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Cognitive Assessment of Executive Functions in Tunisian School-Aged Children

Executive functions are high-level cognitive skills that support children's self-regulation and learning in academic settings. This study aims to describe and compare executive function performance in Tunisian school-aged children, while examining the influence of age and gender. A total of 140 children aged 7 to 10 years participated. Executive functions such as inhibition, working memory, cognitive flexibility, and verbal fluency were assessed using standardised neuropsychological tasks. Inhibition was measured by the Stroop test. Working memory was evaluated through two WISC-V subtests: Digit Span and Block Design. Cognitive flexibility was measured with both the Trail Making Test – Part B and alternating verbal fluency (semantic switching). Verbal fluency tasks included categorical fluency (animals, clothing) and phonemic fluency (letter M). A two-way analysis of variance (ANOVA) was conducted for each test, with age (in three groups) and gender as independent variables. The results revealed a significant age effect on Stroop interference scores and verbal fluency performance, particularly in the semantic and alternating conditions, indicating improvements in inhibitory control and flexibility with increasing age. No significant gender differences were found. Pearson correlations highlighted significant and moderate associations between inhibition and fluency, as well as between cognitive flexibility and working memory. These results emphasize the selective impact of age on executive function development and suggest that certain functions, such as inhibition and verbal fluency, are especially sensitive to developmental progression in this age range.

Keywords: Executive functions, School-aged children, Cognitive development, Inhibitory control

Biography

Sleh Eddine Saddi is a psychologist and psychotherapist specializing in various therapeutic approaches, including brief therapy, hypnosis, psychodrama, and schema therapy. He is the author of a recent study titled Executive Functions and Their Influence on Academic Performance in School-Aged Children in Tunisia (2025).