxiety. Seeking safety from intrusive thoughts can also look like PTSD, which can co-occur with and complicate OCD. Because obsessions can seem fantastical, they may also be confused with delusions, leading to a misdiagnosis of schizophrenia or another psychotic disorder.

Treatments for GAD can involve cognitive strategies aimed at reducing perceived threat or increasing a sense of safety. With OCD, however, providing reassurance is counterproductive. While it may briefly lower distress, reassurance functions like a compulsion, reinforcing a patient’s drive to seek certainty. When applied to OCD, cognitive behavioral therapies not specifically designed for the condition may therefore worsen symptoms, according to work by McKay (*Clinical Psychology: Science and Practice*, Vol. 28, No. 1, 2021).

In children, OCD can be mistaken for attention-deficit/hyperactivity disorder. One young patient of Gordon’s feared forgetting things, so he repeatedly checked his backpack to make sure each item was in place, leading to inattention at school.

“Autism spectrum disorders can also involve repetitive thoughts and behaviors, but a key distinction is that these interests are pleasant or ego-syntonic or used as a way to regulate the nervous system, whereas obsessions are unpleasant and frightening,” said Fred Penzel, PhD, a licensed clinical psychologist and expert in treating OCD who founded and directs Western Suffolk Psychological Services in Huntington, New York.

Experts do not all agree on what conditions are related to OCD on a fundamental level. The latest edition of the *Diagnostic and Statistical Manual of Mental Disorders*, the *DSM-5*, lists several related conditions, including hoarding disorder (where people have difficulty discarding possessions) and body dysmorphic disorder (where people are preoccupied with perceived flaws in their physical appearance). Many also believe that illness anxiety disorder, formerly called hypochondriasis, bears key similarities to OCD. There is also evidence for substantial overlap between OCD and Tourette syndrome (Mansueto, C. S., “OCD and Tourette Syndrome: Re-examining the Relationship,” *IOCDF*, 2008).

Treating OCD

Exposure and response prevention (ERP), a specialized form of cognitive behavioral therapy developed for treating OCD in the 1960s, remains the first-line treatment. Estimates from research studies and clinical experts suggest that between 65% and 80% of patients respond well to ERP, while others partially benefit or do not benefit (Ong, C. W., et al., *Journal of Anxiety Disorders*, Vol. 40, 2016).

During ERP, a trained clinician guides a patient to systematically face what they fear in growing degrees of

intensity while resisting performing the rituals they typically use to neutralize those fears. By doing so, patients gradually increase their tolerance for uncertainty and learn to coexist with their intrusive thoughts.

“Patients learn that it’s possible to have the thought and carry on with life rather than twisting themselves out of shape to avoid feeling fear,” Penzel said.

While the underlying principles do not change, treatment with ERP can take on many forms depending on a patient’s symptoms. A

clinician might guide someone with contamination-related OCD to touch doorknobs or shake hands with another person. For a person with intrusive thoughts about suicide, treatment may involve imaginal scripts that ask the patient to sit with feared scenarios—such as handling knives—without attempting to neutralize or escape their distress. After completing a course of ERP, patients learn strategies to manage symptoms on their own, with follow-up or booster sessions recommended to maintain progress over time.

Exposure and response prevention therapy can be augmented by tailored cognitive therapies as well as medication, where appropriate.



ERP can be adapted for children by including game-like elements, such as incentives tied to completing exposures, said C. Alec Pollard, PhD, a licensed clinical psychologist and founding director of the Center for OCD and Anxiety-Related Disorders at St. Louis Behavioral Medicine Institute. Providers also work closely with parents to reduce accommodation, or behaviors that unintentionally reinforce a child's symptoms, such as doing extra laundry to assuage contamination fears.

Misconceptions about ERP include the belief that it is too distressing to undergo, and some people with OCD avoid seeking help because they fear the treatment will be intolerable. But when delivered correctly by a trained provider—such as those recommended by the International OCD Foundation, a leading global authority on the condition—ERP “is probably the most compassionate thing you can do for someone who suffers from OCD,” McKay said.

Selective serotonin reuptake inhibitors (SSRIs) are also effective in reducing OCD symptoms and are typically prescribed in higher doses than used to treat depression. Research suggests that about half of patients with OCD respond to SSRIs, with a 40% to 50% decrease in symptom severity (Poskar, S., “Medication Treatment for Obsessive Compulsive Disorder in Adults,” IOCDF). Most psychologists view SSRIs as a way to enhance ERP rather than as a standalone treatment.

“Medication is a good way to turn down the volume on the OCD—reducing distress enough for patients to engage in ERP,” Van Kirk said. In severe or extreme cases of OCD, other medications, such as antipsychotics, may also be helpful.

Several tailored cognitive therapies can be used to augment ERP.

These include addressing the over-importance of thoughts (placing excessive weight on intrusive or fantastical thoughts), thought-action fusion (the belief that thinking about an event makes it more likely to happen), and overestimation of threat (the belief that one faces greater risks than others).

Acceptance and commitment therapy can also help patients engage more fully with ERP, Gordon said, by providing tools for tolerating uncertainty and distress. In some cases, she also teaches coping skills—such as mindfulness and grounding exercises—to help patients stay with exposures. Not all providers use coping skills, because some view them as bordering on reassurance.

A new treatment approach known as inference-based cognitive behavioral therapy (I-CBT) may offer a further adjunct to ERP or an alternative for patients unwilling to do ERP. This metacognitive approach focuses “upstream” on how obsessions form, teaching patients to question the faulty reasoning that gives rise to them. In a randomized controlled trial, I-CBT led to symptom improvement comparable with other cognitive behavioral treatments that included ERP (Aardema, F., et al., *Psychotherapy and Psychosomatics*, Vol. 91, No. 5, 2022).

Ongoing research aims to make ERP more effective across the board, including by finding ways to help the roughly 40% of patients who do not respond adequately. A new line of inquiry also seeks to understand how past trauma can complicate or exacerbate OCD, as well as how to respond to it. Chatterjee is among those using human brain tissue and animal models to identify neurobiological targets for treatment (specific brain-based mechanisms that

therapies or medications could act on to reduce OCD symptoms), an area where options remain limited.

“OCD is severely underfunded and understudied—even compared with other mental health conditions,” Chatterjee said. “There are many people who aren’t helped, or helped enough, by existing treatments. We need more research into the biology of OCD for those who continue to struggle.” ■

FURTHER RESOURCES

Speaking of Psychology:
OCD myths and realities,
with Dean McKay, PhD,
and Uma Chatterjee
APA, 2023

Research roundup:
Effective technology-
enhanced treatments
for pediatric obsessive-
compulsive disorder
Marzalik, J. S.
APA, 2021

Resources for professionals
International OCD
Foundation, 2026





Don't
Use

Slang

Slang use, especially in teens, can shed light on how people construct identity and belonging in an increasingly complex digital world

BY EFUA ANDOH

THE SLANG TERM “6-7”

became nearly unavoidable for anyone interacting with children and adolescents last year. Originating from a somewhat obscure rap song in late 2024, it quickly gained momentum on TikTok and other social media platforms, evolving into a chant shouted in response whenever the numbers 6 or 7 cropped up in casual conversation. Primarily embraced by Generation Alpha—those born between 2010 and 2024—the phrase has become so pervasive that some schools have even banned its use. Its meteoric rise demonstrates the internet’s power to propel fringe terms into the mainstream at warp speed.

Dictionary.com designated “6-7” as its Word of the Year for 2025, describing it as “meaningless, ubiquitous, and nonsensical” while acknowledging its usefulness to young users “due to the connection it fosters.” For young people, the appeal lies in its irreverent or rebellious qualities while also remaining opaque to adults—a collective in-joke just for them. Slang, however, is more than a linguistic quirk for people of all ages. It functions as a dynamic social code that can offer insight into the complexity of identity formation and belonging in a fast-paced digital world.

“Slang is one of these really classic indicators of identity,” said Ryan Boyd, PhD, a social and personality

psychologist and assistant professor of psychology at the University of Texas at Dallas. “It tells you who’s similar to you, who’s different from you, which is something that all language does. If someone speaks really formally versus informally, it gives you a sense of who they are, how you relate to them, and how they relate to you.” Boyd uses computational methods to measure, study, and understand linguistic patterns and the psychological processes behind them.

The historical origins of slang

The word “slang” originated in the 18th century as speech associated with an underclass of thieves, beggars, and the itinerants connected with them who used coded language to conceal their criminal activities. That early association with secrecy and informality shapes modern perceptions of slang as something outside the bounds of formal speech or writing. Over time, various guilds and trades also developed their own specialized vocabularies to signal the exclusivity of their expertise and communicate efficiently with other members of their profession. That verbal shorthand persists in modern professional settings as jargon.

“If I walk into a hospital and listen to a bunch of doctors talking, they use superspecific terms,” Boyd said. “I may have no idea what any of that stuff means, but it conveys really rich information about what they know, their experiences, and background. Others who share that vocabulary immediately recognize it. Slang does the exact same thing.”

Linguists define slang as informal and nontechnical language that “functions as a tool to differentiate social groups and to promote in-group solidarity and cohesiveness” (Damirjian, A., *Mind & Language*, Vol. 40, No. 2, 2025). It serves as “lexical metadata”

that enables listeners to determine the speaker’s affiliations. In the American context, slang is often characterized by its humor, conciseness, and originality. Slang terms often cycle rapidly from popularity to obsolescence, rarely staying in use for more than a few years. However, some expressions do become integrated into standard language. “Gay,” for instance, originated as a slang term for homosexuality in the 1930s and persists today (Zhou, Y., & Fan, Y., *Theory and Practice in Language Studies*, Vol. 3, No. 12, 2013).

“Slang is one of these really classic indicators of identity. It tells you who’s similar to you, who’s different from you.”

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Assistant professor of psychology at the University of Texas at Dallas

Slang frequently borrows from different subcultures, serving as a bridge between marginalized groups and the mainstream. African American Vernacular English, in particular, has been one of the most enduring and influential sources of slang for standard American English (Roth-Gordon, J., in Stanlaw, J. [Ed.], *The International Encyclopedia of Linguistic Anthropology*, 2020). The term “cool,” which emerged during the jazz age, is an early and long-lasting example. More recent turns of phrase such as “cap/no cap” (lie/no lie or for real), “lit” (exciting or fun), and “bus-sin” (delicious) have been embraced

AT A GLANCE

- Slang works as a social code that signals identity, belonging, and the distinction between in-groups and out-groups.
- Slang’s emotional and expressive nature may activate reward pathways in the brain and enhance memory retention.
- The rise of digital media has revolutionized the ways in which slang terms migrate and gain currency in modern society.



by Generation Z—those born between 1995 and 2010.

