Parent and child neurocognitive functioning predict response to behavioral parent training for youth with ADHD

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Abstract

Parental cognitive functioning is thought to play a key role in parenting behavior and may inform response to behavioral intervention. This open-label pilot study examined the extent to which parent and child cognition impacted response to behavioral parent training for children with ADHD. Fifty-four participants (27 parent-child dyads; Mages = 10.6 and 45.2 for children and parents, respectively) completed tasks assessing visuospatial and phonological working memory, inhibitory control, and choice-reaction speed at pre-treatment. Drift diffusion modeling decomposed choice-reaction time data into indicators of processing speed (drift rate) and response caution (boundary separation). Parents completed a 10-week manualized behavioral parent training program. Primary outcomes were pre- and post-treatment child ADHD and conduct problem severity, and parent-reported relational frustration and parenting confidence. Bayesian multiple regressions assessed parent and child cognitive processes as predictors of post-treatment outcomes, controlling for pre-treatment behavior. Better child visuospatial and phonological WM and higher parental response caution were associated with greater reductions in inattention. For conduct problems, better parental self-regulation (stronger inhibitory control and greater response caution) predicted fewer post-treatment conduct problems. Higher parental response caution also predicted lower post-treatment relational frustration and higher parental confidence. Bayesian evidence supported no relation between parent and child cognitive functions and treatment-related changes in hyperactivity. This pilot study demonstrates that cognitive processes central to etiologic theories of ADHD and models of parenting behavior can be successfully integrated into treatment outcome research to inform which families are most likely to benefit from behavioral interventions. This study demonstrates the feasibility of bridging the translational research gap between basic and applied clinical science and facilitates research on the role of cognition in psychosocial interventions.