Cognitive behavioral therapy app shown to improve anxiety in young adults

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Researchers at Weill Cornell Medicine and New York Presbyterian found that a self-guided cognitive behavioral therapy (CBT) app, called Maya, significantly reduced anxiety in young adults struggling with

mental health challenges. The decrease in anxiety symptoms was clinically and statistically significant at six weeks and continued at the 12-week follow-up period with improvement levels similar to anxiety medication studies.

The study, published Aug. 20 in *JAMA Network Open*, looked at how young adults ages 18 to 25 would respond to CBT from an app called Maya, which Weill Cornell Medicine researchers began developing in 2019 in collaboration with members of Weill Cornell Information Technologies & Services.

CBT is a gold standard psychotherapeutic intervention that provides users with skills to support them in shifting their thinking, completing challenging behaviors and learning coping skills. Nearly all of the 59 enrollees, 98%, participated for the full six weeks of the main study period and completed, on average, approximately 11 of the 12 intervention sessions.

While Maya is not a replacement for seeking professional help, it teaches strategies based in CBT. The app provides skill-building tools and real-time feedback that can help reduce stress and negative thoughts.

"We hear a lot about the negative impact of technology use on mental health in this age group," said the study's senior author Dr. Faith M. Gunning, associate professor of psychology in psychiatry and vice chair for research in the Department of Psychiatry at Weill Cornell Medicine.

"But the ubiquitous use of cell phones for information may provide a way of addressing anxiety for some people who, even if they have access to mental health providers, may not go. If the app helps reduce symptoms, they may then be able to take the next step of seeing a mental health professional when needed."

Targeting anxiety in emerging adults

Maya was designed to target anxiety in early adulthood, when people experience stressful transitions, including starting a new job, moving away from home or graduating from college. [Research](link) has shown that [anxiety disorders](link) among young people ages 18 to 25 are increasing more than any other age group.

Maya is an interactive platform that guides users through videos, exercises and educational content to support them in learning and implementing new skills. While CBT techniques are effective at treating [anxiety symptoms](link), the researchers note that a shortage of available clinicians makes it difficult to find appointments, especially since the pandemic. In the meantime, a self-guided [mobile app](link) may help until a mental health clinician is available, and appeal to a younger population comfortable with digital tools.

"We think there is promise in these apps, but they're only helpful if people use them," said co-first author Dr. Jennifer N. Bress, the Peter Edwin Stokes, M.D. Clinical Scholar in Psychobiology, an assistant professor of psychology in psychiatry at Weill Cornell Medicine and a psychologist at New York Presbyterian Westchester Behavioral Health.

"We wanted to develop an evidence-based app to see empirically whether we were actually engaging people and addressing their anxiety." While there is ample evidence from [clinical studies](link) that CBT is effective for treating anxiety, testing the app itself through clinical trials is an important step to ensure its efficacy.

Since people often download an app, try it a few times and then delete it, this app added features to encourage engagement, such as interactive exercises, videos and a user interface that test groups found to be visually appealing.

Designed to engage

To see if they could further motivate users, the authors randomly assigned the 59 participants in the study to three groups with different incentives. They included an opportunity to win points, the potential to lose points and a way to earn points that paired participants with a person in their life who encouraged them throughout the process. Participants received virtual "medals" for obtaining specified levels of points.

Surprisingly, the researchers found that using the Maya app reduced anxiety no matter which incentive people received.

"These results indicate that the app can be an accessible and impactful tool for those looking for support around anxiety. It is incredible to see our ideas come to life," noted Dr. Avital Falk, the Charisse Chinery Clinical Scholar in Psychiatry, associate professor of psychology in clinical psychiatry and director of the Division of Digital and Treatment Innovation.

Dr. Falk, who is also the Director of the Pediatric OCD, Anxiety, and Tic disorders (POCAT) program, in collaboration with The Center for Youth Mental Health at New York Presbyterian, was co-first author and designed the app's content.

"It will be challenging to meet the mental health needs of society based on the number of clinical providers we have," said Dr. Gunning, who is also the George Alexopoulos, M.D. Honorary Director of the Institute of Geriatric Psychiatry at Weill Cornell Medicine and New York Presbyterian and a psychologist at New York Presbyterian Westchester Behavior Health.

"Our initial results suggest the app may be an effective tool to bridge the gap for people waiting to see a therapist."

More information: *JAMA Network Open* (2024).

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