Neuropsychological Deficits Associated With Heavy Prenatal Alcohol Exposure Are Not Exacerbated by ADHD.

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Objective: Neuropsychological functioning of individuals with attention-deficit/hyperactivity disorder (ADHD) or heavy prenatal alcohol exposure has been well documented independently. This study examined the interaction between both factors on cognitive performance in children.

Method: As part of a multisite study, 344 children (8-16 y, M = 12.28, SD = 2.52) completed a comprehensive neuropsychological battery. Four subject groups were tested: children with histories of heavy prenatal alcohol exposure (AE) and ADHD (AE+, n = 90), alcohol-exposed without ADHD, (AE-, n = 38), nonexposed with ADHD (ADHD, n = 80), and nonexposed without ADHD (CON, n = 136).

Results: Separate 2(AE) × 2(ADHD) MANCOVAs revealed significant main and interactive effects of ADHD and AE on overall WISC-IV, D-KEFS, and CANTAB performance. Individual ANOVAs revealed significant interactions on 2 WISC-IV indices [Verbal Comprehension (VCI), Perceptual Reasoning (PRI)], and four D-KEFS and CANTAB subtests [Design Fluency, Verbal Fluency, Trail Making, Spatial Working Memory]. Follow-up analyses demonstrated no difference between AE+ and AE- groups on these measures. The

combined AE+/- group demonstrated more severe impairment than the ADHD group on VCI and PRI, but there were no other differences between clinical groups.

Conclusions: These results support a combined AE+/- group for neuropsychological research and indicate that, in some cases, the neuropsychological effects seen in ADHD are altered by prenatal alcohol exposure. The effects of alcohol exposure on verbal comprehension and perceptual reasoning were greater than those related to having ADHD without alcohol exposure, although both conditions independently resulted in cognitive impairment compared to controls. Clinically, these findings demonstrate task-dependent patterns of impairment across clinical disorders.

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