Context influences decision-making in boys with attention-deficit/hyperactivity disorder: A comparison of traditional and novel choice-impulsivity paradigms.

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Abstract
Attention-deficit/hyperactivity disorder (ADHD) is characterized by an impaired ability to maintain attention and/or hyperactivity/impulsivity. Impulsivity is frequently defined as the preference for small, immediate rewards over larger, delayed rewards, and has been associated with a variety of negative outcomes such as risky behavior and academic difficulty. Extant studies have uniformly utilized the traditional paradigm of presenting two response choices, which limits the generalization of findings to scenarios in which children/adolescents are faced with dichotomous decisions. The current study is the first to examine the effect of manipulating the number of available response options on impulsive decision-making in boys with and without ADHD. A total of 39 boys (ADHD = 16, typically developing [TD] = 23) aged 8-12 years completed a traditional two-choice impulsivity task and a novel five-choice impulsivity task to examine the effect of manipulating the number of choice responses (two vs five) on impulsive decision-making. A five-choice task was utilized as it presents a more continuous array of choice options when compared to the typical two-choice task, and is comparable given its methodological similarity to the two-choice task. Results suggested that boys with ADHD were significantly more impulsive than TD boys during the two-choice task, but not during the five-choice task. Collectively, these findings suggest that ADHD-related impulsivity is not ubiquitous, but rather dependent on variation in demands and/or context. Further, these findings highlight the importance of examining ADHD-related decision-making within the context of alternative paradigms, as the exclusive utilization of two-choice tasks may promote inaccurate conceptualizations of the disorder.