“To make a molehill out of a mountain”: An ERP-study on cognitive reappraisal of negative pictures in children with and without ADHD

Valerie Van Cauwenberge, Rachida El Kaddouri, Karel Hoppenbrouwers, Jan R. Wiersema

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Abstract

Objective
We investigated cognitive reappraisal in children with ADHD by means of the late positive potential (LPP) and self-report ratings. We expected diminished LPP modulation following reappraisal and lower self-report scores in children with ADHD.

Methods
Eighteen children with ADHD and 24 typically developing (TD) children (8-12 years) performed a cognitive reappraisal task, while EEG was recorded, and filled out a questionnaire on cognitive reappraisal.

Results
Despite the lack of main reappraisal effects on LPP, LPP were less positively modulated during reappraisal in ADHD compared to TD children.

Conclusions
Children with ADHD reported less use of reappraisal and could be distinguished from TD children based on LLP modulation. However the lack of main effects of reappraisal on LPP in both groups hinders clear interpretation of this finding and questions the suitability of LPP modulation within the current paradigm as a neural index of reappraisal in children 8-12 years old, and warrants further research on the inter-individual variability and sensitivity of LPP modulation as a neural index of emotion regulation in children.

Significance
This is the first study investigating the LPP during cognitive reappraisal in children with ADHD.