

the null hypothesis. In addition, future research must also be conducted to better explore strategies of early and consistent neuropsychological intervention in this population.

Categories: ADHD/Attentional Functions

Keyword 1: cancer

Keyword 2: teleneuropsychology

Keyword 3: assessment

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32 Associations between Childhood Attention Deficit Hyperactivity Disorder and Learning Disabilities and Cognition in Late Adulthood.

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Objective: There has been relatively little research on the effect of childhood attention difficulties/weaknesses and learning disabilities/differences on cognitive aging. This study examined associations between self-reported symptoms and diagnoses/concerns of childhood attention deficit hyperactivity disorder (ADHD) and reading or math learning disabilities (LD) and cognitive abilities in older adulthood. We hypothesized that cognitive weaknesses in childhood would be associated with cognitive abilities later in life.

Participants and Methods: The 25 individuals with healthy cognition or MCI were recruited from the greater Philadelphia area (M_{age}= 74.4; SD= 5.34; 40% men; 84%white) and completed a self-report questionnaire of childhood ADHD and LD. Specifically, participants rated their experience of ADHD symptoms of inattention and hyperactivity/impulsivity and indicated whether they had a past diagnosis of (or concerns regarding past) ADHD, math LD or language/reading LD. Participants also completed tests of language, attention, episodic memory, executive function, and processing speed. Pearson or point-biserial correlation coefficients (r-values) indicating a medium effect size (.30 or greater) were interpreted as meaningful.

Results: On average, participants reported 3.48 symptoms of inattention and 2.56 symptoms of hyperactivity/impulsivity (i.e., at least six symptoms from either category are consistent with diagnostic criteria for ADHD). 16% of the sample reported childhood ADHD/attention difficulties, 48% reported childhood math LD/math difficulties, and 32% reported childhood language LD/difficulties. On cognitive tests, the sample performed in the average range, with considerable variability (i.e., norm-based, demographically adjusted T-scores ranged from 20-74). The relation between cognitive scores and report of childhood ADHD symptoms was weak and non-significant correlation ($r < .18$). By contrast, report of childhood ADHD/attention difficulties was associated with lower scores attention tests ($r = .33$). Report of childhood language LD/difficulties was associated with a worse overall cognitive composite ($r = -.35$) and executive function ability ($r = -.35$). Childhood math LD/difficulties was not meaningfully associated with lower scores on any of the cognitive tests administered. Unexpectedly, report of childhood cognitive difficulties also were associated with higher scores on cognitive tests, such that childhood ADHD/attention difficulties was associated with better performance on tests of episodic memory ($r = .39$), and childhood math LD/difficulties were associated with better performance on tests of language ($r = -.37$).

Conclusions: Current cognitive abilities in older adults may be influenced by lifelong cognitive weakness and academic difficulties. A history of ADHD and LD/difficulties should be considered in clinical neuropsychological assessment and future research on cognitive aging should consider ADHD/LD from a lifespan, developmental framework.

Categories: ADHD/Attentional Functions

Keyword 1: attention deficit hyperactivity disorder

Keyword 2: cognitive functioning

Keyword 3: aging (normal)

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33 Does Comorbid Depression Impact Executive Functioning (EF) in Adults Diagnosed with ADHD?: A Comparison

of EF Across Diagnoses in Clinically-Referred Individuals

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Objective: Neurobiological and cognitive theories implicate deficits in executive function (EF) as a core facet of both depressive disorders and attention-deficit/hyperactivity disorder (ADHD), but empirical investigations inconsistently support this conclusion. Despite recognition of the likely bi-directional relationship of EF deficits to depression and ADHD, respectively, the extent to which comorbid depression might impact EF in adults remains unclear, considering more of the literature has examined children and adolescents. This study examined performance differences on EF measures in clinically-referred adults diagnosed with ADHD or a non-ADHD primary psychopathological condition in the presence/absence of comorbid depression.

Participants and Methods: This cross-sectional study included data from 404 adults referred for neuropsychological evaluation at a Midwestern academic medical center. In total, 343 met DSM-5 diagnostic criteria for ADHD (ADHD-all group: 164 Predominantly Inattentive presentation [ADHD-I] and 179 Combined presentation [ADHD-C]) and 61 met criteria for a non-ADHD primary psychopathological condition (psychopathology group: 31 mood disorder, 17 anxiety disorder, and 13 posttraumatic stress disorder) when assessed via semi-structured clinical interview. All patients completed the Beck Depression Inventory-Second Edition (BDI-II) and five EF tests: Letter Fluency, Trail Making Test-Part B (Trails-B), Stroop Color and Word Test Color-Word trial (SCWT CW); and WAIS-IV Working Memory Index (WMI). One-way MANOVAs assessed for significant EF differences between groups with high (BDI-II greater than or equal to 20) or low (BDI-II less than or equal to 19) depressive symptoms.

Results: When group diagnosis (ADHD-all vs. psychopathology) was examined in the context of high or low depression, a significant difference in EF performance emerged between groups, $F(12, 1042.72)=2.44$, $p<.01$, Wilk's $\Lambda=.93$, partial $\eta^2=.02$, with univariate analyses

indicating a significant difference in FAS-T between at least two of the groups ($F(3, 397)=3.92$, $p<.01$, partial $\eta^2=.03$). Tukey's HSD Test for multiple comparisons found that the mean value of FAS-T was significantly different between the ADHD-high depression and ADHD-low depression groups ($p=.046$, 95% CI = [-5.81, -.04]) as well as between the ADHD-low depression and psychopathology-high depression groups ($p=.05$, 95% CI = [-8.89, .00]). A one-way MANOVA examining differences between groups when distinguishing ADHD by subtype revealed a statistically significant difference in EF performance between groups, $F(20, 1301)=1.85$, $p<.05$, Wilk's $\Lambda=.91$, partial $\eta^2=.02$, with univariate analyses indicating a statistically significant difference in FAS-T between at least two of the groups ($F(5, 395) = 2.39$, $p<.05$, partial $\eta^2 = .03$). However, Tukey's HSD Test for multiple comparisons found that the mean value of FAS-T was not significantly different between any of the groups.

Conclusions: Overall, results indicate that clinically-referred patients with ADHD perform comparably on tests of EF regardless of the presence or absence of comorbid depression. These findings have implications for conceptualizing EF weaknesses in neuropsychological profiles for individuals with ADHD and suggest examining factors beyond comorbid depression.

Categories: ADHD/Attentional Functions

Keyword 1: attention deficit hyperactivity disorder

Keyword 2: executive functions

Keyword 3: depression

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34 Attention-Deficit/Hyperactivity Disorder, Emotion Regulation, and Executive Functioning Associated with Educational and Occupational Outcomes in Adults

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