Contemporary slang also heavily reflects the influences of youth-driven pop culture and digital media while also incorporating colloquialisms that originated from LGBTQ+ communities, artists, musicians, the military, prisons, drug culture, and working-class communities, among others. These diverse origins shape how slang is used. “Primary users” create and use slang in their everyday

speech and “illustrative users” adopt slang occasionally to signal authenticity to others (Green, J., *Slang: A Very Short Introduction*, Oxford University Press, 2016). While slang can signal a desirable image of youthfulness or social currency, it can also carry the risk of stigma, suggesting a lack of professionalism or social inferiority. Ultimately, its impact depends on context, shaped by the speakers’ social setting, group membership, and the norms they are following or violating.

The neuroscience of slang

While neuroscience specific to slang use is still emerging, existing research on language use and the brain may indicate why slang use can feel so satisfying. Evidence points to key neural effects with regard to emotional intensity, the activation of reward pathways, and the link to memory and social identity. At its core, slang is innately expressive, and emotional language and processing such language tap into areas of the brain related to

feelings and value judgment. Research shows that affectively charged words, including slang, influence the release of key neuromodulators. For example, the release of serotonin—often called the brain’s “feel-good chemical”—significantly increases in the thalamus when processing words with positive associations (Batten, S. R., et al., *Cell Reports*, Vol. 44, No. 1, 2025). Taken together, these patterns suggest that slang doesn’t just communicate meaning; it taps into neural systems that reinforce pleasure, connection, and a sense of shared identity.

There is research showing that successfully learning new words, which mimics the process of acquiring new slang, activates the brain’s reward centers (Ripollés, P., et al., *Current Biology*, Vol. 24, No. 21, 2014). Those reward systems also engage when they encounter natural-sounding, engaging narratives (Kobo, O., et al., *iScience*, Vol. 27, No. 6, 2024). Slang’s capacity to add color, rhythm, and playfulness to language may boost that narrative appeal, making stories feel more vivid and rewarding for listeners.

Slang’s emotional qualities may also make language more memorable. A study investigating how emotional words enhance memory found that words are remembered better if they have higher emotional intensity and are distinctly positive or negative rather than neutral (Gao, C., et al., *Acta Psychologica*, Vol. 246, 2024). All language is social, but the core function of slang to signal identity and

in-group membership may also contribute to how memorable the terms are. Sebastian Schindler, PhD, and colleagues discovered that people were more likely to remember words when they came back as social feedback about themselves, especially when the words were positive (*Scientific Reports*, Vol. 12, 2022). Because slang is often used in social, judgment-heavy contexts, these findings suggest that slang terms that positively comment on an individual or a group with which they identify may be more likely to stick in one’s memory.

Slang as a lab for youth development

Adolescence is a critical period for identity and social development, and slang plays a key role in that process. Research using participants from Generations Z and Alpha has identified slang usage as a powerful cultural marker for asserting identity and reinforcing belonging. In one survey of Gen Z students, participants viewed slang as a tool for greater social acceptance, recognition, and alignment with valued peer groups (Germe, A. A. B., et al., *IOSR Journal of Humanities and Social Science*, Vol. 30, No. 3, 2025). For Gen Alpha, the world’s first digital natives, slang use is heavily influenced by algorithms, specific interactive platforms, and global pop culture that spreads easily in their hyperconnected world (Subramaniam, T., & Thangavelu, M., *Journal of Cultural Analysis and Social Change*, Vol. 10, No. 3, 2025).

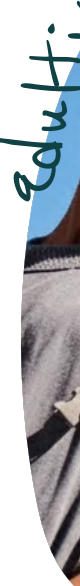
Young people are often the key creators and innovators of slang because they use language as a way to define themselves and draw boundaries between their own group and perceived outsiders. Slang is a creative way for them to demonstrate how their social world feels different from that of their parents or other adults (Sheralieva, M. S., *Western European Journal of Linguistics and Education*, Vol. 2, No. 11, 2024). Slang use contributes to self-definition, peer bonding, and even *theory of mind*—the understanding that others have intentions, desires, beliefs, perceptions, and emotions different from one’s own that affect their actions and behaviors.

The motivation to signal in-group identity via slang can be potent, according to Robert Hawkins, PhD, a cognitive scientist and an assistant professor of linguistics at Stanford University. “Slang is doing two things at once. When you say something your friends understand and your parents don’t, you’re communicating content—like whether something’s cool or not—but you’re also communicating who you are.” In a series of controlled experiments, Alicia Chen, a fourth-year PhD student in the department of brain and cognitive sciences at the Massachusetts Institute of Technology (MIT), Rebecca Saxe, PhD, an MIT professor of cognitive neuroscience, and Hawkins found that when individuals want to signal membership in a group, they prefer concise, group-specific terms even at the cost of not being understood by outsiders (Chen, A. M., et al., *PsyArXiv*, 2025).

“We can think about slang as a performance of identity signaling where you belong, who you represent, the worldviews that you cosign, the beliefs and values that you have, and the community that you belong to.”

Adriana Manago, PhD

Associate professor of developmental psychology at the University of California, Santa Cruz





“We can think about slang as a performance of identity signaling where you belong, who you represent, the worldviews that you cosign, the beliefs and values that you have, and the community that you belong to,” said Adriana Manago, PhD, an associate professor of developmental psychology at the University of California, Santa Cruz, who studies how adolescents behave as agents of cultural change through their social media use.

For youth, slang is also a crucial way of assessing and signaling authenticity in an age where things can be increasingly faked through social media and AI. Manago pointed to young people’s liberal use of the terms “no cap,” “rizz” (charisma), and “slay” (perform exceptionally well) as a way to celebrate their own uniqueness and excellence. “This reflects the individualistic culture of the United States of having confidence and putting yourself out there and being unique,” Manago said. “If we analyze some of the slang terms, I think we really see the values that young people are constructing in a digitally mediated world.”

As clinical psychologist and youth friendships expert Eileen Kennedy-Moore, PhD, explained, adolescence is also a stage marked by children’s desire to explore their identities outside of their family. “There’s an increasing focus on peer relationships,” Kennedy-Moore said. “Slang serves a couple of functions. It signals to friends, we’re all in the know. It’s a bond of the peer group because they all use the phrase and know what it means. And there’s an extra layer of deliciousness if the adults don’t know what it means. They have a certain kind of expertise that the adults don’t.”

“The thing about slang is that it is a very flexible and low-stakes way [for young people] to signal autonomy, express personality, test different social roles, and start to feel out the edges of their independence,” said Liz Sweigart, PhD, an expert in youth online safety and president of Div. 13 (Society of Consulting Psychology). She added that youth often explore their identities through language before resorting to higher-stakes methods like changing their appearance through fashion or hairstyle choices, for example.

Slang also fosters growing sophistication when it comes to cognitive skills. Theory of mind may emerge around age 3 or 4; however, it acquires greater sophistication in middle childhood and adolescence as tweens and teens learn to adjust their language based on their social context and the imagined perspectives of others (Asaridou, S. S., et al., *BioRxiv*, 2019; Osterhaus, C., & Koerber, S., *Child Development*, Vol. 92, No. 5, 2021).

Code-switching—switching from one dialect, language, or register to another based on context—gains greater salience at this stage. Adults can nurture this skill in young people by indicating when slang may be appropriate. “It may be important to explain to them that there’s a time and a place,” Kennedy-Moore said. “Some kids just naturally are aware of that, and others need a little explaining to understand. We want to focus on helping them imagine the other person’s reaction.”

For non-White youth, knowing and using in-group language can be a crucial passport to safety and solidarity when

their identities may be otherwise stigmatized. Many learn to code-switch almost as a survival skill as they navigate interactions between in-groups and out-groups (Johnson, D. G., et al., *Affective Science*, Vol. 3, 2022). “Slang isn’t just about individual words. It’s also the way that you say things, your phrasing and emphasis on certain words like ‘sister’ or ‘girl’ that indicate a connection to a community,” said Jennifer Noble, PhD, a clinical psychologist based in Los Angeles who specializes in mixed-race identity development in teens. “The cognitive flexibility that one can develop is a skill we sometimes underestimate or minimize.”

The digitization of modern slang

While previous generations often drew their pop culture from mass media and a more centralized monoculture, digital media’s rise has incubated countless hyperspecialized digital hubs where today’s youth can interact. “Digital environments are actively shaping the emergence, evolution, and meaning of slang. There are communities that are generating their own vernaculars such as TikTok, Discord servers, group chats, gaming voice channels, and creator communities,” Sweigart said. “Each of these microcultures brings its own norms, humor, values, rhythms. Youth are actually participating in dozens of overlapping digital communities every day.”

Slang terms mutate and migrate across these platforms at a lightning pace with algorithms and various aspects of platform design determining whether some terms go viral or remain niche. Hashtags and abbreviations are also heavily used on social media to facilitate quick and efficient communication. For example, “FOMO” has become a go-to phrase

to express “fear of missing out” on specific social events or opportunities. The use of rhetorical mechanisms such as humor, satire, and emotional appeal also helps accelerate the spread of various terms (Nie, X., *Journal of Education, Humanities and Social Sciences*, Vol. 45, 2024).

There are also generational differences. Gen Z slang favors sociopolitical expressions like “woke,” “adulting,” and “gaslighting” that tend to be rooted in cultural critique and inclusivity. Gen Alpha gravitates toward more playful and meme-based phrases like “skibidi” and “rizz” or ones that draw from gaming and virtual reality environments, such as “GG” (good game) and “POG” (play of the game) (Paoletti, V. D., & Mujahidah, N. F. Z., *English Review: Journal of English Education*, Vol. 13, No. 1, 2025). These differences mirror the platforms where each generation’s slang evolved. Gen Z slang developed primarily in text-based digital environments such as Facebook or Twitter, while Gen Alpha’s draws heavily from visual and video content on platforms like TikTok and YouTube (Melissa, P., et al., *Philosophica*, Vol. 7, No. 2, 2024).

Slang also serves as a tool for self-expression and creativity, which takes on even greater resonance in the digital age (Omoboye, M., & Eneh, N. E., *World Journal of Advanced Research and Reviews*, Vol. 21, No. 2, 2024). “What we’re seeing is real-time co-creation. It is like ‘hip-hop’ meets slang. They are taking things that existed before and remixing, sampling, and dubbing over them, and now it becomes this language collaboration,” said Sweigart. “Slang becomes this map of digital belonging, where what you see is this reflection of where youth are spending their time and in which communities. That gives you insight into what is shaping their identity.”

