Meta-analysis of organizational skills interventions for children and adolescents with Attention-Deficit/Hyperactivity Disorder

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Abstract

Background
In addition to problems with attention and hyperactivity, children with ADHD present with poor organizational skills required for managing time and materials in academic projects. Organizational skills training (OST) has been increasingly used to address these deficits. We conducted a systematic review and meta-analysis of OST in children with ADHD.

Objectives
The objective of this study was to systematically review the evidence of the effects of OST for children with ADHD for organizational skills, attention, and academic performance.

Methods
We searched 3 electronic databases to locate randomized controlled trials published in English in peer-reviewed journals comparing OST with parent education, treatment-as-usual, or waitlist control conditions. Standardized mean difference effect sizes from the studies were statistically combined using a random-effects meta-analyses across six outcomes: teacher- and parent-rated organizational skills, teacher- and parent-rated inattention, teacher-rated academic performance, and Grade Point Average (GPA). Risk of bias was assessed for randomization, allocation concealment, blinding of participants and treatment personnel, blinding of outcome assessors, incomplete outcome data, and selective outcome reporting.

Results
Twelve studies involving 1054 children (576 treatment, 478 control) were included in the meta-analyses. Weighted mean effect sizes for teacher- and parent-rated outcome measures of organizational skills were $g = 0.54$ (95% CI 0.17 to 0.91) and $g = 0.83$ (95% CI 0.32 to 1.34), respectively. Weighted mean effect sizes of teacher- and parent-rated symptoms of inattention were $g = 0.26$ (95% CI 0.01 to 0.52) and $g = 0.56$ (95% CI 0.38 to 0.74), respectively. Weighted standardized mean effect size for teacher-rated academic performance and GPA were $g = 0.33$ (95% CI 0.14 to 0.51) and $g = 0.29$ (95% CI 0.07 to 0.51), respectively.

Conclusions
OST leads to moderate improvements in organizational skills of children with ADHD as rated by teachers and large improvements as rated by parents. More modest improvements were observed on the ratings of symptoms of inattention and academic performance.

Protocol registration
PROSPERO (CRD42015019261).