

1 Executive Functioning and Anxiety/Depressive Symptoms as Mediators Between ADHD and Quality of Life: A 10-year Longitudinal Study

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Objective: Attention-Deficit/Hyperactivity Disorder (ADHD) is associated with impaired executive functioning and anxiety/depressive symptoms, which may contribute to reduced quality of life. We tested the hypotheses that (1) a childhood diagnosis of ADHD is related to reduced quality of life in emerging adulthood and that (2) this relationship is mediated by impaired executive functioning and anxiety/depressive symptoms.

Participants and Methods: We assessed 85 children and adolescents with ADHD and 50 typically developing peers at baseline (Mean age = 11.6 years, 58% males), two-year follow-up, and 10-year follow-up with neuropsychological tests of executive functioning, the Behavioral Rating Inventory of Executive Function (BRIEF), the Short Moods and Feelings Questionnaire (SMFQ), and the Revised Children's Manifest Anxiety Scale, second edition (RCMAS-2), as well as the Perceived Quality of Life scale (PQoL) at the 10-year follow-up. Four neuropsychological tests of executive functioning, the Letter-Number Sequencing test (working memory), the Color-Word Interference test condition 3 (response inhibition), the Color-Word Interference test condition 4 (shifting), and the trail making test condition 4 (cognitive flexibility) were combined into a neuropsychological executive functioning composite score based on high factor loadings ($\geq .73$). the parent-reported BRIEF indexes, the behavioral regulation index, and the metacognition index were used as measures of everyday executive functioning. We conducted independent samples t-tests to compare the groups and simple and parallel mediation analyses with full information maximum likelihood estimation to examine whether the

different executive functioning measures and anxiety/depressive symptoms at two-year follow-up mediated the relationship between baseline ADHD and self-reported quality of life at 10-year follow-up.

Results: Baseline ADHD was associated with more difficulties with executive functioning on a composite measure of neuropsychological tests ($p < .001$, Hedges $g = .79$) and parent-reported everyday metacognitive ($p < .001$, Hedges $g = 2.37$) and behavioral regulation executive functioning ($p < .001$, Hedges $g = 1.55$), as well as self-reported anxiety ($p < .001$, Hedges $g = 1.05$) and depressive symptoms ($p < .001$, Hedges $g = 1.00$) at two-year follow-up. Baseline ADHD was associated with lower self-reported quality of life ($p = .001$, Hedges $g = -.67$) at 10-year follow-up. The mediation analysis showed that everyday metacognitive executive functioning ($p = .011$, $\beta = -.497$) and an anxiety/depressive symptoms composite ($p < .001$, $\beta = -.404$) parallelly mediated the relationship between ADHD and quality of life.

Conclusions: Impaired everyday executive functioning and anxiety/depressive symptoms may represent two distinct pathways to reduced quality of life in emerging adults with a childhood diagnosis of ADHD. These findings stress the importance of targeting both cognitive and emotional aspects in interventions for children and adolescents with ADHD to improve later quality of life.

Categories: ADHD/Attentional Functions

Keyword 1: anxiety

Keyword 2: quality of life

Keyword 3: executive functions

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2 Neuropsychological Predictors of Posttraumatic Stress Disorder and Depressive Symptom Improvement in Compensatory Cognitive Training for Veterans with a History of Mild Traumatic Brain Injury

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