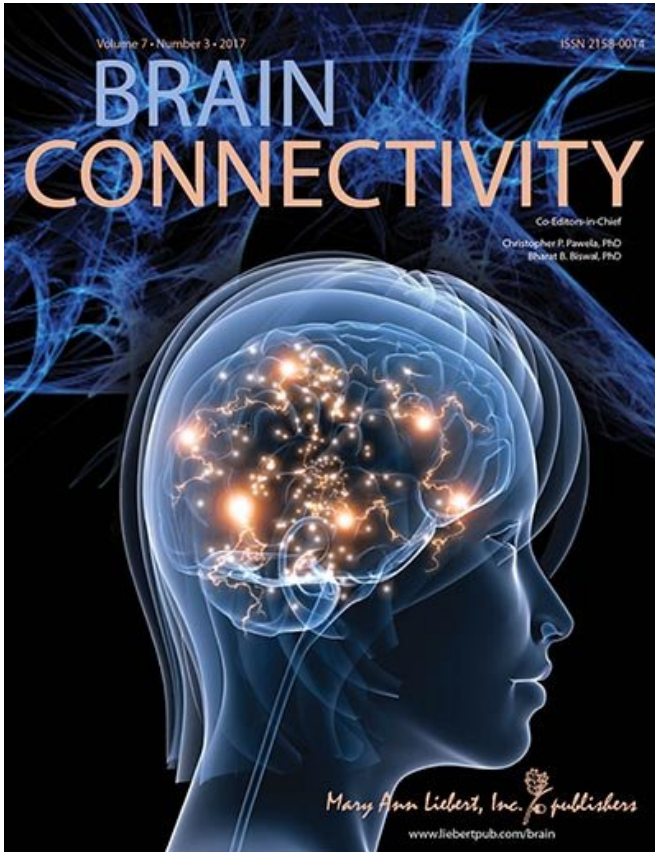


# Researchers report altered brain functional connectivity in autism spectrum disorder

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A new study in adolescent and young adult males with autism spectrum disorder (ASD) showed significant differences in the functional architecture and interactivity of the default mode network (DMN)—brain regions linked to social-cognitive impairment in ASD—compared to DMN functional connectivity measurements in young adult males without ASD. These findings, which could lead to the development of new imaging-based diagnostic markers, are described in an article published in *Brain Connectivity*.

Gagan Joshi, MD and colleagues from

Massachusetts General Hospital (Boston), Harvard Medical School (Boston), Massachusetts Institute of Technology (Cambridge), and Johns Hopkins University (Baltimore, MD) coauthored the article entitled "Integration and Segregation of Default Mode Network Resting-State Functional Connectivity in Transition-Age Males with High-Functioning Autism Spectrum Disorder: A Proof-of-Concept Study." The researchers used resting-state [functional magnetic resonance](#) imaging (fMRI) to assess and compare the resting-state [functional connectivity](#) of the DMN in the two groups of teen and young adult males. The authors report multiple important differences between the groups, including significant reductions in the strength of intra-DMN coupling in ASD, polarity reversal, and differences in the strength of intra- and extra-DMN functional connectivity based on pattern recognition analysis.

"This study by Dr. Joshi and colleagues adds to a growing body of literature detailing altered brain connections in individuals with autism," states Christopher Pawela, PhD, Editor-in-Chief of *Brain Connectivity* and Assistant Professor, Medical College of Wisconsin. "Autism is presently clinically diagnosed symptomatically, which can be very difficult. These researchers hope to build a series of imaging biomarkers that could bring clarity to the autism diagnosis process and help with treatment selection."

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**More information:** Gagan Joshi et al, Integration and Segregation of Default Mode Network Resting-State Functional Connectivity in Transition-Age Males with High-Functioning Autism Spectrum Disorder: A Proof-of-Concept Study, *Brain Connectivity* (2017). [DOI: 10.1089/brain.2016.0483](https://doi.org/10.1089/brain.2016.0483)

Provided by Mary Ann Liebert, Inc

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