In addition, young people’s linguistic creativity may also come to the fore when they are navigating emotionally charged topics. “Slang allows youth to talk about things like relationships, stress, peer pressure, and questions about their identity. This is especially true for LGBTQIA+ youth,” said Sweigart. She added that slang also helps to surface discussions about social conflict: “Frenemies’ and other slang terms make it easier to navigate the increasingly emotionally complex relationships that young people experience as they grow and develop. They offer ways of discussing these topics that can feel nuanced and safe when direct expression just feels too exposed.”

Tweens and teens navigate a constantly shifting slang landscape that spans countless digital platforms to their in-person social settings. With new terms emerging every day, staying current requires real agility. Many young people work hard to maintain their status as linguistic insiders. For them, slang serves as the connective tissue between their online and IRL (in real life) identities, where a novel term



discovered on Discord or Roblox one day may be used at the cafeteria lunch table the next.

“Slang is just as much cultural infrastructure as it is playful expression,” Sweigart said. “Slang is used to organize communities and communicate your emotional state in a word and in a

way that you couldn’t with whole paragraphs. It’s how youth can navigate the complexity between online and offline worlds that is their base reality.”

Understanding how slang functions in the lives of young people offers psychologists a window into how they connect, express themselves, and

navigate complex social worlds. For clinicians and school psychologists, showing curiosity about the terms their patients use can build rapport and create a space where they feel they can be their authentic selves. Research can also advance our understanding by examining how the brain reacts to slang in real-life social situations. For example, future studies could analyze how the brain’s reward centers respond when slang is used in different types of social decision-making. In addition, research that captures slang “in the wild”—through natural conversations or large-scale analyses of social media posts—can reveal how these expressions emerge, spread, and become part of the shared vocabulary that bonds young people together. ■

TEACHING CONNECTIONS

LESSONS ON THE PSYCHOLOGY OF SLANG

The following prompts, organized by topic, can support high school and undergraduate educators in discussing how slang use reflects identity, learning, and social cognition in a digitally mediated world.

1. **Motivation and emotion** The article describes slang as emotionally expressive and rewarding, activating neural systems related to pleasure, connection, and identity. Using motivation concepts such as affiliation needs or reward sensitivity, explain why slang use may feel especially satisfying for adolescents. How might emotional intensity increase a slang term’s appeal and persistence?
Reinforces: *motivational processes, emotional expression, reward pathways, and links between affect and behavior*
2. **Social psychology** Slang functions as a social code that distinguishes in-groups from out-groups and signals belonging. How does slang use illustrate social identity theory, norm enforcement, or boundary maintenance within peer groups? How might slang simultaneously promote cohesion and exclusion?
Reinforces: *social identity, group dynamics, in-group/out-group processes, and norms*
3. **Developmental psychology** The article highlights adolescence as a key period for slang innovation and use. How do identity development, peer orientation, and theory of mind help explain why teens and tweens are primary creators of slang? Why might slang be a lower-risk way to explore autonomy compared with other forms of self-expression?
Reinforces: *adolescent development, identity formation, theory of mind, and cognitive flexibility*
4. **Learning** Slang spreads through imitation, reinforcement, and digital feedback such as likes, shares, and social approval. Compare how observational learning and operant conditioning help explain why certain slang terms go viral while others fade quickly. How do algorithms act as reinforcement mechanisms?
Reinforces: *learning theory, social learning, reinforcement, and behavior shaping in digital contexts*
5. **Research methods** Evaluate one research approach discussed in the article (e.g., computational language analysis, surveys of slang use, or neuroscience studies of emotional language). What are the strengths and limitations of studying slang “in the wild” through social media data? How would you design a follow-up study to examine slang use across platforms or cultures?
Reinforces: *research design, operational definitions, strengths and limitations of methods, and critical evaluation of evidence*

FURTHER READING

Algospeak: How social media is transforming the future of language
Aleksic, A., Knopf, 2025

The psychology of sexual and gender diversity in the 21st century: Social technologies and stories of authenticity
Hammack, P. L., & Manago, A. M., *American Psychologist*, 2025

Cringe, lit, or mid: Affective and cognitive effects of youth slang in an educational chatbot
Liew, T. W., et al., *Acta Psychologica*, 2025

Youth slang as a social language code: Functions and formation
Pesina, S. A., et al., *Brazilian Journal of Education, Technology, and Society*, 2024

The social impact of the evolution of internet language: A critical discourse analysis of popular internet language
Zhipeng, Y., *Lecture Notes on Language and Literature*, 2024



HOW LEARNING PROTECTS THE AGING BRAIN

Researchers are leveraging neuroplasticity to help older adults adapt to change and boost cognitive function

BY HEATHER STRINGER



LEARNING IS A high priority for young people who must master a host of new skills to survive and thrive in the world. Could learning also be critical in middle and older age to successfully navigate changes in areas such as health status, housing, and technology? Mounting evidence suggests that aging adults who engage in cognitively complex activities—such as learning how to use a new app or to speak a foreign language—can reduce their risk of mental decline and increase their ability to function independently longer.

These opportunities are not always readily available: Middle-aged and older adults must often take the initiative to find new ways to maximize their cognitive potential. But researchers hope to see communities increase access to affordable ways for this demographic to learn—both online and in person.

“There seems to be a societal expectation that adults are not supposed to be learning as much as children are,” said Rachel Wu, PhD, an associate professor of psychology at the University of California, Riverside, who studies the drivers of cognitive development and decline across the



These graduates of an intervention at a senior center in Riverside, California—whose primary language was Mandarin or Spanish—celebrated completing courses to learn how to use a tablet and understand English. Some participants said it was the first time they had worn a graduation gown.

AT A GLANCE

- Innovative, research-backed interventions that help aging adults implement new behaviors related to fitness, diet, and learning have been shown to improve and prolong cognitive health.
- Research indicates that learning multiple new skills in a supportive environment can, over time, help older adults achieve similar scores on cognitive tests as young adults.
- Whereas internalized ageism can lead older adults to believe that they cannot learn and must give up things that are important to them, research suggests that positive age beliefs can lead to better health and a longer life.

human life span. “What if adulthood is one very long summer slide, similar to what students experience during summer break?” Wu is exploring how to counter this risk, and her recent findings suggest that older adults immersed in a supportive learning environment can significantly increase their cognitive abilities as well as their confidence about their ability to learn.

With the number of Americans age 65 and older projected to increase by 30% in the next 25 years to 82 million, psychology researchers are developing cognitive interventions to help adults boost their brain health rather than being affected by harmful stereotypes about aging (*2023 National Population Projections*, U.S. Census Bureau). “Research is showing that older adults who buy into negative messages about aging start shaping their lives

consistent with those messages,” said Ann Steffen, PhD, a professor in the department of psychological sciences at the University of Missouri–St. Louis and coauthor of *Treating Later-Life Depression* (Oxford University Press, 2021). “This internalized ageism can lead to beliefs that older adults are less competent, can’t learn, and must give up things that are important to them.” Research by Yale University psychologist Becca Levy, PhD, suggests that positive age beliefs, on the other hand, can lead to better health and a 7.5-year average increase in life span (*Breaking the Aging Code*, William Morrow, 2023).

Psychologists are exploring different ways to engage adults in learning, including interventions delivered in person, through tablets or computers, or through virtual reality. Their findings suggest that leveraging neuroplasticity at any age can increase



confidence, motivation, and the desire to tackle new challenges—factors that ultimately help individuals adapt to change and maintain independence longer.

“People need to understand that they have some ability to influence their brain health,” said Alan Gow, PhD, a psychology professor at Heriot-Watt University in Edinburgh, Scotland, who studies healthy aging. “There are changes in lifestyle we can make at all stages of life that can affect cognition later in life.”

Learning real-life skills

Although researchers have been studying cognitive interventions for older adults for decades, the findings have been mixed about whether

standard brain training exercises translate to functional gain (Wu, R., et al., *European Journal of Ageing*, Vol. 22, No. 13, 2025). Some of these brain games include processing speed training: Individuals try to find specific items on a computer screen among distracting information as quickly and accurately as possible.

“Studies showed that people become proficient at that specific task and other tasks like it, but it does not help much with learning how to navigate an online health platform, because it is too far of a leap,” said Wu. These findings reminded Wu of people who were very good at playing brain games such as sudoku but had trouble managing their online bank accounts. “I realized there were a lot of people who

were not truly living independently, and I wondered if there were cognitive interventions that could help them adapt to a dynamic environment.”

To answer this question, she conducted studies in which adults ages 58 to 86 spent 15 hours a week on classes and homework for 3 months as they learned at least three new skills, such as how to use an iPad, speak Spanish, or draw (Ferguson, L., et al., *Aging & Mental Health*, Vol. 27, No. 11, 2023). Drawing from the factors that help children thrive in classrooms, the researchers created a supportive learning experience by providing participants with access to instructors who answered questions and conveyed to them that mistakes were part of the learning process.

By the end of the classes, participants' scores on memory and attention were similar to middle-aged adults ranging from 35 to 51 years old. One year later, their scores were similar to those of undergraduate students. After the classes had ended, Wu heard anecdotally that many participants went on to take online courses, private lessons, or classes through community groups to pursue their interests. "There were people who had never drawn anything but a stick figure, and later they were selling their art and getting commissions," said Wu. "They gained the confidence that they can learn something difficult and figure out solutions to problems."

Wu also recognized that economically or physically disadvantaged older adults often lack access to learning opportunities, which may include fees and require transportation to in-person classes or access to devices for online courses. To reach this population, Wu recently launched an intervention at a senior center in her community of Riverside. The participants—whose primary language was Mandarin or Spanish—studied English and learned how to use a tablet.

Although the intervention could only be conducted at one center because of research funding cuts, Wu hopes her work will influence policymakers to increase support for similar programs. "We found that lower-income older adults were particularly motivated to learn useful skills that could help them earn more money," she said. "They don't typically retire after 65."

Adapting to change at work

Data suggest that an increasing number of older adults have to work longer than previous generations—and

that they will need to learn new skills to remain competitive. Roughly 19% of U.S. adults age 65 and older are employed today, nearly double the percentage from 35 years ago, according to the Pew Research Center. One reason for this trend is that more people are struggling to build up enough savings to retire. A recent AARP survey found that 1 in 5 adults age 50 and older has no retirement savings, and more than half are worried they will not have enough money to support themselves in retirement. Compounding the challenge is the time pressures faced by many middle-aged and older workers who must also juggle responsibilities related to children, aging parents, or other commitments, meaning less time for learning.

