Time-based prospective memory difficulties in children with ADHD and the role of time perception and working memory.

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Abstract

Time-based prospective memory (PM) is the ability to remember to perform an intended action at a given time in the future. It is a competence that is crucial for effective performance in everyday life and may be one of the main causes of problems for individuals who have difficulty in planning and organizing their life, such as children with attention deficit/hyperactivity disorder (ADHD). This study systematically examines different aspects of time-based PM performance in a task that involves taking an action at a given future time in a group of 23 children with ADHD who were compared with a matched group of typically-developing (TD) children. The children were asked to watch a cartoon and then answer a questionnaire about its content (ongoing task). They were also asked to press a key every 2 minutes while watching the cartoon (PM task). The relationships of time perception and verbal working memory with PM performance were examined by administering appropriate tasks. The results showed that the children with ADHD were less accurate than the TD children in the PM task and exhibited less strategic time-monitoring behavior. Time perception was found to predict PM accuracy, whereas working memory was mainly involved in time-monitoring behavior, but this applied more to the TD group than to the ADHD group, suggesting that children with ADHD are less able to use their cognitive resources when meeting a PM request.