

The Effect of Attention-Deficit/Hyperactivity Disorder and Methylphenidate Treatment on the Adult Auditory Temporal Order Judgment Threshold.

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Abstract

PURPOSE:

The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition notes that attention-deficit/hyperactivity disorder (ADHD) diagnosed in childhood will persist into adulthood among at least some individuals. There is a paucity of evidence, however, regarding whether other difficulties that often accompany childhood ADHD will also continue into adulthood, specifically auditory processing deficits. The aim of this study was to examine the effect of ADHD and the stimulant medication methylphenidate on auditory perception performance among adults.

METHOD:

A total of 33 adults diagnosed with ADHD according to Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition criteria (ADHD group) and 48 adults without ADHD (non-ADHD group) performed an auditory temporal order judgment task. Participants with ADHD performed the task twice: with and without taking methylphenidate (Ritalin), in random order.

RESULTS:

Temporal order judgment thresholds of the ADHD group were significantly higher than those of the non-ADHD group. Methylphenidate significantly decreased temporal order judgment thresholds within the ADHD group, making their performance similar to the non-ADHD participants.

CONCLUSIONS:

Auditory processing difficulties of those diagnosed with ADHD seem to persist into adulthood. Similar to findings with children, methylphenidate treatment improves performance on tasks requiring this ability among adults. Therefore, given the association between auditory temporal processing and linguistic skills, the beneficial effect of methylphenidate on adults' academic achievement may be accomplished by positively affecting auditory temporal processing. Further studies in this line of research are needed.