Learning also takes longer as people age. "The ability to reason through novel problems and memory starts to decline in middle age," said Margaret Beier, PhD, a psychology professor at Rice University in Houston (*Personnel Psychology*, Vol. 75, No. 4, 2022). "Learning anything feels more effortful as we age, which affects self-efficacy and motivation." In a recent study, Beier's data showed that participants' self-efficacy—the belief that they could successfully engage in the learning activity—was the highest predictor of whether they stayed engaged in an online class.

For older workers to overcome barriers to learning, they often need to know up front how training will benefit them. "If you are older, you usually need to see the utility of investing your focus to learn something new," Beier said. These workers tend to be more selective about what they want to learn. They typically prefer to acquire skills that are aligned with their expertise, which may be different than the younger workers who are constantly learning new skills in a range of areas.

Beier also worries about people who are under- or unemployed or contractors in the gig economy, who may not have access to on-the-job training or practice with current technologies. In a recent paper, she called for a shift from organization-centered training to person-centered training that encourages lifelong learning in the labor force (*Industrial and Organizational Psychology*, Vol. 18, No. 1, 2025). She hopes to see more industrial and organizational psychologists develop interventions that help workers of all ages understand their skills and abilities and how to access training programs to learn new skills.

"Many people need to work longer because they do not have enough money to retire," she said. "We need to find better ways for them to learn new things to stay employable, or I worry that they will be displaced due to technology and innovation."

Tech-savvy older adults

Evidence also suggests that people are capable of mastering new skills even after they start experiencing declines in memory, attention, executive function, and other areas associated with mild cognitive impairment. In a recent study, older adults with and without mild cognitive impairment received in-person training on how to use a tablet, followed by online training 2 hours a week for 8 weeks to learn online banking and medication management (Czaja, S. J. et al., *Innovation in Aging*, Vol. 8, No. 7, 2024). The intervention utilized effective learning strategies by breaking the tasks into steps and allowing people to practice what they had learned. "Processing speed tends to slow with age, and there may be changes in vision and hearing, so the intervention allowed people to go at their own pace," said study author



Interventions focused on helping older participants learn tablet-based tasks have been associated with greater confidence and independence in managing everyday activities like online banking and medication tracking, along with reduced isolation and improved access to social and community resources.

Sara Czaja, PhD, director of the Center on Aging and Behavioral Research at Weill Cornell Medicine.

When people made an error, they received feedback that became increasingly helpful as they attempted to complete the task again. Task performance improved significantly for people with and without mild cognitive impairment, and participants reported greater confidence with online banking and medication management in the real world. “We found that the participants were not technophobic,” Czaja said. “They were very adherent, and there was a low dropout rate.”

Now her team is launching an intervention that will help older adults learn how to use Uber and Google Maps. They predict that participants who learn to use these apps will have better access to community resources. “We know that people who are socially isolated have poorer cognitive outcomes, and through technology we can reduce the risk of loneliness,” said

Walter Boot, PhD, associate director of the Center on Aging and Behavioral Research at Weill Cornell Medicine. A recent study of more than 13,500 adults age 50 and older revealed that increased isolation was associated with increased risk of mortality, disability, and dementia (Lyu, C., et al., *JAMA Network Open*, Vol. 7, No. 7, 2024).

Boot and Czaja are also part of a team that developed an intervention for people with minimal tablet proficiency. In a recent study, participants learned how to use tablets to video chat with friends, find community events through a calendar feature, search for information, and engage in online learning. They reported less loneliness and social isolation and greater social support and quality of life 6 months after the study (*Innovation in Aging*, Vol. 8, No. 6, 2024).

Now Boot and Czaja are exploring interventions that use virtual reality to help older adults connect with others



Interventions using virtual reality show promise in helping older adults connect with others, explore new places, and boost cognitive and physical skills.

while boosting cognitive and physical skills. Their team trained people who were older than 60 how to use a headset, controller, and virtual reality program to communicate with a partner in a different state (*Innovation in Aging*, Vol. 7, No. 4, 2023). Together, the pairs then chose a city anywhere in the world to tour virtually and created a collage with photos displaying their virtual travels. “People reported that they really enjoyed the experience,” said Czaja. “And it was easy to find participants because they thought it sounded fun, so this busts the myth that older people are not interested in technology.”

A lifestyle that boosts brain health

The latest studies are also shedding light on cognitive health’s connection to other lifestyle factors beyond social connectedness. In Finland, researchers led a 2-year intervention for people at higher risk of dementia. Participants

were educated and supported in areas of diet, physical activity, cognitive training, social activity, and monitoring of cardiovascular risk factors (Ngandu, T., et al., *The Lancet*, Vol. 385, No. 9984, 2015). The control group received only regular health advice. The people in the intervention group experienced significantly greater improvements than the control group in executive function, complex memory tasks, and psychomotor control.

In a similar study in the United States, participants in the structured intervention attended 38 facilitated peer team meetings over 2 years with education, goal setting, and accountability to support behaviors related to fitness, following the Mediterranean diet, and learning (Baker, L. D., et al., *JAMA*, Vol. 334, No. 8, 2025). The unstructured comparison group received publicly available information materials, engaged in fewer peer meetings, and were encouraged to make lifestyle changes that met

their personal needs and schedules. After the intervention, the structured group showed greater benefits in executive function and processing speed than the comparison group.

While these findings build the case for a holistic approach to brain health, many people do not have access to intensive, in-person support to make lifestyle changes. Researchers are already exploring how to use this evidence to help them develop scalable digital tools. “The opportunities for personalization are only going to increase to support these brain health interventions,” said Gow. There are many lifestyle factors involved, and AI could help individuals assess which ones to target and how to make behavioral changes, he said. For example, people who are physically active but do not have a social group could receive information about group activities in their area and reminders about events they signed up to attend. “Boosting cognitive function is a global issue, especially as people live longer,” Gow said. “Not everyone has the same access to resources, and digital applications can help more people protect their brains.”

The role of clinical psychologists

More good news: People refine their learning techniques as they age. “Metacognition, which is the awareness of our own abilities, improves with age,” said Alan Castel, PhD, a psychology professor at the University of California, Los Angeles, and author of *Better With Age: The Psychology of Successful Aging* (Oxford University Press, 2018). “Older adults may be slower to learn new tasks, so they selectively focus on learning what is important.” Castel saw this pattern in a study in which older adults struggled to remember a broad range of medication interactions, but they selectively remembered interactions

that were associated with the most severe outcomes (*Memory*, Vol. 26, No. 8, 2018).

Older adults are also more likely to remember things that engage their curiosity, said Castel. Contrary to prior psychology literature that showed curiosity declined with age, Castel’s team found that there are two types of curiosity—and one type increases with age. *Trait curiosity*, the personality trait of being inquisitive by nature, tends to decline across the life span, but *state curiosity*—the momentary feeling of curiosity people experience when they encounter something unfamiliar or interesting—increases sharply after middle age and continues to increase into old age (*PLOS One*, Vol. 20, No. 5, 2025). “We can recruit cognitive mechanisms to focus on remembering what is important and interesting,” said Castel. “Curiosity keeps brains stimulated and helps us learn.”

Clinical psychologists are poised to help older adults identify their curiosities and what matters most to them and then take steps to acquire new skills in these areas. “Therapy is about learning new ways of relating to people, managing the challenges of daily life, and developing healthy habits,” said Steffen. She has worked with many older adults who have assumed new caregiving roles while aging themselves. Some of these older partners are struggling to learn how to support a family member with a neurocognitive disorder as well as to navigate health care portals, telehealth visits, transportation, and other details for the loved one. By helping her patients prioritize the areas of daily life that need change, set goals, and break tasks into pieces, she has seen older adults successfully overcome seemingly impossible challenges.

“Cognitive behavioral therapy is grounded in the science of learning,”

Steffen said. “Research has shown that older adults can be as active and engaged in therapy as younger adults and benefit equally. This is a good example of how learning is possible as we age.” ■

FURTHER READING

Systematic review of what people know about brain health

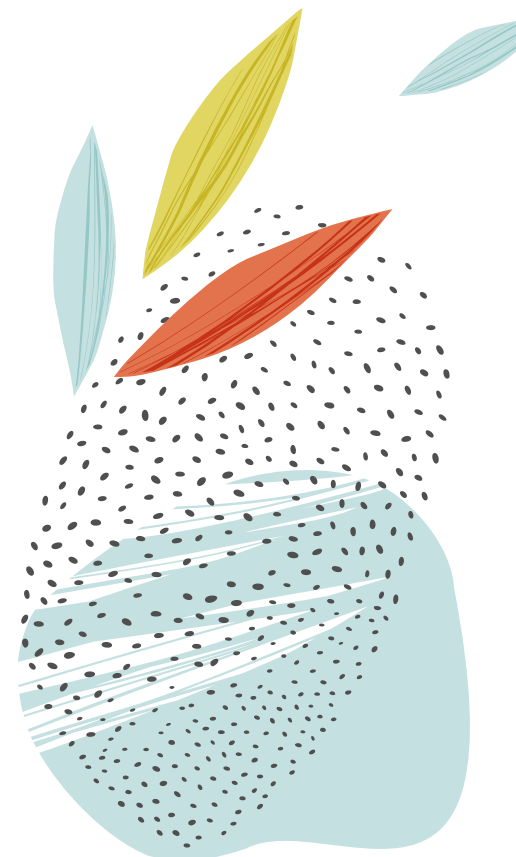
Niechcial, M. A., et al.
Ageing Research Reviews, 2025

