

The Etiological Structure of Cognitive-Neurophysiological Impairments in ADHD in Adolescence and Young Adulthood.

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Abstract

OBJECTIVE:

Previous studies in children with ADHD identified two partially separable familial factors underlying cognitive dysfunction, but evidence in adolescents and adults is lacking. Here, we investigate the etiological structure of cognitive-neurophysiological impairments in ADHD in adolescents and young adults.

METHOD:

Factor analyses and multivariate familial models were run in 356 participants from ADHD and control sibling pairs aged 11 to 27 years on data on IQ, digit span forward (DSF) and backward (DSB), and cognitive-performance and event-related potential (ERP) measures from three cognitive tasks.

RESULTS:

Three familial factors (cF1-3), showing substantial familial overlap with ADHD, captured the familial covariation of ADHD with nine cognitive-ERP measures. cF1 loaded on IQ, mean reaction time (MRT), and reaction-time variability (RTV); cF2 on DSF and DSB; and cF3 on number of errors and ERPs of inhibition and error processing.

CONCLUSION:

These results identify three partially separable etiological pathways leading to cognitive-neurophysiological impairments in adolescent and adult ADHD.