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## 85 Relationships between neuropsychological functioning and adaptive functioning in a clinical sample of children with Spina Bifida

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**Objective:** Individuals with Spina Bifida (SB) are at increased risk for difficulties with various aspects of adaptive functioning. Poorer adaptive functioning could delay or prevent an individual from successfully living independently and managing their own condition. Despite the importance of understanding adaptive functioning in SB, currently the literature on predictors of and associated neurocognitive skills with adaptive functioning is sparse. Thus, this retrospective chart review study aimed to explore the extent to which intellectual functioning predicts adaptive functioning in a clinical sample of children with SB.

**Participants and Methods:** A retrospective chart review of children with SB was conducted at a Midwestern academic medical center. Children were seen in the context of routine neuropsychological evaluations to identify neuropsychological diagnoses and provide treatment recommendations. All measures were administered based on the age of the child and in accordance with administration guidelines. Only children with complete data were included in analyses. The sample included 42 participants ( $M_{age}=10.89$ ,  $SD_{age}=3.15$ ; 18 male, 24 female). Intellectual functioning was evaluated using either the Wechsler Intelligence Scale for Children – Fifth Edition (WISC-V) or Wechsler Intelligence Scale for Children—Fourth Edition (WISC-IV). Adaptive functioning was evaluated using primary caregiver-report scores from the Adaptive Behavior Assessment System – Third Edition (ABAS-3). Hierarchical regressions were conducted to investigate the extent to which intellectual functioning predicts parent-reported

adaptive functioning. The unique contribution of each predictor variable was also considered.

**Results:** Model predictors included participant sex, verbal comprehension, working memory, processing speed, and full scale IQ to predict 4 different indices on the ABAS-3. Results showed a significant contribution of participant sex in all models, with males having been rated as having poorer adaptive skills. Intellectual functioning did not significantly contribute to the models.

Semipartial correlations revealed that processing speed and working memory often each accounted for a fair amount of variability when controlling for all of the remaining variables in the models. In particular, when accounting for all of the remaining variables, processing speed accounted for 6.3% of variability in global adaptive functioning, 6.1% in Conceptual Skills, and 10.11% in Social Skills. Furthermore, after controlling for all of the other variables, working memory accounted for 4.5% of the variability in global adaptive functioning.

**Conclusions:** The present results suggest that males with SB are at increased risk for poorer adaptive functioning, and there may be some preliminary evidence of processing speed and working memory playing contributory roles as well. This may suggest at least in childhood, the verbal and global cognitive capacities of individuals with SB are not as contributory to adaptive functioning as more basic cognitive skills, such as processing speed and working memory. It is recommended that males with SB in particular should be closely monitored with regard to their development of adaptive skills, as they may be at risk of poorer adaptive abilities. Additionally, our findings provide preliminary evidence of processing speed and working memory impacting adaptive functioning. Thus, interventions and accommodations targeting both of these domains may be appropriate to implement to help with poorer adaptive skills in this population.

**Categories:** Medical/Neurological Disorders/Other (Child)

**Keyword 1:** adaptive functioning

**Keyword 2:** intellectual functioning

**Keyword 3:** spina bifida

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