

Brain Structures, Autism, and ADHD

THE LARGEST-EVER STUDY of structural brain differences among people with ADHD and a study of the relationship between ADHD and autism spectrum disorder share the spotlight in this research update.

STRUCTURAL BRAIN DIFFERENCES

What brain structures are different in people with ADHD?

This study is the largest of its kind so far, focusing on brain scans of over 3,000 children and adults with and without ADHD. The researchers were interested in addressing some of the concerns with prior research—including very small samples and few studies that focus on development across the lifespan—and focused on identifying structural brain differences between individuals with and without ADHD.

The researchers found that certain brain structures were smaller among the people with ADHD, especially in children. Because these differences were most prominent

among children, this suggests that the development of these structures might be delayed in ADHD.

Hoogman, M., et al. (2017). Subcortical brain volume differences in participants with attention deficit hyperactivity disorder in children and adults: A cross-sectional mega-analysis. *Lancet Psychiatry*, epub ahead of print.

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"Attention-deficit/hyperactivity disorder is linked to delayed brain development" by Amy Ellis Nutt, *Washington Post*, February 15, 2017.


ADHD AND ASD

What are the links between ADHD and autism spectrum disorder?

Although ADHD and autism spectrum disorder (ASD) appear quite distinct on the surface, many studies have shown that they co-occur at rates higher than would be expected by chance. This has led researchers to wonder whether there are similar genetic risk factors for both disorders.

Rather than look directly at the genetic differences in people with ASD and ADHD, this study took a different approach and sought to determine whether these two disorders frequently co-occur within families and within individual people. They used a large, population-based sample in Sweden and confirmed that people diagnosed with ASD had an increased risk for ADHD. They also discovered that family members of people with ASD—including identical and fraternal twins, full siblings, half siblings, and cousins—had a higher risk of ADHD.

These results provide further reason to study the genetic factors involved in both disorders.

Ghirardi, L., et al. (2017). The familial co-aggregation of ASD and ADHD: A register-based cohort study. *Molecular Psychiatry*, epub ahead of print. 

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