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## NEUROPSYCHOLOGICAL EVALUATION

**Name: Daniel Mostyn**  
**Gender: Male**  
**Age: 7 years, 3 months**

**Date of Report: 10/05/2018**  
**DOE: 09/21/2018, 10/05/2018**  
**DOB: 06/02/2011**

### Reason for Evaluation

Daniel is a seven-year-old, right-handed male referred for a neuropsychological evaluation by his pediatrician due to concerns regarding Autism Spectrum Disorder (ASD), Attention-Deficit/Hyperactivity Disorder (ADHD), and learning difficulties. Daniel's mother reported he experiences poor memory, concentration difficulties, difficulties with verbal expression, poor impulse control, poor sleep, and disruptive behavior. She reported he is enrolled in first grade and making poor grades.

### Developmental History

Daniel's mother reported he was born in Toronto, Canada. She reported she had preeclampsia and was induced 2 weeks early. No pre- nor post-natal health concerns were reported. She reported he met his developmental milestones within normal limits, including walking and speaking his first words by 1 year and speaking in short sentences by 2 years of age. She reported he received speech therapy from 4 to 6 years of age. No occupational nor physical therapy services were reported. She reported he has two brothers (12 and 2 years) and one sister (9 years). She reported Daniel resides with his parents and siblings.

Daniel's mother reported he is enrolled in first grade at Avalon Elementary in Orange County. She reported he was retained in kindergarten due to being behind academically. She reported he has an Individual Education Plan (IEP). She reported he has difficulties learning and does not like to go to school. She reported he struggles to interact appropriately with peers and tends to engage in parallel play. She reported he mostly keeps to himself. She reported he has one friend. Some coordination difficulties were reported.

Daniel's mother reported he gets poor dietary intake and adequate exercise. She described him as an extremely picky eater. She reported minimal caffeine consumption. No medical problems, serious injuries, surgeries, current medications, nor abuse history were reported. No history of psychological nor psychiatric treatment were reported. She reported a family history of ASD.

### **Sources of Data**

Clinical Interview, Wechsler Intelligence Scale for Children-V, Children's Memory Scale, NEPSY-II (Design Copying, Word Generation, Inhibition), Wechsler Individual Achievement Test-III, Grooved Pegboard, Conners Kiddie Continuous Performance Test-2, Behavior Assessment System for Children-3 (Parent), Autism Spectrum Rating Scales (Parent), Vineland Adaptive Behavior Scales-3

### **Behavioral Observations**

Daniel presented with neat dress and good hygiene. He appeared of average height and weight for his age. He ambulated independently, with steady gait. He displayed excessive spontaneous conversation. His voice volume appeared above average. His eye contact was within normal limits. He appeared hyperactive and impulsive due constantly moving, climbing on furniture, and playing with testing materials. He appeared inattentive, shown by requiring frequent redirection and talking during listening comprehension tasks. He presented with irritable affect and poor frustration tolerance, shown by whining, complaining, giving up quickly, and requiring frequent prompting and encouragement to remain engaged. He displayed fixated interests, such as repetitively talking about emojis and videogames. He displayed repetitive behaviors, including facial grimaces. He did not appear motivated to work to the best of his ability. Therefore, results may underestimate his abilities but are considered a valid measure of his current functioning.

### **Test Results and Findings**

The WISC-V was administered to measure Daniel's intellectual functioning compared to same-age peers. Daniel's Full-Scale IQ of 85 falls within the below-average range at the 16th percentile. His verbal comprehension index score was significantly greater than his processing speed, fluid reasoning, and working memory index scores. His visual spatial index score was significantly greater than his working memory index score.

Daniel achieved a Verbal Comprehension Index score of 106, which falls within the average range at the 66th percentile. Daniel performed within the average range (50th percentile) on a subtest of abstract verbal abilities. He performed within the above-average range (75th percentile) on a subtest of word knowledge/language development.

Daniel achieved a Visual Spatial Index score of 92, which falls within the average range at the 30th percentile. He performed within the average range (37th percentile) on a subtest of abstract visual construction. He performed within the below-average range (25th percentile) on a subtest of visual problem-solving ability.

Daniel achieved a Fluid Reasoning Index score of 79, which falls within the impaired range at the 8th percentile. He performed within the average range (37th percentile) on a subtest of visual-spatial fluid reasoning. He performed within the impaired range (2nd percentile) on a subtest of quantitative and analogical reasoning.

