ARNETT LAB

Newsletter

ARNETT LAB
BOSTON CHILDREN'S HOSPITAL

Boston Children's Hospital
Laboratories of Cognitive Neuroscience

RESEARCH FINDINGS

A new study reveals important insights into the genetics of pediatric ADHD. By conducting whole-genome sequencing on 150 children diagnosed with ADHD and 370 controls, the Arnett Laboratory found evidence for two distinct genetic routes that can lead to the disorder. Some children with ADHD had higher polygenic risk scores, indicating many small, common genetic differences that together increase risk. Others had rare, likely damaging variants in genes involved in neurodevelopment and gene regulation, particularly those tied to a biological process that helps control which genes are active in the brain. Children with these rare variants often had lower polygenic risk, suggesting that common and rare variants contribute to ADHD through separate pathways.

These findings highlight the multifaceted nature of genetic influences on ADHD and point to the value of integrating both common and rare genomic methods to better understand, predict, and eventually personalize approaches to care.

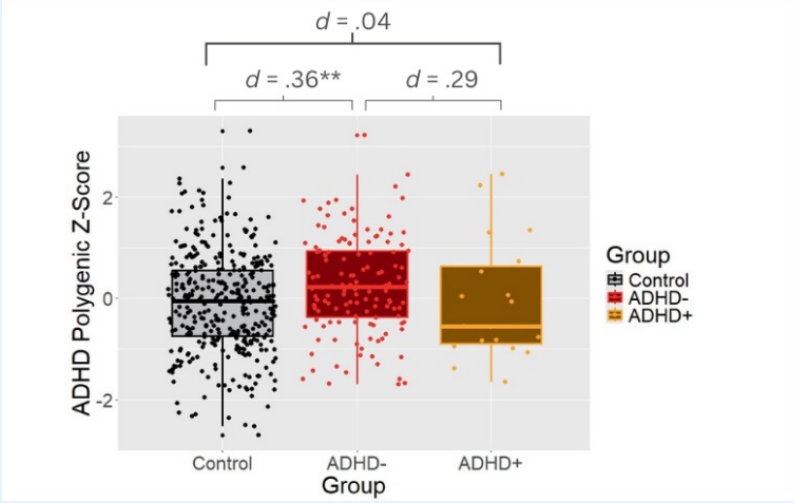

Figure. Polygenic (common variant) risk for ADHD was lower in children who had a rare variant associated with ADHD (ADHD+, yellow) compared to children without a rare variant (ADHD-, red) and non-ADHD controls.

This study will be published in a future edition of *Genetics in Medicine*.

MEET THE TEAM

Josephine Landau joined the Arnett Lab in 2025 as a Clinical Research Assistant. She graduated in 2022 with a bachelor's degree in psychology and a minor in biology. After graduating, she spent a few years as a preschool teacher at a Montessori school. Prior to her role at the Arnett Lab, she worked as a psychometrist administering assessments at a pediatric neuropsychology practice. Jojo plans to become a clinical psychologist and work with children with neurodevelopmental disorders.

CONTACT INFORMATION

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CURRENTLY RECRUITING

The PUMAA Study is currently seeking:

- 11-13 and 15-17 year olds with ADHD to participate in a remote therapeutic intervention to prevent substance use behaviors in adolescents with ADHD

The RACCOON Study is currently seeking:

- 7-11 year old typically developing children for a single research visit involving EEG and neuropsychological testing

The Genetics of ADHD Study is currently seeking:

- 6-17 year-olds with ADHD and their families to help us learn about ADHD Genetics

Scan the QR code for more information on our current studies:

Boston Children's Hospital
Where the world comes for answers