

Neurocognitive and behavioral predictors of social problems in ADHD: A Bayesian framework.

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Abstract

OBJECTIVE:

Social problems are a key area of functional impairment for children with attention deficit hyperactivity disorder (ADHD), and converging evidence points to executive dysfunction as a potential mechanism underlying ADHD-related social dysfunction. The evidence is mixed, however, with regard to which neurocognitive abilities account for these relations.

METHOD:

A well-characterized group of 117 children ages 8-13 ($M = 10.45$, $SD = 1.53$; 43 girls; 69.5% Caucasian/Non-Hispanic) with ADHD ($n = 77$) and without ADHD ($n = 40$) were administered multiple, counterbalanced tests of neurocognitive functioning and assessed for social skills via multi-informant reports.

RESULTS:

Bayesian linear regressions revealed strong support for working memory and cross-informant interfering behaviors (inattention, hyperactivity/impulsivity) as predictors of parent- and teacher-reported social problems. Working memory was also implicated in social skills acquisition deficits, performance deficits, and strengths based on parent and/or teacher report; inattention and/or hyperactivity showed strong correspondence with cross-informant social problems in all models. There was no evidence for, and in most models strong evidence against, effects of inhibitory control and processing speed. The ADHD group was impaired relative to the non-ADHD group on social skills ($d = 0.82-0.88$), visuospatial working memory ($d = 0.89$), and phonological working memory ($d = 0.58$). In contrast, the Bayesian ANOVAs indicated that the ADHD and non-ADHD groups were equivalent on processing speed, IQ, age, gender, and socioeconomic status (SES). There was no support for or against group differences in inhibition.

CONCLUSIONS:

These findings confirm that ADHD is associated with impaired social performance, and implicate working memory and core ADHD symptoms in the acquisition and performance of socially skilled behavior.