Daniel's Working Memory Index score was 74, which falls within the impaired range at the 4th percentile. He performed within the impaired range (9th percentile) on a subtest of immediate verbal recall of numbers. He performed within the impaired range (5th percentile) on a subtest of recalling and sequencing a series of pictures.

Daniel achieved a Processing Speed Index score of 86, which falls within the below-average range at the 18th percentile. He performed within the average range (37th percentile) on a subtest of visual scanning ability and within the impaired range (9th percentile) on a subtest of visuomotor processing speed.

**Children’s Memory Scale**

The Children’s Memory Scale was administered, which assesses memory, attention and concentration, and learning. On visual memory tests, Daniel performed within the impaired range on tests requiring immediate and delayed recall. On verbal memory tests, he performed within the impaired range on tests requiring immediate and delayed recall. He performed within the impaired range on tests of attention and concentration and tests of learning. His General Memory composite of 59 falls within the impaired range at the <1st percentile.

Primary Indexes	Index	Percentile	Description
Visual Immediate	72	3	Impaired
Visual Delayed	69	2	Impaired
Verbal Immediate	75	5	Impaired
Verbal Delayed	66	1	Impaired
Attention/Concentration	75	5	Impaired
Learning	63	1	Impaired
General Memory	59	<1	Impaired

**Conners Kiddie Continuous Performance Test-2nd Edition**

The K-CPT2 involves maintaining visual attention to a dull and repetitive stimulus over an extended period. The K-CPT2 assesses inattention to the stimuli (omission errors), impulsive responses to the stimuli (commission errors), response time, and variability in response time. Daniel’s profile of scores and response pattern is associated with a moderate likelihood of having a disorder characterized by attention deficits and is indicative of issues related to inattentiveness.

Measure	T-Score	Percentile	Description	Interpretation
Omissions	52	58	Average	Average rate of missed targets.
Commissions	61	87	Elevated	High rate of incorrect responses to non-targets.
Hit Reaction Time (HRT)	72	99	Atypically Slow	Very slow mean response speed.
Variability	63	91	Elevated	High variability in reaction-time consistency.

**Executive Functioning**

Daniel’s performance on tests of higher cognitive functions was impaired. He performed within the impaired range (<1st percentile) when required to quickly access his verbal lexicon. He demonstrated impaired verbal inhibition (9th percentile).

### **Visuomotor Integration**

Daniel performed within the above-average range on a test of visuomotor integration. On the NEPSY-II Design Copying subtest, Daniel scored above the 75th percentile for his age.

### **Motor Functioning**

On a test of fine-motor speed and coordination, Daniel performed within the impaired range when using his dominant hand (8th percentile) and within the average range when using his non-dominant hand (30th percentile). Visual and auditory modalities appeared intact.

### **Language Functioning**

The language battery of the WIAT-III was administered to assess Daniel's receptive and expressive language skills. Daniel performed within the impaired range on the Listening Comprehension and Oral Expression subtests. Daniel's Oral Language composite score of 67 falls within the impaired range at the 1st percentile.

<b>Subtest</b>	<b>Standard Score</b>	<b>Percentile</b>	<b>Description</b>
Listening Comprehension	71	3	Impaired
Oral Expression	70	2	Impaired

<b>Subtest Component</b>	<b>Standard Score</b>	<b>Percentile</b>	<b>Description</b>
Receptive Vocabulary	81	10	Below Average
Oral Discourse Comprehension	71	3	Impaired
Expressive Vocabulary	99	47	Average
Oral Word Fluency	58	<1	Impaired
Sentence Repetition	68	2	Impaired

### **Academic Achievement**

The WIAT-III was administered to assess Daniel's early reading skills and alphabet writing fluency compared to same-age peers. He performed within the impaired range on the Early Reading Skills subtest and within the below-average range on the Alphabet Writing Fluency subtest.

