Online inferential and textual processing by adolescents with attention-deficit/hyperactivity disorder during reading comprehension: Evidence from a probing method.

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Abstract

INTRODUCTION:
Previous studies have demonstrated that students with attention-deficit/hyperactivity disorder (ADHD) struggle particularly with grasping the implicit, inferential level of narratives that is crucial for story comprehension. However, these studies used offline tasks (i.e., after story presentation), used indirect measurements (e.g., identifying main ideas), and/or yielded inconclusive results using think-aloud techniques. Moreover, most studies were conducted with preschool or elementary school children with ADHD, using listening or televised story comprehension. In this study, we were interested in examining the spontaneous, immediate activation and/or suppression of forward-predictive inferences, backward-explanatory inferences, and inference-evoking textual information, as they occur online during reading comprehension by adolescents with ADHD.

METHOD:
Participants with and without ADHD read short narrative texts, each of which included a predictive sentence, a bridging sentence that referred back to the predictive sentence via actualization of the predicted event, and two intervening sentences positioned between the predictive and bridging sentences that introduced a temporary transition from the main (predictive) episode. Activation and suppression of inferential and/or textual information were assessed using naming times of word probes that were implied by the preceding text, explicitly mentioned in it, or neither when following control texts. In some cases, a true-false inferential or textual question followed the probe.

RESULTS:
Naming facilitations were observed for the control but not for the ADHD group, in responding to inference probes that followed the predictive and bridging sentences, and to text probes that followed the predictive sentences. Participants with ADHD were accurate, albeit slower, than controls in answering the true-false questions.

CONCLUSIONS:
Adolescents with ADHD have difficulties in generating predictive and explanatory inferences and in retaining relevant textual information in working memory while reading, although they can answer questions after reading when texts are relatively short. These findings are discussed with regard to development of comprehension strategies for individuals with ADHD.