Differences in Perceived Mental Effort Required and Discomfort during a Working Memory Task between Individuals At-risk and Not At-risk for ADHD.

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Abstract

Objective: The avoidance of mental effort is a symptom criterion for Attention-Deficit/Hyperactivity Disorder (ADHD), but the experience of mental effort has received relatively little attention in the empirical study of individuals at-risk for ADHD. We explored a novel method to assess the experience of effort and discomfort during a working memory task in a sample of young adults at-risk and not at-risk for ADHD.

Method: A sample of 235 undergraduate students (Mean age = 21.02, 86 males) were included in this study. Based on an ADHD screener (ASRS), 136 participants met criteria for the ADHD-risk group and 99 were in the non-ADHD risk group.

Results: Individuals at-risk for ADHD reported higher mental effort and discomfort than individuals not at-risk for ADHD, even when performance on the working memory task was comparable or statistically controlled. Mental effort required and discomfort was more strongly correlated for at-risk compared to not at-risk participants. Individuals at-risk for ADHD displayed a stronger correlation between the mental effort required and actual accuracy, but individuals not at-risk for ADHD displayed a stronger association between perceived accuracy and actual accuracy for the hardest experimental conditions. The most intense moment of effort required predicted retrospective discomfort ratings of the task in the ADHD-risk group, but not in the non-risk group.

Conclusion: The subjective experience of the moment mental effort is an important and viable construct that should be more carefully defined and measured. In particular, the experience of effort required (how taxing a task is) differentiated between individuals at-risk and individuals not at-risk for ADHD in the present study. Whereas previous ADHD research has explored effort exerted, the present work demonstrated that investigating the experience of being mentally taxed might provide a productive line of investigation that could be used to advance our understanding of the cognitive and affective mechanisms underlying the regulation of effort in individuals at-risk of ADHD.