Interrupted learning across the lifespan

Wu, R., et al.
Human Development, 2025

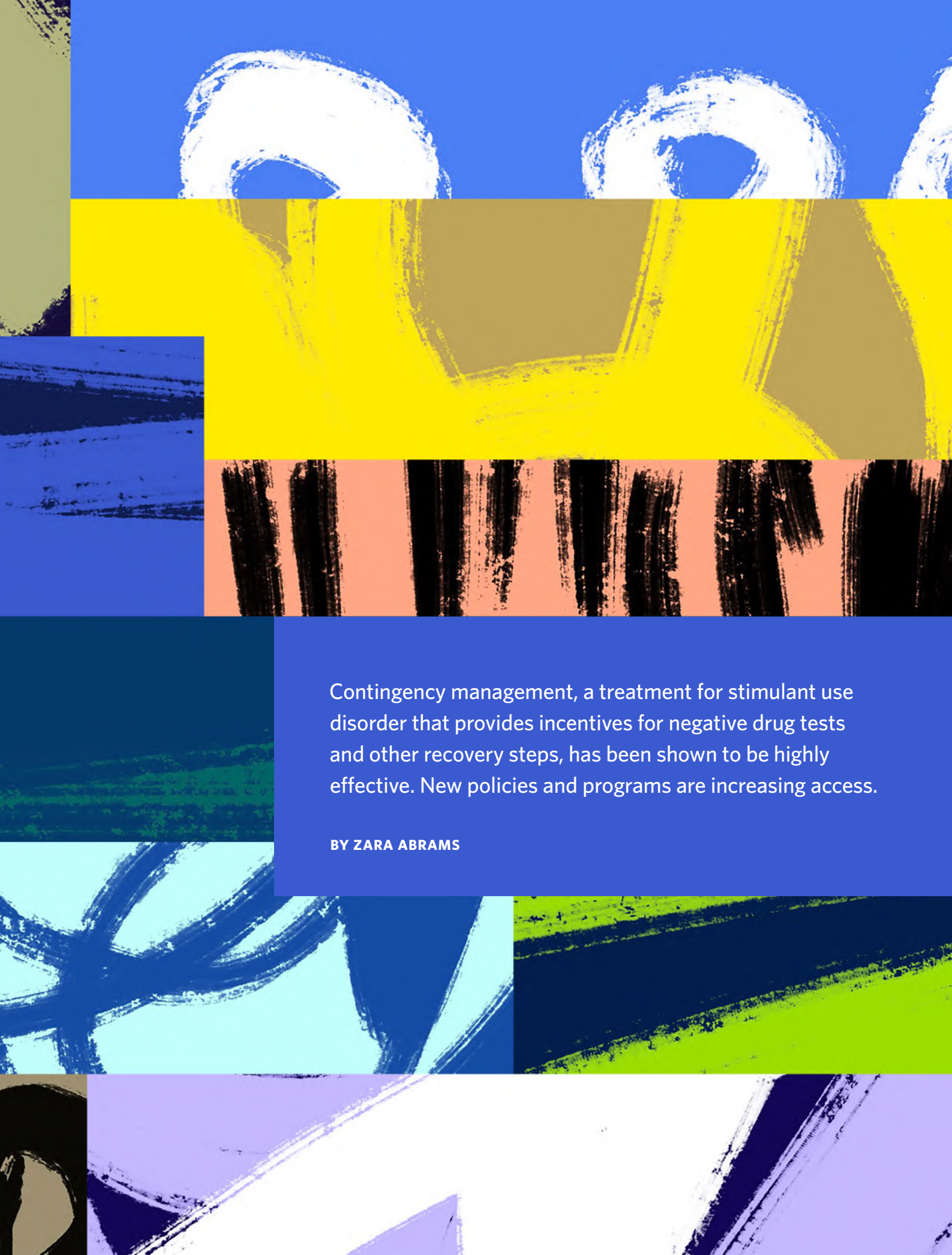
Promoting technology access and learning among underserved older adults

Rodriguez, T. M., et al.
Gerontechnology, 2025



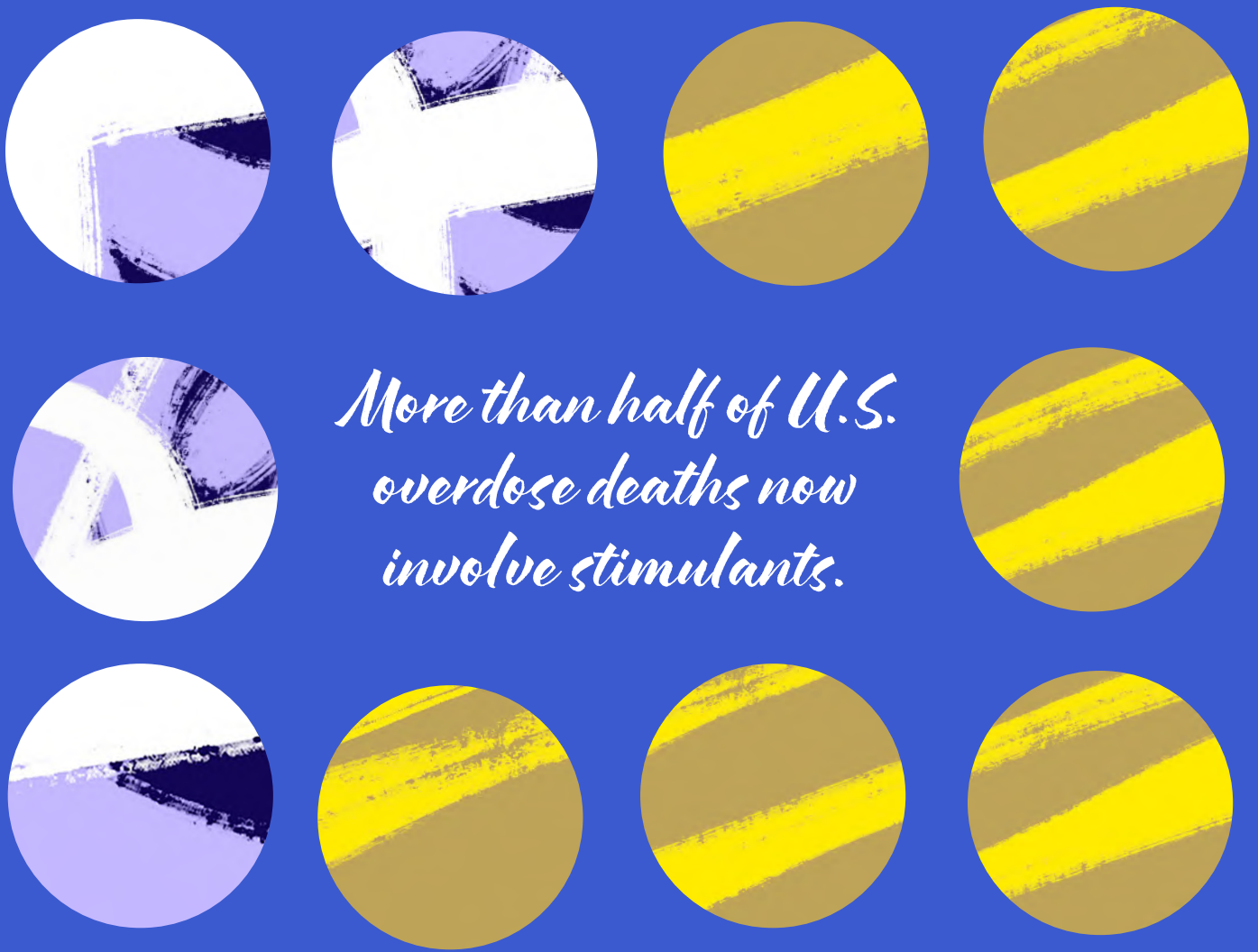


More Traction for Effective Substance Use Treatment



Contingency management, a treatment for stimulant use disorder that provides incentives for negative drug tests and other recovery steps, has been shown to be highly effective. New policies and programs are increasing access.

BY ZARA ABRAMS



*More than half of U.S.
overdose deaths now
involve stimulants.*

MORE THAN HALF of U.S. overdose deaths now involve stimulants, pointing to the urgent need for effective treatment for stimulant use disorder. Deaths involving cocaine, methamphetamine, and other stimulants nearly quadrupled between 2015 and 2022 (“Drug Overdose Deaths: Facts and Figures,” National Institute on Drug Abuse, 2024).

In response, support is converging around contingency management (CM), a behavioral approach that provides rewards, such as gift cards, for negative drug tests and other recovery milestones. CM, which has been found effective in more than 100 studies conducted over several decades, complements rather than replaces counseling and other interventions for stimulant

use disorder. The approach aligns with broadly shared goals in substance use treatment, including recovery, accountability, and efficient use of public funds.

“We don’t have any FDA [Food and Drug Administration]–approved medications for the treatment of stimulant use disorder, but what we do have is almost 40 years of evidence on the efficacy of contingency management,”

AT A GLANCE

- Contingency management (CM) is a highly effective incentive-based treatment for stimulant use disorder.
- Clinical practice guidelines, real-world results, and policy shifts are paving the way for more patients to benefit from CM.
- CM also holds promise for treating other substance use disorders and promoting a range of healthy behaviors.

said psychologist Thomas Freese, PhD, director of the University of California, Los Angeles, Integrated Substance Use and Addiction Programs, who is leading California’s CM pilot, the Recovery Incentives Program.

CM is not only backed by experimental findings—it also works in the real world. Among nearly 3,000 Veterans Health Administration

At least seven systematic reviews and meta-analyses, based on numerous randomized controlled trials, show that contingency management is the most effective intervention available for stimulant use disorder.

patients with stimulant use disorder, those who received CM were 41% less likely to die within a year than those who did not (Coughlin, L. N., et al., *The American Journal of Psychiatry*, Vol. 182, No. 11, 2025).

The mounting evidence has led top organizations and agencies to back the treatment. In 2024, the American Society of Addiction Medicine and the American Academy of Addiction Psychiatry released clinical practice guidelines naming CM as the front-line treatment for stimulant use disorder (*Journal of Addiction Medicine*, Vol. 18, No. 1S, 2024). Soon after, the U.S. Substance Abuse and Mental Health Services Administration (SAMHSA) increased the cap on federal funds that can be used for incentives. CM programs can now provide rewards worth up to \$750 per person per year—up from \$75, a limit that was not supported by experimental evidence (Petry, N. M., et al., *Addiction*, Vol. 99, No. 3, 2004).

CM is a psychology success story, said psychologist Michael McDonell, PhD, a professor at Washington State University's Elson S. Floyd College of Medicine who has studied the intervention for nearly 2 decades. It was created, assessed, and advocated for by psychologists, with key support from APA. With SAMHSA's policy change and pilot programs underway

in several states, more people with stimulant use disorder can start to reap the benefits.

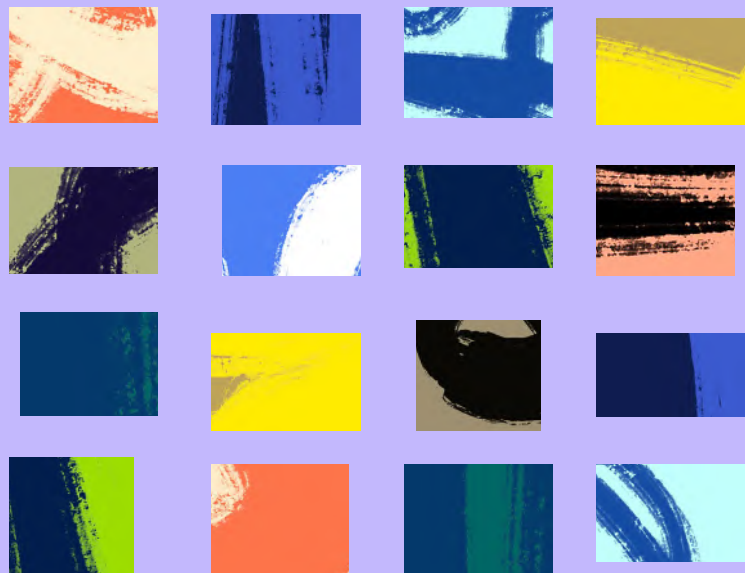
"The momentum in the field has shifted from developing interventions to implementing them in real-world settings," said Jesse Dallery, PhD,

a professor of psychology at the University of Florida who studies digital delivery of CM. "We know CM works. Now, it's a matter of reaching as many people as possible."

