

## Science News

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# Cognitive enhancement therapy improves outcomes for adults with autism

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*Source:* University of Pittsburgh Schools of the Health Sciences

*Summary:* Few research efforts have focused on interventions for adults, but a new six-year collaborative trial tested two treatments for adults with autism -- and found strong, but different, results.

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### FULL STORY

New collaborative research out of the University of Pittsburgh School of Social Work and the Department of Psychiatry signals a potential breakthrough for adults with autism spectrum disorder (ASD).

While there have been advances in early detection and many studies involving the treatment of children with ASD, few efforts to date have focused on interventions for adults. These individuals experience significant challenges throughout adulthood, including unemployment, social impairment and poor quality of life. It is believed that the challenges people with autism have in processing and understanding information contribute to these difficulties in adulthood. But treatments to address such problems are virtually non-existent.

The new six-year study, "Cognitive enhancement therapy for adult autism spectrum disorder: Results of an 18-month randomized clinical trial," involved 54 adults and was led by Shaun Eack, Ph.D., M.S.W., Pitt's David E. Epperson Professor of Social Work and Psychiatry, and Nancy Minshew, M.D., Pitt professor of psychiatry and neurology.

The study tested two treatments, cognitive enhancement therapy (CET) and enriched supportive therapy (EST).

CET focused on helping adults improve their thinking and social understanding through computer-based exercises designed to improve attention, memory and problem-solving, along with small group exercises designed to help individuals take the perspectives of others and better understand social situations.

The computerized part of the treatment was administered to pairs of adults with autism to help improve their neurocognitive abilities, such as attention and cognitive flexibility -- which are important precursors to higher-level skills involved in problem-solving, self-regulation and social communication. After several months of computer

training, the participant pairs then joined to form a small group focused on social cognition, or thinking abilities involved in understanding others and processing social information. Participants engaged in these computerized and group-based components for approximately three hours a week.

The second treatment tested, EST, was a one-on-one hour-long session per week in which the participants learned to manage their emotions and stress, improve their social skills, and cope with everyday problems. EST builds on traditional psychotherapy practices, such as cognitive behavioral therapy, and uses them to help adults with autism become more aware of their triggers of stress and implement effective strategies to cope with stress and negative emotions. The treatment also provided education to help adults with autism understand their condition, which was an additional focus of the CET group, as many affected adults have not been educated on the nature of autism, its treatment and the challenges it presents in adulthood. Participants were randomly assigned to either the CET or EST treatment.

The study's findings, published online in the journal *Autism Research*, revealed that after 18 months of treatment, adults with autism who received CET had significant increases in neurocognitive function, particularly in attention and their ability to process information quickly. These cognitive gains helped some participants to be much more employable. Further improvements also were seen in social cognition and social understanding.

Those treated with EST showed a marked increase in social-cognitive behaviors, but it took nearly nine months longer for such benefits to emerge compared to adults treated with CET, suggesting that the more intensive training offered in that approach may help speed improvement.

Eack says many previous ASD treatments have been more behavioral in nature, without a focus on trying to improve core cognitive challenges, and it's especially important for this age group.

"Autism can be more complicated for adults because the adult world introduces new challenges," said Eack. "The support networks for children, like special education and other help they receive in school, are simply not there for adults. We hope this study will begin to establish effective treatments for adults with autism."

"This comparative effectiveness clinical trial provides two new treatments for the 50 percent of adults with autism who have average or above intelligence and formal language," said Minshew, adding that it's now critical that both new treatments be disseminated in the community. "It also is likely that individuals who do not have autism but have social, emotional or problem-solving challenges may benefit as well from both treatments," she said.

This research was funded by the National Institute of Mental Health grants MH-85851, MH-95783, RR-24154 and HD-55748. A complete conflicts of interest disclosure statement can be found in the study.

### Story Source:

Materials provided by **University of Pittsburgh Schools of the Health Sciences**. *Note: Content may be edited for style and length.*

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### Journal Reference:

1. Shaun M. Eack, Susan S. Hogarty, Deborah P. Greenwald, Maralee Y. Litschge, Shannondora A. Porton, Carla A. Mazefsky, Nancy J. Minshew. **Cognitive enhancement therapy for adult autism spectrum disorder: Results of an 18-month randomized clinical trial.** *Autism Research*, 2017; DOI: 10.1002/aur.1913

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