

higher observed rate of noncredible performance in the literature. This study aimed to compare visual learning and memory performance between a mixed neuropsychiatric (MNP) group and a chronic pain group in a validity-controlled sample.

**Participants and Methods:** The study consisted of 371 adults referred for outpatient neuropsychological evaluation. Between groups, various PVTs were administered, which included, at minimum, one freestanding and four embedded PVTs. All patients were administered the Brief Visuospatial Memory Test-Revised (BVMT-R) as part of a comprehensive neuropsychological evaluation. Only patients classified as valid performers ( $\leq 1$  PVT fails;  $n=295$ ) were included in the analyses (Pain:  $n=109$ ; MNP:  $n=186$ ). The overall sample was 69% female and racially diverse (22% non-Hispanic Black, 43% non-Hispanic White, 30% Hispanic, 3% Asian/Pacific Islander, and 2% other race/ethnicities), with a mean age of 46.8 ( $SD=14.8$ ) and mean education of 13.7 years ( $SD=2.7$ ). Independent samples t-tests were performed to investigate the differences in visual learning and memory abilities between the chronic pain and MNP groups.

**Results:** Chi-square analyses revealed significant differences between the pain and MNP groups on race, with more non-Hispanic White and Hispanic patients represented in the MNP group. There were also modest group differences in age and education. For the chronic pain group, patients scored lower on both BVMT-R Total T-Score (mean difference = 9.65T,  $p<.001$ ) and BVMT Delayed Recall T-Score (mean difference = 8.97T,  $p<.001$ ). The effect size was robust for both for Total T-Score ( $d = 0.682$ ) and Delayed Recall T-Score ( $d = 0.632$ ). In contrast, the difference in BVMT Recognition Discriminability was not statistically significant.

**Conclusions:** This study demonstrated significant differences in performance between mixed neuropsychiatric and chronic pain patients. Preliminary evidence indicated that chronic pain patients displayed lower visual mediated encoding and retrieval performance, although their recognition is comparable. Although the nature of this study was targeted toward visual learning and retrieval, it is likely that the known impact of chronic pain on attention, working memory, and processing speed accounts for this relationship. Future studies will benefit from further elucidating these potential mechanisms and better inform clinical

decision-making and neuropsychological testing performance in patients with chronic pain.

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

**Keyword 1:** chronic pain

**Keyword 2:** performance validity

**Correspondence:** Phoebe Ka Yin Tse, The Chicago School of Professional Psychology, [ktse@ego.thechicagoschool.edu](mailto:ktse@ego.thechicagoschool.edu)

## 77 Development of Parent- and Teacher-Reported Executive Dysfunction and Inattention in Youth with Spina Bifida

Allison del Castillo-Payne, Grayson N Holmbeck  
Loyola University Chicago, Chicago, IL, USA

**Objective:** Youth with spina bifida (SB) are at increased risk of neuropsychological deficits, including executive dysfunction and inattention. While these deficits are well-documented cross-sectionally, little research has considered the development of these difficulties longitudinally. The limited research on executive dysfunction over time in youth with SB has been mixed, with some studies suggesting stable, elevated executive dysfunction (Tarazi et al., 2008) and others demonstrating improvements in inhibition and shifting in particular (Zabel et al., 2011). In contrast, no research has examined inattention over time in SB. Understanding the development of these constructs is critical for early identification of dysfunction and intervention development. This study thus aims to characterize the development of executive dysfunction and inattention in youth with SB.

**Participants and Methods:** One hundred forty youth with SB were recruited as part of a larger, longitudinal study. Mothers, fathers, and teachers of participants (Time 1:  $M_{\text{youth age}} = 11.4$  years, 53.6% female) completed questionnaire-based measures of executive dysfunction (Behavior Rating Inventory of Executive Function, BRIEF; inhibit, shift, working memory, plan/organize subscales) and inattention (Swanson, Nolan, and Pehlam Teacher and Parent Rating Scale – Fourth Edition, SNAP-IV). Data were collected over five time points occurring at two-year intervals. Growth curves were estimated using linear mixed effects models to estimate development over time.