<b>Subtest</b>	<b>Standard Score</b>	<b>Percentile</b>	<b>Description</b>
Early Reading Skills	69	2	Impaired
Alphabet Writing Fluency	84	14	Below Average

## Psychological Functioning

### **Clinical Interview**

Daniel's mother described him as very loving, sweet, and artistic. She expressed concern that he tends to perceive things the wrong way and get very stuck on doing things his way. She reported he is bothered by people sneezing and coughing and insists they say, "it's gone." She reported he does not like people touching him and insists they say they are "sorry." She reported he fixates on things, such as his emoji pillow and videogames. She reported he engages in repetitive and unusual behaviors, such as talking about emojis and making burping sounds if someone does something he does not like. During testing, Daniel appeared hyperactive, impulsive, and inattentive. He presented with irritable affect and poor frustration tolerance. He displayed fixated interests and repetitive behaviors. His thought processes appeared circumstantial. There was no evidence of bizarre nor morbid ideations. He did not present as a danger to himself nor others.

### **Behavior Assessment System for Children 3-Parent Rating Scale**

Daniel's mother completed the parent version of the BASC-3 to provide information regarding his emotional/behavioral functioning compared to same-age peers. Within the clinical domain, the Attention Problems, Atypicality, and Withdrawal scales fell within the clinically significant range, and the Hyperactivity and Depression scales fell within the at-risk range. Within the adaptive domain, the Leadership, Functional Communication, and Activities of Daily Living scales fell within the clinically significant range, and the Adaptability and Social Skills scales fell within the at-risk range.

<b>BASC-3 Domain</b>	<b>Parent Rating</b>
<b><i>Externalizing Problems</i></b>	<b><i>Average</i></b>
Hyperactivity	At-Risk
Aggression	Average
Conduct Problems	Average
<b><i>Internalizing Problems</i></b>	<b><i>Average</i></b>
Anxiety	Average
Depression	At-Risk
Somatization	Average
<b><i>Behavioral Symptoms Index*</i></b>	<b><i>Clinically Significant</i></b>
Atypicality	Clinically Significant
Withdrawal	Clinically Significant
Attention Problems	Clinically Significant
<b><i>Adaptive Skills</i></b>	<b><i>Clinically Significant</i></b>
Adaptability	At-Risk
Social Skills	At-Risk
Leadership	Clinically Significant
Activities of Daily Living	Clinically Significant
Functional Communication	Clinically Significant

\*Includes Hyperactivity, Aggression, Depression, and Attention Problems scales

### **Autism Spectrum Rating Scale-Parent Report**

Daniel's mother completed the ASRS, a scale designed to assess behavioral symptoms associated with Autism Spectrum Disorder (ASD). Parent ratings suggest he has difficulty developing and maintaining relationships with peers and adults; providing appropriate emotional responses in social situations; using language that may be repetitive, unstructured, or unconventional; engaging in apparently purposeless and repetitive behaviors; tolerating change; overreacting to certain sensory experiences; and focusing his attention while ignoring distractions.

<b>ASRS Scales</b>	<b>T-Score</b>	<b>Percentile</b>	<b>Classification</b>
Social/Communication	72	99	Very Elevated
Unusual Behaviors	71	98	Very Elevated
Self-Regulation	77	>99	Very Elevated
Total Score	78	>99	Very Elevated
DSM-V Scale	72	99	Very Elevated

<b>ASRS Treatment Scales</b>	<b>T-Score</b>	<b>Percentile</b>	<b>Classification</b>
Peer Socialization	75	99	Very Elevated
Adult Socialization	72	99	Very Elevated
Social/Emotional Reciprocity	73	99	Very Elevated
Atypical Language	68	96	Elevated
Stereotypy	62	88	Slightly Elevated
Behavioral Rigidity	69	97	Elevated
Sensory Sensitivity	78	>99	Very Elevated
Attention	76	>99	Very Elevated

### **Adaptive Functioning**

Daniel's mother completed the Vineland-3 to provide information regarding Daniel's adaptive functioning in various domains. Within the Communication domain, Daniel received a standard score of 73, which falls within the impaired range at the 4th percentile. Within the Daily Living Skills domain, he received a standard score of 63, which falls within the impaired range at the 1st percentile. Within the Socialization domain, he received a standard score of 72, which falls within the impaired range at the 3rd percentile. His overall Adaptive Behavior Composite score of 69 falls within the impaired range at the 2nd percentile.

### **Summary**

Daniel is a seven-year-old, right-handed male referred for a neuropsychological evaluation by his pediatrician due to concerns regarding Autism Spectrum Disorder (ASD), Attention-Deficit/Hyperactivity Disorder (ADHD), and learning difficulties. Daniel's mother reported he experiences poor memory, concentration difficulties, difficulties with verbal expression, poor impulse control, poor sleep, and disruptive behavior. She reported he is enrolled in first grade and making poor grades.