Power in simplicity

Part of CM's power is in its simplicity. Typically, participants visit a clinic twice a week for urine drug testing. If their test is negative, they immediately earn a reward—either a gift card or a chance to draw from a prize pool, with rewards of varying values. The intervention usually lasts between 12 and 24 weeks and may be paired with counseling or other approaches.

At least seven systematic reviews and meta-analyses, based on numerous randomized controlled trials, show



CM usually lasts between 12 and 24 weeks and may be paired with counseling or other approaches.



*In addition to
its benefits for patients,
CM may also offer a
buffer against burnout for
addiction treatment
providers.*

that CM is the most effective intervention available for stimulant use disorder (Bentzley, B. S., et al., *JAMA Network Open*, Vol. 4, No. 5, 2021; Brown, H. D., & DeFulio, A., *Drug and Alcohol Dependence*, Vol. 216, 2020; De Crescenzo, F., et al., *PLOS Medicine*, Vol. 15, No. 12, 2018).

CM works better than cognitive behavioral therapy and other behavioral approaches. It helps when paired with counseling but also as a stand-alone intervention. And it is also cost-effective: An analysis by the Washington State Institute for Public Policy found that CM programs offering total rewards over \$500 had a 78% chance of generating benefits that exceeded their costs (“Contingency Management [Higher Cost] for Substance Use Disorders, Washington

State Institute for Public Policy,” 2024). Evidence also suggests that CM leads to better long-term outcomes than other treatments even after incentives end (Ginley, M. K., et al., *Journal of Consulting and Clinical Psychology*, Vol. 89, No. 1, 2021).

In addition to its benefits for patients, CM may also offer a buffer against burnout for addiction treatment providers. Qualitative data suggest that CM can boost staff morale and strengthen relationships among team members as they see patients make meaningful progress (Oluwoye, O., et al., *Psychology of Addictive Behaviors*, Vol. 34, No. 1, 2020; Kellogg, S. H., et al., *Journal of Substance Abuse Treatment*, Vol. 28, No. 1, 2005).

“We’ve also heard anecdotally that substance use counselors in CM pilot programs are much more excited about coming to work each day, because they’ve finally got something that works,” said Scott Barstow, the senior director of congressional and federal affairs for APA Services, APA’s companion organization.

Because they involve monetary incentives, CM programs include a number of ethical safeguards to protect against fraud and to avoid offering rewards large enough to pressure participants. Caps on the total amount a participant can earn lower the risk of abuse, while the use of vouchers or gift cards instead of cash reduces the chance that incentives are resold or used for unintended purposes. Detailed logs and documentation help track participant eligibility and the delivery of rewards. Programs are also audited periodically to verify that they comply with ethical and legal standards (Clark, H. W., & Davis, M., *Preventive Medicine*, Vol. 176, 2023).

CM in action

Real-world rollouts of CM are further strengthening the intervention’s evidence base. In addition to the 41% drop in mortality among veterans who received CM, California’s Recovery Incentives Program has shown promising early results. Freese and his team have reached nearly 10,000 patients at 111 sites across the state and are now compiling their first outcomes report.

“We’re seeing in the rollout that it’s working as the research suggests,” Freese said. “People are coming in, engaging with the program, testing negative, and making changes we don’t see with the other available treatments for stimulant use disorder.”

SAMHSA’s policy change also gives CM a big boost, because states

can now use State Opioid Response and Tribal Opioid Response grants to administer CM with payouts of up to \$750 per person per year. A handful of states have found other ways to support the programs: California, Washington, and Montana have gained permission to use Center for Medicare and Medicaid Services (CMS) funds for CM through what is known as a Section 1115 waiver, while Vermont, Connecticut, and Michigan are using funds from opioid litigation settlements to administer CM.

Most of the progress so far involves federally sponsored health care, such as primary-care offices and community clinics supported by CMS. The next frontier is securing coverage for CM by private insurers.

Researchers have already shown that CM smartphone interventions can work (Dallery, J., et al., *Perspectives on Behavior Science*, Vol. 42, 2019; DeFulio, A., et al., *Frontiers in Psychiatry*, Vol. 12, 2021). To verify participants are not using substances, these apps use a combination of methods, including photos of home drug tests, mail-in tests, data from wearable sensors, and random check-ins. Several companies, including Affect Therapeutics and DynamiCare Health, now deliver digital CM programs through their platforms, allowing

thousands of patients to access them through insurance networks.

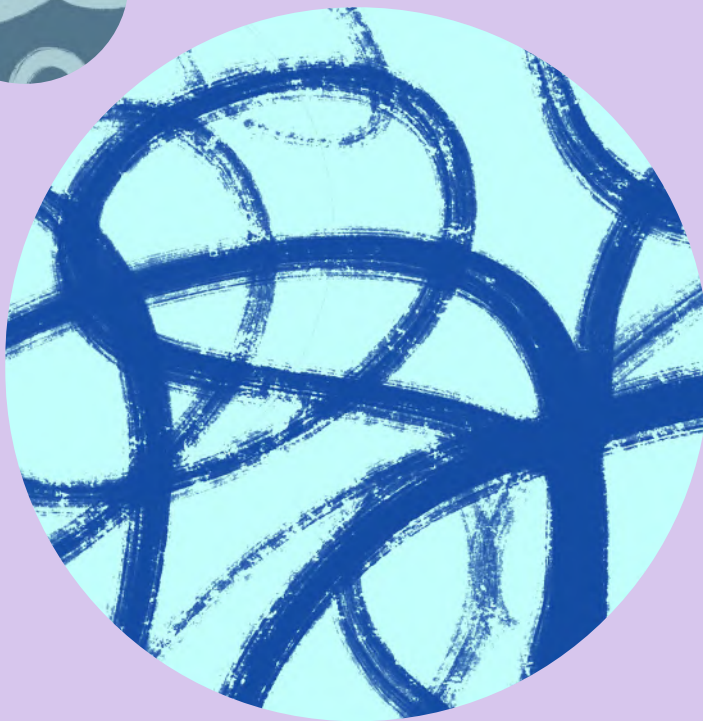
Future efforts

As CM continues to roll out, researchers are exploring questions that can further boost its real-world impact (Rawson, R. A., et al., *Preventive Medicine*, Vol. 176, 2023). For example: Do voucher-based systems and prize-based systems work equally well? What is the ideal magnitude for incentives? How frequently should participants be tested, and how long should treatment last?

Researchers are also exploring how CM can be culturally adapted for specific populations. McDonell and his colleague Katherine Hirschak, PhD, of Washington State University, have partnered with several American Indian and Alaska Native communities, finding that programs were highly effective when administered by members of the partnering communities (*JAMA Psychiatry*, Vol. 78, No. 6, 2021; *Addiction*, Vol. 116, No. 6, 2021).

Beyond its utility for stimulant use disorder, evidence suggests that CM may be useful for incentivizing a range of health behaviors. Stephen Higgins, PhD, a professor of psychology at the University of Vermont, and others have shown in randomized

Because they involve monetary incentives, CM programs include a number of ethical safeguards to protect against fraud and to avoid offering rewards large enough to pressure participants.



Beyond its utility for stimulant use disorder, evidence suggests that CM may be useful for incentivizing a range of health behaviors.

controlled trials and meta-analyses that CM is more effective than counseling in preventing smoking during pregnancy and that it can be done through a smartphone app (*Preventive Medicine*, Vol. 165, Part B, 2022; Kurti, A. N., et al., *JAMA Network Open*, Vol. 5, No. 5, 2022; Notley, C., et al., *Cochrane Database of Systematic Reviews*, 2025). That evidence led the United Kingdom to implement CM for perinatal smoking cessation nationwide (“National Smoke-Free Pregnancy Incentive Scheme,” National Health Service England, 2024).

In Florida, Dallery is conducting a large clinical trial of smartphone-based CM to help patients at underserved

primary-care clinics quit smoking. With funding from the Patient-Centered Outcomes Research Institute, he and his team are comparing three interventions: CM plus acceptance and commitment therapy (ACT); ACT alone; and referral to the Florida Quitline, the current standard of care.

Separately, McDonell led four randomized controlled trials showing CM is just as effective for treating alcohol use disorder as it is with stimulants (*JAMA Psychiatry*, Vol. 78, No. 6, 2021). Further studies find that CM enhances medication adherence in opioid use disorder, reduces human immunodeficiency virus (HIV) risk behaviors, and more.

The past year’s progress reflects one measured step



FURTHER READING

APA applauds SAMHSA action to expand access to effective addiction treatment
APA, 2025

Contingency management for stimulant use disorder: Progress, challenges, and recommendations
Rawson, R. A., et al., *Journal of Ambulatory Care Management*, 2023

California's Recovery Incentives Program: Implementation strategies
Freese, T. E., et al., *Journal of Substance Use and Addiction Treatment*, 2024



“Our job now is to implement this right and keep seeking ways to reach the hardest-hit populations.”

Thomas Freese, PhD
Director of UCLA Integrated Substance Use and Addiction Programs

forward, Barstow said, and plenty of work lies ahead. But there’s no denying that CM could be a major asset in the overdose crisis.

“I don’t know that I’ve been involved in a program that looks so positive in terms of its impact, its efficacy, and its acceptability,” said Freese, of California’s pilot. “Our job now is to implement this right and keep seeking ways to reach the hardest-hit populations.” ■



CEREZO



WYATT



SANDERS



DIAMOND



DAUGHERTY

Psychologists in the News

ALISON CEREZO, PhD, has been appointed chief science officer at mpathic, after serving as senior vice president of research and health equity. Cerezo studies the effects of stress and trauma on mental health and substance use, with the goal of improving clinical care in these areas. In this new role, Cerezo is leveraging AI to develop innovative mental health tools, including personalized precision dyadic care (for a parent and child, for example) and clinician support for detecting depression and suicide risk.

