

Cognitive, emotional-behavioral, and academic profiles of gifted youth in the digital age: toward a new digitised mind

Friday, September 12, 2025 5:40 PM (10 minutes)

Introduction: Intellectual giftedness (IG) is defined by superior cognitive functioning. Despite cognitive strengths, gifted individuals often exhibit asynchronous development and emotional or learning difficulties. In the digital era –characterized by rapid information flow and increased cognitive load –the emergence of a “digitised mind” may alter neurocognitive trajectories. This study investigates cognitive, emotional, behavioral, and academic profiles in gifted youth within this evolving context.

Methods: A total of 331 cognitively gifted children and adolescents (IQ >114), aged 2 to 16 years, underwent comprehensive cognitive, emotional-behavioral, and academic assessments between 2017 and 2024 at the Clinical Psychology Unit of the Fondazione IRCCS Policlinico Universitario Agostino Gemelli. Standardized instruments included the WPPSI-III, WISC-IV, MT-3 Clinical Battery, MT-3 Advanced Clinical Battery, BVSCO-2, AC-MT, and CBCL.

Results: Verbal Comprehension showed the highest mean score (VCI= 121), with lower values in Working Memory (106) and Processing Speed (109). Males outperformed females in Perceptual Reasoning (121 vs. 118, $p=0.032$), while females scored higher in Processing Speed ($p=0.021$). Writing (47.3%) and arithmetic (41.8%) were the most impaired academic domains. Poor reading comprehension was associated with lower Digit Span ($p=0.007$) and VCI ($p=0.001$), and low arithmetic scores correlated with reduced total IQ ($p=0.020$). Internalizing symptoms were most frequent and inversely related to Working memory ($r=-0.13$, $p=0.046$).

Conclusions: Cognitively gifted youth exhibit heterogeneous profiles, with high abilities alongside cognitive and emotional vulnerabilities. In the digital age, understanding the evolving digitised mind is essential for update assessments and targeted interventions.

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Session Classification: Life cycle

Track Classification: Life cycle (e.g., development and aging)