Due to behavioral difficulties, results may underestimate Daniel's abilities but are considered a valid measure of his current functioning. Results indicate his general intellectual functioning fell within the below-average range, with a relative strength in verbal comprehension and relative weakness in working memory. His general memory functioning fell within the impaired range. His performance on tests of visual memory, verbal memory, brief attention and concentration, and learning fell within the impaired range. His performance on a test of sustained visual attention was indicative of a moderate likelihood of having a disorder characterized by attention deficits and issues related to inattentiveness. His performance on tests of higher-order cognitive functions was impaired, including word generation and verbal inhibition. His visuomotor integration was above-average. His fine-motor speed and coordination were impaired for his dominant hand and average for his non-dominant hand. His performance on tests of listening comprehension and oral expression were impaired. His early reading skills were impaired. His alphabet writing skills were below-average.

Parent ratings of Daniel's emotional, behavioral, and adaptive functioning suggest significantly more behaviors related to attention problems, atypicality, and withdrawal, and moderately more behaviors related to hyperactivity and depression compared to same-age peers. Parent ratings of his adaptive behavior on the same scale indicate significant difficulties with leadership, functional communication, and activities of daily living, and moderate difficulties with adaptability and social skills compared to same-age peers. Parent ratings on a scale designed to assess behavioral symptoms of Autism Spectrum Disorder (ASD) suggest elevated difficulties with peer and adult socialization, social/emotional reciprocity, atypical language, stereotypical behavior, behavioral rigidity, sensory sensitivity, and attention. Parent ratings on a scale of adaptive functioning suggest impaired socialization, communication, and daily living skills.

### **Impressions & Recommendations**

Results are consistent with a diagnosis of Autism Spectrum Disorder (ASD), requiring support due to significant difficulties with social communication, unusual behaviors, and self-regulation, as well as impaired socialization, communication, and daily living skills. Results suggest an accompanying language impairment due to impaired performance on tests of listening comprehension and oral expression. Results are consistent with a co-occurring diagnosis of Attention-Deficit/Hyperactivity Disorder (ADHD), Combined Presentation, as evidenced by impaired performance on tests of working memory and attention and concentration, as well as significant hyperactive, impulsive, and inattentive behaviors. Mood and behavioral difficulties appear secondary to the negative impact of difficulties with socialization, behavioral rigidity, communication, hyperactivity, impulsivity, and inattention upon daily functioning.

Daniel may have difficulty with age-appropriate communication, socialization, and activities of daily living. He may have difficulty recognizing and understanding others' perspectives. He may have difficulty with tasks requiring attention and concentration and be easily distracted. He may benefit from increased time to complete tasks, repetition of information, and visual cues to facilitate improved memory and learning. He may have difficulty with emotional and behavioral regulation and impulsivity.

Daniel will likely benefit from continued academic accommodations at school through his Individual Education Plan (IEP). He will likely require remedial instruction in reading. His response to these interventions should be monitored, as continued reading difficulties may indicate an underlying Specific Learning Disorder. Academic accommodations may include: preferential seating, increased time, prompting to initiate and review completed work, and increased structure in the organization of assignments. He may benefit from use of a visual schedule, having assignments divided into individual tasks, and access to brief breaks. He may benefit from receiving advanced notice of changes to his schedule, when possible, and opportunities to learn and practice social and self-monitoring skills.

Daniel will likely benefit from individual behavioral therapy, such as Applied Behavior Analysis (ABA), to help improve his emotional, behavioral, and adaptive functioning. Services which help his parents develop behavioral interventions in the home to address issues related to behavioral rigidity, emotional regulation, communication, impulsivity, inattention, and daily living skills may be beneficial.

A speech therapy evaluation is recommended to assess Daniel's language skills and determine appropriate interventions.

**Diagnosis**

- F84.0 Autism Spectrum Disorder, requiring support, without accompanying intellectual impairment, with accompanying language impairment
- F90.2 Attention-Deficit/Hyperactivity Disorder, Combined Presentation
- F43.25 Adjustment Disorder with mixed disturbance of emotions and conduct

Thank you for referring Daniel to our office for an evaluation. Please contact us for any additional assistance.



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