GAIL WYATT, PhD, a professor emeritus of psychiatry and biobehavioral sciences at the University of California, Los Angeles's (UCLA) David Geffen School of Medicine, has received the 2025 Humanitarian Award from the Association of Black Women Physicians for her lifelong work addressing women's health disparities, trauma, and domestic violence. Wyatt is known as the first person of color licensed as a psychologist in California and the first Black woman to achieve the level of full professor at UCLA's medical school. She also founded UCLA's Center for Culture, Trauma, and Mental Health Disparities and Sexual Health Programs.

DOUGLAS SANDERS, PhD, a longtime psychology professor at State University of

New York Orange and a mental health clinician, has received the Frank W. Masterson Distinguished Services Award from the Orange County Department of Mental Health and partner organizations Garnet Health and the Mental Health Association in Orange County. The honor recognizes his more than 2 decades of teaching and clinical work, including psychotherapy and cognitive remediation for individuals with severe mental illness. Sanders also conducts research on schizophrenia-related cognitive deficits, psychological and social impacts resulting from multiple sclerosis, and cognitive deficits associated with schizophrenia and their remediation.

ADELE DIAMOND, PhD, a professor in the University of British Columbia's Department of Psychiatry and Canada Research Chair Tier 1 in Developmental Cognitive Neuroscience, has been appointed to the Order of Canada, the nation's highest civilian honor. A cofounder of the field of developmental cognitive neuroscience and fellow of the Royal Society of Canada, Diamond has transformed understanding of early cognitive development and the prefrontal cortex, influencing social policy and improving medical and educational practices worldwide.

ANA DAUGHERTY, PhD, has been named director of the Institute of Gerontology at Wayne State University in Detroit. A faculty member at the institute since 2018, she also holds an affiliate appointment with the Translational Neuroscience Program. She also directs the Detroit Aging Brain Study, a community-based longitudinal project that has tracked brain aging in metro Detroit for more than 23 years. As a cognitive neuroscientist, her research focuses on aging, Alzheimer's disease, and related dementias. Her work aims to reduce disparities in late-life cognitive health.

Three psychologists were included on King Charles's 2025 New Year Honours List, which recognizes outstanding contributions across the British Commonwealth. **RHONA FLIN, PhD**, of Robert Gordon University and the University of Aberdeen received a Commander of the Order of the British Empire for her services to applied research. **ANDREW STEPTOE, PhD**, of University College London, was awarded an Officer of the Order of the British Empire for his services to behavioral science. **DIVINE CHARURA, PhD**, of York St John University earned a Member of the Order of the British Empire for advancing inclusion and promoting counseling and psychotherapy. ■



With 92% of undergraduates now using AI for assignments, instructors face mounting challenges. Rather than banning tools outright, many educators are updating assignments and policies to engage students thoughtfully and intentionally around generative AI use.

Teaching Academic Writing in the Age of AI

AI has changed the landscape of writing in higher education. Here's how instructors are adapting.

BY ZARA ABRAMS

NEARLY ALL UNDERGRADUATE students (92%) now report using artificial intelligence for assignments, most often for writing and editing, according to a survey from the Higher Education Policy Institute (Freeman, J., *Student Generative AI Survey 2025*, Feb. 2025). That has posed a major challenge for instructors, especially those who teach academic writing or courses built around reading and discussing scholarly research.

How instructors handle AI—specifically, generative AI, or tools that create text, images, or other new content—runs

the gamut from total bans to head-on adoption. Those decisions are complicated and personal—and must be made as technology and institutional policies continue to evolve. But a growing number of instructors believe it's important to engage with AI and update assignments and classroom rules accordingly.

“Engaging doesn’t have to mean adopting. But it can mean having conversations with students, having a clear AI policy, and being intentional around this topic,” said Liz Delf, an AI teaching and learning fellow with the Center for Teaching

KEY POINTS

- AI has posed new challenges for higher education instructors and raised questions about learning outcomes and academic integrity.
- Leveraging best practices in writing pedagogy and psychological science can help instructors ensure that student work is original.
- Classroom and institutional AI policies continue to evolve as those in higher education seek to prepare students for a world where AI is quickly becoming ubiquitous.

and Learning and a senior instructor in the School of Writing, Literature, and Film at Oregon State University.

To that end, Delf and others are exploring how to create assignments that reduce students' reliance on AI, including by breaking up academic writing into smaller chunks. They're also finding creative ways to explore AI's benefits and limitations in the classroom. The goal is to prepare students for a professional world where they will need to decide when using AI is appropriate or helpful and navigate AI-use policies from employers and publishers alike.

"In the long run, we want to be thinking about what students are going to do outside of school, whether that's psychology or something else," said David Williamson Shaffer, PhD, a professor of learning analytics and learning sciences at the University of Wisconsin–Madison. "What tools will they need to use and how can we make sure they are prepared to use them?"

Adapting writing assignments

AI has so rapidly and drastically changed the learning environment that some teachers have taken extreme measures, such as reverting to Scantrons (standardized multiple-choice forms) or blue

books, to ensure that student work is original. Others have turned to oral discussions and exams as primary ways to evaluate students, but these approaches are not always possible for high-enrollment or online courses.

Even as some instructors move to sidestep or limit writing assignments in response to AI, "decades of research support writing as an important mode of learning," Delf said. "My goal is to help students develop critical thinking, inquiry, and rhetorical judgment—and writing remains central to that, even in a world with generative AI."

That truth has propelled Delf and others to find creative ways to reduce students' reliance on AI, leaning into established best practices in writing pedagogy. First and foremost: Emphasize process over product by dividing large writing tasks into a series of smaller, scaffolded assignments. Instead of grading students on a polished, 20-page paper, grade their topic proposals, partial drafts, drafts, annotated bibliographies, and peer review.

"Breaking academic writing into chunks can help students feel less overwhelmed," said Chris Hakala, PhD, director of Center for Excellence in Teaching, Learning, and Scholarship and a professor of psychology at Springfield College in Massachusetts. "Part of the reason they turn to AI is that academic writing feels like such a daunting process."

Reducing page length and extending timelines can also help, he said. Easing students' stress and workload can help make them less likely to turn to AI. Decreasing the length and number of assignments can also help instructors manage the additional workload of multiple rounds of grading.

Providing feedback to students offers another opportunity. For

example, giving students feedback face-to-face can help demonstrate in a tangible way that human input matters, Delf said. Hakala gives students both written comments and verbal feedback via video, and then asks them to respond with a written or video message explaining how they intend to address it. Even in larger courses, this approach can be scaled—such as giving a one-sentence response per student, he said.

Group assignments and multimedia assignments are also harder to offload to AI, Delf said, because the final product makes students' authorship more visible. When students create a podcast or comic strip, they may use AI for brainstorming, but the finished work requires student-produced elements—such as original audio or hand-drawn illustrations—that cannot be outsourced to AI. She also





Video feedback from professors strengthens students' sense of human connection, encourages thoughtful engagement with revisions, and can be scaled efficiently across courses. This serves to reduce stress while discouraging overreliance on AI tools.

recommends tapping into personal or local knowledge (having students tackle campus problems, for example, rather than national ones), as well as real-audience or real-world purposes.

"Is there a way to give the assignment real value through a natural audience, an opportunity for publication, or a document that students can use later in their careers?" Delf said. "Students are often more invested when the work feels purposeful" and may therefore be less likely to outsource work to AI.

Redesigning assignments around AI may require more up-front work from instructors, but "it also offers an opportunity to clarify the purpose of writing in higher education—and to

adapt in ways that ultimately benefit students," said Chelsea Lee, instructional lead for the APA Style team.

Strengthening AI literacy

In a growing number of classrooms, teaching students about effective AI use is seen as an essential part of preparing students for the workforce.

During a December 2025 APA webinar on AI in academic writing, 442 participants reported allowing students to use AI in various ways—mostly around the edges of the writing process. A majority allowed students to use AI to generate ideas (72%) or get feedback on writing (59%), while about half allowed its use for research or outlining. Just 9% said students

could use AI to generate text, for an introduction, for example.

Delf starts the conversation about AI when the term begins, giving students opportunities both during and outside class to test AI's capabilities. For example, she asks students to search for scholarly sources using both Google Scholar and an AI tool of their choice, then compare the results and assess whether the AI-generated citations are authentic.

Shaffer teaches a course on AI where students are required to use AI to help complete assignments, such as writing summaries of scientific papers. He does not restrict how students use AI, but he does require them to submit conversation transcripts, as well as a reflection on how the tool helped—or hindered—their work.

"Nobody was actually relying solely on AI to write things and turn them in, because they very quickly realized that AI was not doing as good a job as they could," Shaffer said.

His students did find other creative ways to use AI to support their work. Several non-native English speakers uploaded an article and discussed its main points with AI in their native language before writing their own English summary to submit. Other students asked AI to create a reading guide to help direct them toward key concepts in an article.

Overreliance on AI has been shown to weaken critical-thinking skills, so teaching students when not to use these tools is an important way to mitigate that risk (Gerlich, M., *Societies*, Vol. 15, No. 1, 2025). In that vein, some instructors are experimenting with using AI as a questioning partner. Rather than asking AI to generate text, students prompt it to ask higher-order questions—probing assumptions, requesting counterarguments, or testing the strength of

an interpretation. Learning science research suggests that generating and responding to such questions supports deeper comprehension and transfer of knowledge. When AI is positioned to challenge students' thinking rather than replace it, it can function more like a Socratic tutor than a shortcut.

AI also offers opportunities to improve accessibility for students with disabilities. When used as a planning aid, language support, or organizational scaffold, AI can increase independence without replacing learning, much like other assistive technologies.

Hakala has found it helpful to have students complete an assignment with AI, then critique the result to see what works and what falls short. Hakala's experience has shown that using AI

for brainstorming can limit students' creativity, but he allows students to ask AI for feedback after generating their own ideas.

"I'm a cognitive psychologist by training, so I think about AI in terms of learning outcomes," Hakala said. "If it helps scaffold learning, I'm open to it. If it impedes or replaces learning, it has no role in the classroom."

Crafting and navigating AI policies

In 2025, 45% of institutions had adopted AI policies covering academic integrity, teaching, research, or some combination of these—up from just 20% the year before, according to Inside Higher Ed (*2025 Survey of College and University Chief Academic Officers; 2024 Survey of College and*

University Chief Academic Officers, Inside Higher Ed).

Such policies generally give broad guidelines and then defer to instructors to choose how to handle AI in their courses. Some institutions mandate the use of custom generative pretrained transformers (GPTs) for privacy reasons, while a growing number require instructors to include an AI policy in their syllabi.

"Classroom policies really run the gamut—a lot of instructors don't allow for any use of AI, while others actively encourage their students to use it in different ways," said Samantha Denny, development manager for the APA Style team.

