Language Disorder, and 18.4% (n=30) was classified as Typical Cognitive Development. 4.3% (n=7) of the sample was classified as Attention-Deficit/Hyperactivity Disorder (ADHD), and 2.5% (n=4) was classified as Nondominant Hemisphere Dysfunction. As hypothesized, cognitive profile group membership was consistent with diagnostic impressions, as actual clinical diagnoses of Language Disorder, ADHD, GDD/ID, or a classification of typical cognitive development were significantly associated with theorized cognitive profile based on test performance alone (χ^2 (1,20) = 147.29, p < .001). Cognitive profile group membership was also significantly associated with referral source (χ^2 (1,28) = 62.88, p < .001) and the presence of a neurological disorder (χ^2 (1,4) = 14.64, p = .006).
Conclusions: Findings support the presence of specific theorized cognitive profiles in preschoolers in a mixed clinical sample. Specifically, GDD/ID, Language Disorder, and typical cognitive development are discrete and consistently distinguishable cognitive profiles in this age range. Early life neurological risk factors are also significantly related to cognitive profile membership, suggesting that these factors may be useful in predicting cognitive development even in very young children. Future work is needed to examine the consistency of these profiles over time and their predictive value in estimating subsequent development, and the possibility of discriminating unique cognitive profiles for specific medical conditions in preschoolers.

Categories: Medical/Neurological Disorders/Other (Child)
Keyword 1: pediatric neuropsychology
Keyword 2: child development disorders
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80 Implications of Body Mass Index on Executive Functioning in Clinically Diagnosed Neurodiverse Children

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Objective: Childhood obesity is a serious health epidemic affecting the world today. Children who are obese earlier in life are more likely to stay obese and have an increased risk of poorer health outcomes later in life, such as diabetes and cardiovascular diseases. Obesity is also associated with deficits in executive function. Executive function (EF) is comprised of several distinct but interrelated abilities including working memory, planning, inhibition, and flexibility. Prior research suggests that obesity drives brain changes which implicate executive function structures. Our aim is to examine the relationship between childhood obesity and executive function in children with neurodevelopmental disorders.
Participants and Methods: These data are from an ongoing study on neural and behavioral phenotypes of executive functioning in children with developmental disabilities, primarily Attention-Deficit/Hyperactivity Disorder (ADHD) and Autism Spectrum Disorder (ASD). Only study participants with complete BMI and BRIEF data were included in these analyses (n = 184). 134 representing (72.8%) of the participants were Male, 49 representing (26.6%) were Female, and 1 representing (.5%) were Gender nonconforming. 50 representing (27.2%) of the participants were between 8-9 years, 55 representing (29.9%) were between 10-11 years, and 80 representing (43.0%) were between 12-13 years. Average age was 11 years. 11 representing (6.0%) of the participants were underweight, 115 representing (62.5%) were healthy, 29 representing (15.8%) were overweight, and 29 representing (15.8%) were obese. Average BMI was 19.0, ranging from 13.2 to 36.3. 106 representing (57.6%) of the participants identified as White, 65 representing (35.3%) identified as BIPOC (2 Asian, 31 Hispanic/Latinx, 32 Black) and 13 representing (4.4%) identified as other/unspecified. 114 representing (61.9%) of the participants had a diagnosis of ADHD, ASD, or comorbid ASD and ADHD, 70 representing (38.1%) had a diagnosis of other. Average FSIQ-2 score was 106.98.

Parents were asked to complete the Behavior Rating Inventory of Executive Function (BRIEF-2) and the Inhibit, Shift, Working Memory (WM), Planning, and Global Executive Composite

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(GEC) scales were used as the dependent measure in analyses.

BMI (kg/m^2) was calculated based on CDC 2000 growth charts and classified into 4 mutually exclusive categories—underweight, healthy, overweight, and obese. There was a prediction that higher BMI would be associated with lower executive function.
Results: A one-way ANOVA revealed a statistically significant difference between groups ($F(3,180) = 3.649$, $p = .014$). A Tukey post hoc test revealed more Shift problems in the obese group (74.55 ± 11.7) compared to the overweight group (65.79 ± 11.6, $p = .026$). There was no statistically significant difference between the underweight/healthy and obese groups ($p = .999$/$p = .054$). There was no statistically significant difference in mean T-scores for the Inhibit, WM, Planning, or GEC scales.
Conclusions: Childhood obesity and executive function deficits are significant risk factors for adult health outcomes. Obesity and elevated executive function T-scores for flexibility are related in a group of children with neurodevelopmental disorders. Future investigation will explore the role of cortical thickness and medication in these data.

Categories: Medical/Neurological Disorders/Other (Child)
Keyword 1: executive functions
Keyword 2: attention deficit hyperactivity disorder
Keyword 3: autism spectrum disorder
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81 Autism Symptoms Reported and Observed During Neuropsychological Assessment of Children with Congenital Heart Disorder

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Objective: Children with congenital heart disease (CHD) have increased likelihood for Autism Spectrum Disorder (AuSD; Sigmon, Kelleman, Susi, Nylung & Oster, 2020). Even those not meeting full criteria remain at greater risk for problems with social processing/communication (Cassidy et al, 2018). The current study examined what symptoms indicative of potential AuSD were qualitatively reported by parents, and what symptoms were noted behaviorally by clinicians. These behaviors may be targets for both further clinical inquiry and intervention.
Participants and Methods: A retrospective chart review of CHD patients seen for neuropsychological assessment between the ages of 6-18 years and between 2016-2021 was conducted. The final sample included 88 patients (Ethnicity: 14% Hispanic; Race: 76% White, 17% Black/African American, 5% Asian, 1% Native American, 1% Unknown).
A coding system for AuSD symptoms was derived by the authors, who are experienced in AuSD diagnosis and assessment, based on DSM-5 criteria. A comprehensive list of behaviors consistent with each symptom category was generated, and assessment reports were subsequently reviewed noting the presence, absence or “no mention” of each symptom. A second coding system was derived to assess for AuSD symptoms documented in each report’s behavioral observations. Three pediatric neuropsychologists, one post-doctoral fellow, and one psychometrist were coders, with very good reliability ($\kappa = .854$ (95% CI, .827 to .881), $p < .0001$).
Results: Twelve patients (14%) were diagnosed with AuSD. Age of diagnosis ranged from 3-14 years ($M = 7.82$, $SD = 3.92$). Main concerns parents expressed included difficulty with reciprocal conversation (75%), making friends (75%), initiating and maintaining social interactions (67%), and restrictive/intense interests (58%). During testing, providers noted variable eye contact (67%), appropriate responses to questions but minimal social conversation (67%), and exaggerated prosody (42%).
Of those who did not have an AuSD diagnosis, the most frequent parent concerns included difficulty making friends (38%), difficulty initiating or maintaining social interactions (33%), atypical affect (25%), and restrictive/intense interests (18%). In this sample, providers noted concerns with answering questions but not maintaining conversation (26%), flat affect (16%), loud (17%)

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