

# A screening test for cognitive therapy?

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The scientific foundation of psychiatry is growing rapidly, yet it is a branch of medicine distinctive for the relative absence of biological tests in routine clinical practice.

The most effective treatments for depression, including [cognitive therapy](#), are successful for only about half the patients to whom they are given. The ability to predict those individuals who would be most likely to benefit from such treatment would reduce individuals' recovery times, eliminate the delivery of ineffective treatments, and reduce the high costs of care.

Recent work suggests that reasonable predictions can be made about which patients will respond to cognitive therapy if they are given a brain scan. Unfortunately, [brain scans](#) are too expensive, time-intensive, and fraught with technical challenges to use on a routine basis.

Now, researchers at the University of Pittsburgh and the University of Pennsylvania are reporting a potential alternative. Their findings are published in the current issue of *Biological Psychiatry*.

"We have shown that a quick, inexpensive, and easy to administer physiological measure, pupil dilation in response to emotional words, not only reflects activity in [brain regions](#) involved in depression and treatment response but can predict which patients are likely to respond to cognitive therapy," explained Dr. Greg Siegle, corresponding author on the study.

"According to proverb, the eye is the mirror of the soul or, in this case, the brain. The essential finding of this study is that that activity in the brain's cortical emotion regulatory systems is strongly related to pupil size when people are viewing emotion-laden words," commented Dr. John Krystal, Editor of [Biological Psychiatry](#). "It is because of this relationship between eye and brain that pupil measurements predict the response to cognitive therapy."

Cognitive therapy is a type of psychotherapy designed to help individuals overcome difficulties by modifying negative or irrational thoughts and behavior, which, in turn, can improve mood and reduce stress. It is usually completed in weekly sessions, with 10-20 sessions being effective for most individuals who benefit.

This was a relatively small study, so the work still requires replication. But, the authors have high hopes that this technology could eventually be used regularly to improve treatment response rates in mental health clinics.

**More information:** "Remission Prognosis for Cognitive Therapy for Recurrent Depression Using the Pupil: Utility and Neural Correlates" by Greg J. Siegle, Stuart R. Steinhauer, Edward S. Friedman, Wesley S. Thompson, and Michael E. Thase. Siegle, Steinhauer, Friedman, and Thase are affiliated with the University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania. Steinhauer is also with the VA Pittsburgh Healthcare System, Pittsburgh, Pennsylvania. Thase is also affiliated with the University of Pennsylvania School of Medicine, Philadelphia, Pennsylvania, and Philadelphia Veterans Affairs Medical Center, Philadelphia, Pennsylvania. Thompson is affiliated with the University of California, San Diego, San Diego, California. The article appears in *Biological Psychiatry*, Volume 69, Number 8 (April 15, 2011)

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