

ANY CHILDRENS' DEVELOPMENTAL CLINIC

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CONFIDENTIAL NEUROPSYCHOLOGICAL EVALUATION

Name:	Student Surname
Age:	10 years, 6 months
Date of Birth:	February XX, 1999
Date of Evaluation:	September XX, 2009
Referred By:	Dr. Neurologist, M.D.
Examiner:	Jennifer Morrison, Ph.D.

REASON FOR REFERRAL AND BRIEF HISTORY

Student Surname is a 10 year and 6 month old female who was referred for a comprehensive neuropsychological assessment due to recent history of head trauma and in-patient treatment. Student's medical records indicated that on June 23, 2009 she was sitting astride her horse when it reared back, striking her on the left side of her head. The horse then fell with Student still sitting on its back. Initial Glasgow Coma Scale (GCS) score was a 6 (severe) at the scene but improved to a 12 in the emergency room at Children's Medical Center. Computed tomography (CT) scan results from June 23, 2009 suggested a left frontal epidural hematoma, left orbital roof fracture, and left temporal squamous bone fracture. She was admitted to the Pediatric Intensive Care Unit (PICU) at Children's Medical Center (CMC) for observation and medical management. After several days with altered consciousness, Student's neurological status increased and she was slated for discharge to outpatient therapies on July 1, 2009. However, a repeat CT scan completed at that time suggested an interval increase in the size of her left frontal hemorrhagic contusion. Continued observation was recommended and Student remained at Children's Medical Center. Additional CT findings were indicative of a minimally smaller size and evolution of the left frontal bleed, suggesting that it was appropriate for her to be discharged home with her family on July 6, 2009. The purpose of the current assessment was to provide an indication of Student's current neurocognitive profile and generate recommendations for home and school based on her individual repertoire of strengths and weaknesses.

Mrs. Surname reported that Student never attended day care. She entered public school as a kindergarten student and experienced no significant problems with learning. Mrs. Surname enrolled Student in Private Academy in November 2008. She was reportedly an all A student with premorbid strength in math. There have never been any indications of academic struggles. She is not a behavior problem. Mrs. Surname described her as a young lady with a bubbly personality who has no noted difficulty with peer or interpersonal relationships. Her strengths include horsemanship, as she is an accomplished rider and rodeo participant. Her goals include continuing to ride her horses and participating in the Professional Rodeo Cowboy Association (PRCA). Since her accident, she has been able to maintain peer relationships and has been medically cleared to continue riding and competing.

TECHNIQUES UTILIZED

Review of Records
Parent Interview-Mrs. Surname
Wechsler Intelligence Scale for Children –Fourth Edition-Integrative (WISC-IV)
Woodcock-Johnson Tests of Cognitive Abilities-Third Edition (WJ-III)-selected subtests
Wechsler Individual Achievement Test- Second Edition (WIAT-II)
Gray Oral Reading Tests- Fourth Edition (GORT-4)
NEPSY-II: A Developmental Neuropsychological Assessment-select subtests
Delis-Kaplan Executive Function System (D-KEFS)-selected subtests

MR#XXX
ACCT#XXX
Patient: Surname, Student

Developmental Clinic

Wide Range Assessment of Memory and Learning-Second Edition (WRAML-2)
Expressive One Word Picture Vocabulary Test-Third Edition (EOWPVT-3)
Receptive One Word Picture Vocabulary Test-Third Edition (ROWPVT-3)
Oral and Written Language Scales-Listening Comprehension Scale (OWLS)
Wide Range Assessment of Visual Motor Abilities (WRAVMA)-pegboard
Developmental Test of Visual Perception – Second Edition (DTVP-2)
Behavior Rating Inventory of Executive Function- Parent Report (BRIEF)
Attention Deficit Disorder Evaluation Scale-Third Edition (ADDES-3)
Behavior Assessment System for Children-Second Edition-Parent Report (BASC-2)

BEHAVIORAL OBSERVATIONS

Student was assessed over several hours in the morning and afternoon of one day. She was accompanied by her mother to the evaluation and had no difficulty separating from her when the formal testing was to begin. Student was familiar with the current examiner from her previous testing and rapport was easily reestablished and maintaining for the duration of the session. Student made appropriate eye contact and was conversational immediately. She was able to respond fully to both closed and open ended questions with no difficulty noted with articulation, quality, and quantity of expressive statements. She was able to sit quietly in her seat for several hours at a time with no problems noted with regard to impulsivity or hyperactivity. She was observed to be somewhat distracted at times and needed repetition of verbal directions at times. This was particularly true when other children and therapists could be heard in the hall and in other therapy rooms. She sometimes needed redirection when she started conversations. At times, when she was beginning timed tasks she would strike up a poorly timed conversation that the examiner needed to delay. Student exhibited a full and appropriate affective range and was of euthymic mood. She was motivated to do well during the assessment and exerted sufficient effort throughout. The fatigue levels observed at her previous testing session were less problematic. Although some yawning was still present, she was able to test for several hours at a time and only needed a quick nap at lunch time. The current results are thought to be a reliable indication of Student's level of skill at the time of testing.

