An EEG Investigation of the Attention-Related Impact of Mindfulness Training in Youth with ADHD: Outcomes and Methodological Considerations

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Abstract

Objective:
The current study examined the impact of an activity-based mindfulness treatment on EEG indices of attention in youth with ADHD aged 11 to 17 years compared with a waitlist control group.

Method:
Pre- and post-treatment, EEG was recorded as participants completed a single-point focus rest task and two active attention tasks. Theta power, beta power, and theta/beta ratio (TBR) were calculated during each task.

Results:
A significant group by time by task interaction was found that indicated significant improvement in attentional ability, indexed by decreased TBR, for the treatment group but not controls.

Conclusion:
Findings support the benefit of mindfulness treatment for enhancing attentional control in youth with ADHD and extend the literature by providing evidence of these gains at a neural level. Findings also offer methodological support for the use of active attention tasks when examining mindfulness-related attentional gains in youth with ADHD. Directions for future research are discussed.