Does Anxiety Enhance or Hinder Attentional and Impulse Control in Youth with ADHD? An ERP Analysis

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Abstract

Objective:
Youth with ADHD and comorbid anxiety (ADHD+ANX) experience increased social and academic impairment compared with youth with ADHD without anxiety (ADHD). Group differences in attentional and impulse control may underlie this increased impairment. Examination of group differences using behavioral measures of attentional and impulse control has yielded inconsistent findings. This study explored group differences using event-related potentials (ERPs), which provide neural information concerning early information processing.

Method:
ERPs (early frontal positivity [EFP], N2) were collected while youth aged 11 to 17 with ADHD (n = 31) and ADHD+ANX (n = 35) completed a visual and an auditory computer task.

Results:
Compared with the ADHD group, the ADHD+ANX group exhibited larger N2 amplitudes to no-go stimuli and larger EFP amplitudes to target auditory stimuli, with variable attention allocation to nontarget stimuli.

Conclusion:
The addition of anxiety to ADHD appears to alter early attentional processing, which may be an important aspect of this comorbidity.