**Results:** Difficulties with inhibition decreased across age in youth with SB according to mother, father, and teacher reports ( $p=.000-.007$ ). Mother and father reports of shifting problems decreased across age ( $p=.009$ ), while teacher reports showed no significant change ( $p=.799$ ). Working memory problems also significantly decreased over time, but only according to fathers and teachers ( $p=.004-.005$ ). Difficulties with planning/organizing remained stable across age for all reporters ( $p=.076-.935$ ). With regards to inattention, symptoms decreased across age according to mothers and teachers ( $p=.000-.017$ ), but not fathers.

**Conclusions:** Overall, inhibition, shifting, and inattention improved across age in this sample of youth with SB according to at least two reporters. Contrary to existing literature, working memory also improved over time in this sample. Planning/organizing was the only area of executive functioning that remained stable over time across reporters. These results support previous findings of improvements in behavioral regulation (i.e., inhibition, shifting), and stable, elevated planning/organizing difficulties. These findings also highlight the importance of considering different contexts and reporters' perspectives when examining change over time. Predictors of the development of executive dysfunction and inattention should be considered, as this information may aid with increased understanding of neuropsychological function in SB and identifying which individuals may be most likely to benefit from early intervention. Examining predictors may also help explain differences in working memory development demonstrated in the current study compared to extant literature.

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

**Keyword 1:** spina bifida

**Keyword 2:** executive functions

**Keyword 3:** attention

**Correspondence:** Allison del Castillo-Payne  
Loyola University Chicago adelcastillo@luc.edu

## 79 Concordance Between Theorized Cognitive Profiles, Medical Risk Factors, and Clinical Diagnoses Within Preschool-Aged Children

Erin T. Kaseda<sup>1</sup>, Jennifer I. Koop<sup>2</sup>, Sara K. Pardej<sup>3</sup>, Lauren E. Miller<sup>2</sup>, Amy K. Heffelfinger<sup>2</sup>

<sup>1</sup>Rosalind Franklin University of Medicine and Science, North Chicago, IL, USA. <sup>2</sup>Medical College of Wisconsin, Milwaukee, WI, USA.

<sup>3</sup>University of Wisconsin - Milwaukee, Milwaukee, WI, USA

**Objective:** Early childhood is recognized as a critical window of rapid cognitive development. Unfortunately, many risk factors for atypical cognitive development may occur during this period, including genetic syndromes, congenital neuroanatomical malformations, pre- or perinatal injury, and neurological and medical disorders. The impact of these risk factors on cognitive functioning may not always map onto patterns typically observed in adults. Limited literature exists on the presentation of cognitive profiles within clinical populations in the preschool developmental period. The present study aimed to evaluate whether discrete a priori cognitive profiles consistent with common neurobehavioral syndromes emerge and are distinguishable on testing in early childhood in a mixed clinical sample. We also aimed to determine if there was a consistent association between known medical risk factors and resultant cognitive profiles.

**Participants and Methods:** Participants included 163 children aged 1-5 years ( $M=48.5$  months,  $SD=12.8$  months) referred for neuropsychological evaluation. The sample was predominantly male (67.5%) and White (72.9%), followed by other/mixed race (11.6%), Black (9.7%), and Latino/Hispanic (5.8%). Cognitive abilities assessed included broad intellectual abilities, verbal abilities, nonverbal abilities, attention, and executive functioning. Continuous test scores were transformed into categorical ranges of performance, with scores classified as "above average," "average," "below average," or "extremely low" to allow for profile classification. Theoretical clinical profiles consistent with common neurobehavioral syndromes were determined a priori by consensus among three authors (JK, AH, LM). Chi square tests of independence were conducted to compare membership across neurobehavioral diagnostic groups, clinical profile groups, and medical groups.

**Results:** Based on cognitive data, 55.2% of the sample ( $n=90$ ) was classified as Global Developmental Delay/Intellectual Disability, 19.6% (GDD/ID;  $n=32$ ) was classified as