

interviewed parents on their remote learning experience. A qualitative case study was applied to further investigate student outcomes. Parent interview and the child's progress report were coded and analyzed systematically. The identified family included correspondence from the mother (Lisa, 37) and her son (Noah, 9). Noah attended third grade at a Charter School and was diagnosed with ASD in 2019. His IEP included 80% in General Education (online) with Special Education assistance (in person; reading, writing, and mathematics) and Occupational (OT), Speech/Language (SLP), and Physical Therapy (PT) (hybrid).

**Results:** Noah began hybrid learning in October 2020, with in-person learning two days a week and remote learning everyday for two to three hours each day. Progress report and interview were collected in April 2021 at the halfway point of his IEP implementation which described Noah's current special education and therapy services goals/outcomes in March 2021. This included 11 goals that were observed and assessed in OT (2), PT(2), Reading (2), Writing (1), Math (2), and SLP (2). Noah progressed in 9 of 11 goals, with 1 being met and 8 classified as satisfactory by displaying some improvement in respective skills mid year. The remaining OT (2) goals showed no definitive conclusion. Lisa mentioned that lack of direct observation of particular skills and too many online classes to attend led to inconclusive outcomes. Lisa and Noah came across difficulties while engaging in OT online sessions encountering emotional stress when adjusting to the mode of delivery. Lisa expressed positive emotions when referring to the support system and described it as collaborative with adequate attention to multiple aspects of his development. She voiced understanding of her's and other professionals' role and the extent of their abilities in the context of the pandemic.

**Conclusions:** Of the 11 IEP goals, there was adequate progress for the child amid hybrid learning. The parent preferred that OT be delivered in person as certain procedures require direct contact and affected outcomes. Hybrid learning has allowed for parents to directly access their children's endeavors and heighten communication with professionals. This suggests that maintenance of IEP standards can be satisfactory in a hybrid learning model with adequate monitoring from parents and treatment teams for children with ASD.

**Categories:** Autism Spectrum Disorders/Developmental Disorders/Intellectual Disability

**Keyword 1:** learning

**Keyword 2:** academic achievement

**Keyword 3:** academic skills

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## 26 Do depression, anxiety, or stress moderate the relationship between auditory learning and verbal learning?

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**Objective:** Attention plays a key role in auditory processing of information by shifting cognitive resources to focus on incoming stimuli (Riccio, Cohen, Garrison, & Smith, 2005). Mood symptoms are known to affect the efficiency with which this processing occurs, especially when consolidation of memory is required (Massey, Meares, Batchelor, & Bryant, 2015). Without proper focus on relevant task information, improper encoding occurs, resulting in negatively affected performances. This study examines how depression, anxiety, and stress moderate the relationship between auditory attention and verbal list-learning.

**Participants and Methods:** Archival data from 373 adults (Mage= 56.46, SD=17.75; Medu = 15.45, SD=2.2; 54% female; 74% white\*) were collected at an outpatient clinic. Race was not available in a small percentage of cases included in analyses. Auditory attention was assessed via the Brief Test of Attention (BTA). Learning was assessed via the California Verbal Learning Test (CVLT-II) total T-Score (Trials 1-5). Mood was assessed via the Depression Anxiety and Stress Scales (DASS-42). A moderation analysis was conducted utilizing the DASS-42 as the moderator between the relationship of BTA and CVLT-II.

**Results:** Block 1 of the hierarchical regression was significant in that BTA contributed significantly toward verbal learning on the CVLT-II ( $F(1, 378)=30.141, p < .001, \Delta R^2=.074$ ). The

standardized beta weight and p-value for BTA were ( $\beta=.272$ ,  $p<.001$ ). When DASS variables were introduced into Block 2, the model remained significant  $F(3, 375)=4.227$ ,  $p=.006$ ,  $\Delta R^2=.030$ ). The DASS Anxiety subscale had significant beta weights in the model ( $\beta=-.210$ ,  $p=.004$ ), whereas Depression and Stress were not significant ( $\beta=.039$ ,  $p=.563$ ) and ( $\beta=.021$ ,  $p=.765$ ), respectively.

**Conclusions:** The current study examined whether mood symptoms affect the relationship between auditory attention and verbal learning. Present results confirm previous research that auditory attention has a significant impact on verbal learning (Massey, Meares, Batchelor, & Bryant, 2015; Weiser, 2004). Building upon prior research, these results indicate that when accounting for auditory attention, clinicians should be aware of possible confounds of anxiety, which may artificially suppress auditory attention. In some circumstances, a differential diagnosis may require consideration that absent anxiety auditory attention may be within normal range. Continued assessment and evaluation regarding the impact of anxiety is crucial for neuropsychologists when examining performances on verbal learning.

**Categories:** ADHD/Attentional Functions

**Keyword 1:** attention

**Keyword 2:** learning

**Keyword 3:** mood disorders

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## 27 Differentiating Attention-deficit/Hyperactivity Disorder (ADHD) Subtype Using Continuous Performance Tests Among Children with Comorbid ADHD and Anxiety

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**Objective:** Continuous performance tests (CPT) are often considered the gold standard for the diagnosis attention-deficit/hyperactivity disorder (ADHD), particularly when parent and teacher rating scales are inconclusive. Prior work has indicated that CPT can also help differentiate between ADHD subtypes. However, the ability of CPT to differentiate ADHD subtype has not been examined among youth with comorbid ADHD and anxiety (ADHD+A). This is particularly concerning as the extant literature suggests that anxiety symptoms may exacerbate deficits associated with ADHD (e.g., working memory, attention) and attenuate others (e.g., inhibition); thus, anxiety may influence expected patterns on the CPT. This study therefore seeks to examine the role of ADHD subtype on the relationship between ADHD+A and performance on a CPT among youth with ADHD+A.

**Participants and Methods:** Participants included 54 children ranging from 6 to 20 years old ( $M_{age}=11.83$ , 54% female) who were diagnosed with ADHD+A via neuropsychological evaluation. In terms of ADHD subtype, 51.9% ( $n=28$ ) were diagnosed with ADHD combined or ADHD primarily hyperactive and 48.1% ( $n=26$ ) were diagnosed with ADHD primarily inattentive. Approximately 46.30% ( $N=25$ ) of participants were medication naïve.

Analyses were conducted using data from the Conners Kiddie Continuous Performance Test – Second Edition (KCPT-2), Conners Continuous Performance – Second Edition (CPT-2) and the Conners Continuous Performance - Third Edition (CPT-3), which are part of the same family of performance-based attention measures. Independent samples t-tests were conducted to examine performance differences in aspects of attention (e.g., inattentiveness, sustained attention) and hyperactivity (e.g., impulsivity, inhibition).

**Results:** ADHD subtype was not significantly related to measures of inattentiveness. This includes the number of targets missed (omissions; ( $t(39)=-.532$ ,  $p=.59$ )) and variability in response time (variability; ( $t(39)=-0.30$ ,  $p=.77$ )). In terms of sustained attention, ADHD subtype was not related to variability in response speed across blocks (Hit SEBC/HRT Block Change; ( $t(39)=-0.26$ ,  $p=.79$ )). Importantly, these results were consistent regardless of ADHD medication status.

ADHD subtype was also not significantly related to impulsivity. This includes responses to non-targets (commissions; ( $t(39)=-1.05$ ,  $p=.30$ )), random or anticipatory responding