ADHD and the Choice of Small Immediate Over Larger Delayed Rewards: A Comparative Meta-Analysis of Performance on Simple Choice-Delay and Temporal Discounting Paradigms

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Abstract

OBJECTIVE:
Impulsive choices can lead to suboptimal decision making, a tendency which is especially marked in individuals with ADHD. We compared two different paradigms assessing impulsive choice: the simple choice paradigm (SCP) and the temporal discounting paradigm (TDP).

METHOD:
Random effects meta-analyses on 37 group comparisons (22 SCP; 15 TDP) consisting of 3,763 participants (53% ADHD).

RESULTS:
Small-to-medium effect sizes emerged for both paradigms, confirming that participants with ADHD choose small immediate over large delayed rewards more frequently than controls. Moderation analyses show that offering real rewards in the SCP almost doubled the odds ratio for participants with ADHD.

CONCLUSION:
We suggest that a stronger than normal aversion toward delay interacts with a demotivating effect of hypothetical rewards, both factors promoting impulsive choice in participants with ADHD. Furthermore, we suggest the SCP as the paradigm of choice due to its larger ecological validity, contextual sensitivity, and reliability.