Developmental Pathways to Attention-Deficit/Hyperactivity Disorder and Disruptive Behavior Disorders: Investigating the Impact of the Stress Response on Executive Functioning

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Abstract
Current theory suggests multiple pathways to the onset of attention-deficit/hyperactivity disorder (ADHD) and comorbid oppositional defiant disorder or conduct disorder, proposing that heterogeneous factors lead to various patterns of behavior, cognitive impairments, and even physiological signs which are categorized as ADHD and comorbid disorders. This review focused on one proposed pathway to the onset of ADHD and ODD/CD in order to examine how low physiological arousal, as indicated by atypical hypothalamic-pituitary-adrenal axis and sympathetic adrenomedullary functioning, might be associated with cognitive impairment. First, the cognitive deficits associated with ADHD and disruptive behavior disorders were reviewed. In order to understand the atypical response, studies of the typical stress response and its relationship to cognition, particularly executive functioning, were then examined. Finally, this review summarized findings of an atypical stress response among children with ADHD and ODD/CD. Review of the literature led to the conclusion that the theorized pathway may be improved by taking into account the effects of stress on executive functioning given that an atypical stress response would likely be associated with impairment in this area. Future research directions needed to advance our understanding of the relationship between low arousal, ADHD, and ODD/CD were highlighted.