Inhibition of Interference during Word Reading in Children with Attention Deficit Hyperactive Disorder

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Objectives:
It has been proposed that the primary deficit in attention deficit hyperactive disorder (ADHD) is in response inhibition, resulting in impulsiveness and hyperactivity and causing various behavioral problems (Barkley, 1997; Schachar, Tannock, Marriott, & Logan, 1995). The purpose of the present study was to examine the inhibition skills of children with ADHD during word recognition while interfering words were presented.

Methods:
Eleven children with ADHD and 19 typically developing children, all in grade 3 to 6, participated in the study. All participants were developmentally within normal range in vocabulary, sentence repetition, word decoding and reading comprehension. They performed a cross-modal Stroop-like task of word recognition, where two different words were simultaneously presented visually and auditorily. The subjects were asked to read the target word on a computer screen as fast as they could, while ignoring the auditorily presented interfering word. Three conditions were constructed based on interference types: interfering words and target words from the same set of words, interfering words and target words from different sets, and no interfering words.

Results:
Without interference, the ADHD children were not different from the typically developing children in the reaction time of target word reading. However, in the two conditions with auditory interference, the ADHD children’s reading time was significantly slower than the typically developing children.

Conclusion:
The results indicated that children with ADHD were less effective in inhibiting the interfering words while reading. The influence of inhibition deficit of ADHD children on language processing was discussed.