Given the range of approaches, Delf said it's important to set clear expectations for students. On her syllabus, she includes a disclosure about her own AI use (for example: "I sometimes use AI to develop examples or course materials, but I do not use it for grading or feedback"), as well as initial guidelines for students.

Delf then works collaboratively with students during class to draft and commit to a classroom AI policy, which usually permits AI use for brainstorming, research, and feedback but not for generating sentences or paragraphs. She then posts the policy or adds it to the syllabus to give students a sense of ownership over their AI use.

"When we're transparent and have those conversations up front, my hope is that students are more likely to buy in," Delf said. "I can't control how they use AI once they leave my classroom, but I want them thinking critically about their choices going forward."

Some instructors even allow students to create their own personal AI policies. This may involve declining to use AI because of ethical concerns around privacy, bias, environmental

HOW TO CITE AI

While using AI to write academic papers is generally considered unethical, AI can support certain aspects of the writing process in both student and professional scholarly work. Appropriate uses may include translation, brainstorming, editing, and generating figures or code.

"Citing sources, including AI tools, helps make scholarly work transparent so that readers can monitor and understand how authors reached their conclusions," said Timothy McAadoo, a manager on the APA Style team.

When using AI to support scholarly work, authors are encouraged to save conversation transcripts and either include them as supplementary materials or make them available upon request. Reproducing results may not always be possible with AI, but retaining these records provides a clear account of how outputs were generated.

APA Style's blog offers guidance on citing AI tools in a reference list or describing how they were used in the body of an academic paper (APA Style blog, Sept. 9, 2025).

Authors should also review applicable policies, including from a governing institution, employer, or publisher. For example, APA's policy on the use of generative AI in scholarly materials applies to any authors submitting manuscripts to APA journals. This policy dictates that:

- AI use must be disclosed and cited.
- AI cannot be named as a coauthor.
- Authors are responsible for the accuracy of information in the article.
- Submitted content may not be entered into AI tools.

For more information, see additional guidance on APA Journals' policy on generative AI in the three-part series "Citing Generative AI in APA Style," on APA Style blog.



Research shows that when students rely too heavily on AI, it weakens critical thinking skills. Teaching students when not to use these tools is an important way to mitigate that risk.

burden, and more. In such cases, Delf offers alternative exercises that don't require the use of AI.

For additional guidance on creating a classroom AI policy, see the AI Pedagogy Project and the Harvard Office of Undergraduate Education's generative AI guidance, which includes sample syllabus language.

How to detect unauthorized AI use is another ongoing question. Nearly 8 in 10 U.S. faculty members said cheating has increased on their campus since AI tools became widely available, according to a November 2025 survey (Watson, C. E., & Rainie, L., *The AI Challenge: Faculty Concerns About Generative AI in Higher Education*, American Association of Colleges and Universities, 2025). About half of

those who attended APA's academic writing webinar reported that their institution uses AI detection software, such as Turnitin or GPTZero, but just 1% said they completely trust these tools.

One reason for concern is that AI checkers have been shown to disproportionately flag original work from neurodivergent students and students writing in a second language (Pindell, N., "The Challenge of AI Checkers," University of Nebraska–Lincoln Center for Transformative Teaching, 2024). Research also suggests that instructors may overestimate their abilities to detect AI-generated student essays (Fleckenstein, J., et al., *Computers and Education: Artificial Intelligence*, Vol. 6, 2024).

"Use of these checkers can lead to false accusations and can create an adversarial relationship with students," Delf said. "It makes me feel like I'm policing instead of teaching."

As AI detectors get better at flagging AI-generated content, "humanizer" tools have emerged to help users evade detection. Shaffer describes this as "an arms race that we're eventually going to lose," pointing to the long history of failed attempts to ban new technologies in education, including the so-called calculator wars in mathematics.

"What I tell my students is this: Whatever you turn in—whether it came from AI or not—you are responsible for it," he said. "If the AI plagiarized, you plagiarized. If the AI made a mistake, you made a mistake. Using AI doesn't change who gets blamed if there is a problem with the work." ■

FURTHER RESOURCES

Webinar: Answering your questions about AI in academic writing and APA Style
APA, 2025

Webinar: Learning in to teaching with artificial intelligence
APA, 2025

Teaching with AI: A practical guide to a new era of human learning
Bowen, J. A., & Watson, C. E.
American Association of College and Universities, 2025

Teaching academic integrity in the era of AI
Tatum, H.
APA, 2025

How to use ChatGPT as a learning tool
Abramson, A.
Monitor on Psychology, June 2023



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BY TORI DEANGELIS

50.6%

Percentage of Americans who use in-person services alone to receive outpatient mental health care

27.8%

Percentage of Americans who use telehealth services alone to receive outpatient mental health care

21.5%

Percentage of Americans who use hybrid (combined in-person and telehealth) services to receive outpatient mental health care

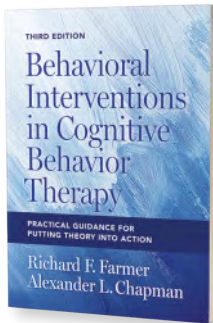


Sources: Olsson, M., et al. (2026). Telemental health, hybrid, and in-person outpatient mental health care in the US, *JAMA Psychiatry* 83 (1). Data are from a cross-sectional study of 4,720 participants ages 18 to 44. Available at <https://jamanetwork.com/journals/jamapsychiatry/article-abstract/2841438>.



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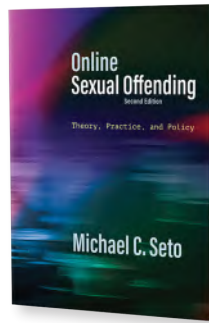


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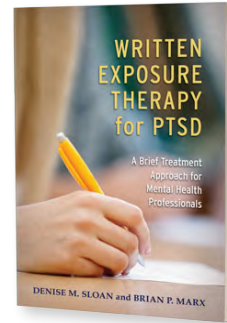


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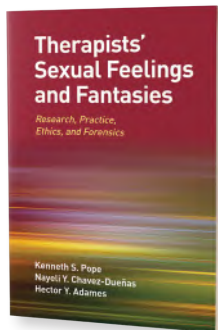


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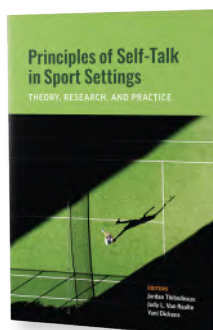


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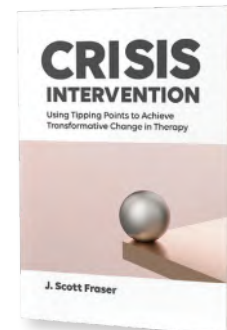


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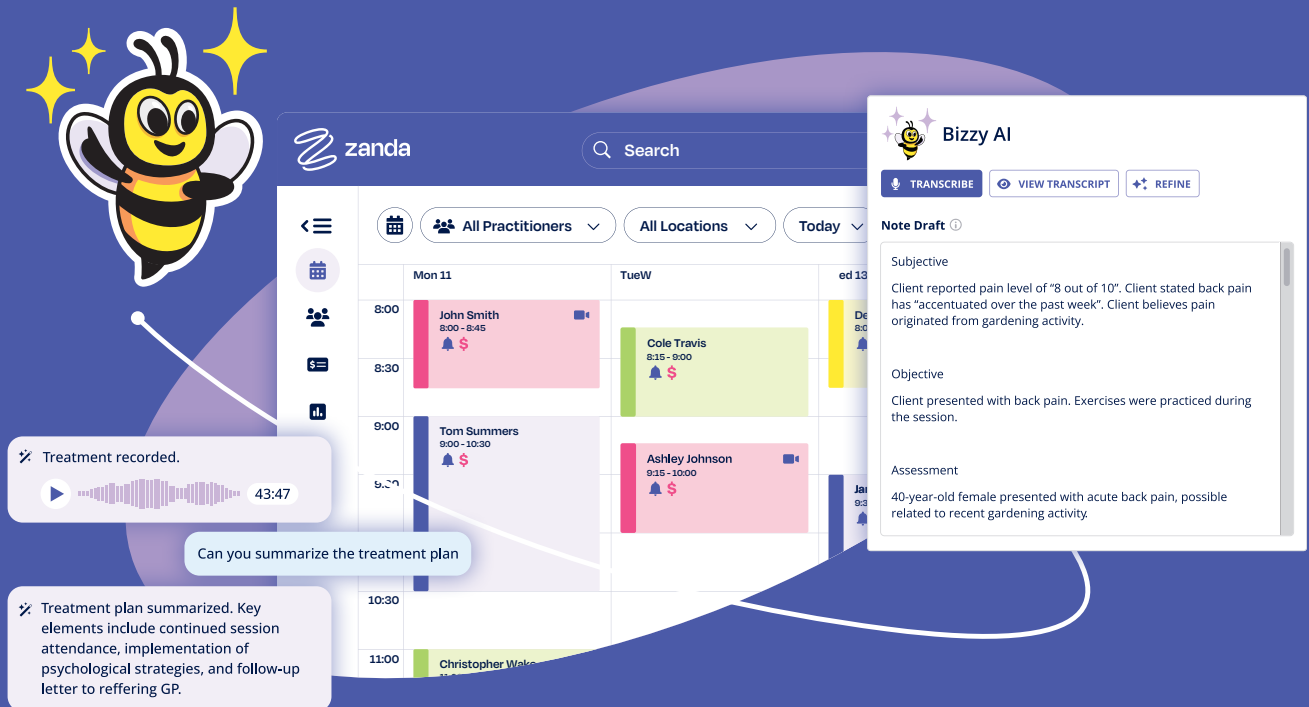
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The image shows the Zanda software interface. On the left is a cartoon bee character with yellow and black stripes and wings. The main interface features a calendar view for 'Mon 11' and 'TueW'. The calendar shows appointments for John Smith (8:00-8:45), Cole Travis (8:15-9:00), Tom Summers (9:00-10:30), Ashley Johnson (9:15-10:00), and Christopher Wake (11:00). A sidebar on the left contains icons for a menu, calendar, people, messages, and analytics. A search bar is at the top right. A 'Bizzy AI' chat window is open on the right, showing a 'Note Draft' with fields for Subjective, Objective, and Assessment. The Subjective field contains text about a client's back pain. The Objective field contains text about the session. The Assessment field contains text about a 40-year-old female. A speech bubble from the bee character says 'Can you summarize the treatment plan'. Below the calendar, there are two notification boxes: 'Treatment recorded.' with a play button and a waveform, and 'Treatment plan summarized. Key elements include continued session attendance, implementation of psychological strategies, and follow-up letter to referring GP.'

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