RESULTS AND INTERPRETATION

Intellectual Functioning

Student was administered the WISC-IV in order to evaluate her current intellectual skills. An overall estimate of her intellectual functioning suggested abilities in the average range (Full Scale IQ, Standard Score=104). Her profile of scores was indicative of significant strength in the visual processing domain in comparison with verbal skills. Her Verbal Comprehension Index score was in the average range (Standard Score=95), but her Perceptual Reasoning Index score was in the high average range (Standard Score =110). As such, her nonverbal intellectual score is considered to be the most reliable estimate of her overall cognitive potential. Student's Processing Speed Index score was in the average range (Standard Score=100), as was her Working Memory Index score (Standard Score=107). Comparisons with scores earned at the July 2009 testing session suggested significant improvement in her visual-perceptual reasoning and speeded processing in the visual domain.

Academic Functioning

Student was administered portions of the WIAT-II and the GORT-4 in order to assess her current academic skills. Her ability to identify words from sight was in the average range (WIAT-II Word Reading, Standard Score=102). On a measure where she was to read short passages aloud, her reading rate, or fluency, was in the average range (GORT-4 Rate, Scaled Score=8). Her ability to accurately pronounce the provided words was also in the average range (GORT-4 Accuracy, Scaled Score=11). When required to answer questions regarding the stories without referring back to the passages, her performance was in the average range (GORT-4 Comprehension, Scaled Score=9). Student's math skills were in the average range when completing calculations (WIAT-II Numerical Operations, Standard Score=105). Her obtained score on a measure of math reasoning involving word problems that were read aloud to her was in the superior range (WIAT-II Math Reasoning,

Standard Score=122). Student's ability to spell common words was in the average range (WIAT-II Spelling, Standard Score=102). When asked to write simple sentences in relation to a visual and/or verbal prompt, her proficiency was in the average range in comparison with same aged peers (WIAT-II Written Expression, Standard Score=108). These scores reflected no significant difficulty in any academic domain when allowed as much time as she needs to work. Functioning in the math calculation domain has improved significantly since July 2009. It is of note that Student is a diligent worker and sometimes needs cues to move on when she is stuck or working on material that she is unfamiliar with.

Language

Student's ability to complete receptive and expressive language tasks was measured using several tools including the WISC-IV, OWLS, EOWPVT-3, and ROWPVT-3. Student's scores were in the average to low average range on measures of expressive language. Her skill, when asked to identify common objects by name, was in the average range (EOWPVT-3, Standard Score=106). Measured skill, when asked to define common words, was in the average range (WISC-IV Vocabulary, Scaled Score =9). When verbal reasoning was required to express the association between increasingly dissimilar verbal concepts, her performance was in the average range (WISC-IV Similarities, Scaled Score =11). Her score was in the low average range when she was asked to provide interpretation of common social norms (WISC-IV Comprehension, Scaled Score =7).

Student's receptive language performance was in the average range. When asked to identify pictured objects by pointing to a target amid several choices, her earned score was in the average range (ROWPVT-3, Standard Score=106). Her proficiency, when asked to match simple words, phrases, and concepts to a target picture presented amid several choices, was in the average range (OWLS Listening Comprehension, Standard Score =94).

Motor and Visual Perceptual Functioning

Student's ability to perceive visual stimuli, provide a coordinated motor response, and integrate visual input and an appropriate motor output was assessed using the DTVP-2, WRAPMA, D-KEFS, and WISC-IV. She is right hand dominant and utilizes a mature grip. Overall, scores in this domain were in the high average to average range. Student's General Visual Perception Index score was in the high average range (DTVP-2, Standard Score=117). Her Motor Reduced Visual Perception Index (Standard Score=117) and Visual-Motor Integration Index (Standard Score=117) scores were also in the high average range. When using visual perception to identify whole and segmented figures using basic discrimination and when amid distraction, her measured skill was in the high average to average range (DTVP-2 Figure-Ground, Scaled Score=13; Visual Closure, Scaled Score=14; Form Constancy, Scaled Score=13; Position in Space, Scaled Score=10). Motor speed and dexterity where accuracy and precision were intensified were measured to be in the average range (WRAPMA Pegboard, Standard Score=94; Non-Dominant, Standard Score=104) in both dominant and non-dominant hands. Her ability was in the average range when required to draw increasingly more difficult geometric figures and duplicate spatial lines with no time limit (DTVP-2 Copying, Scaled Score=11; Spatial Relations, Scaled Score=12), where accuracy rather than speed was the priority. Additional precision requirements with more intense demands was in the high average range (DTVP-2 Eye-Hand Coordination, Scaled Score=13).

Student was also administered several measures with a time component, where her scores were consistently in the average range in comparison with same aged peers. Student's speeded visual scanning skills were estimated to be in the average range (D-KEFS Trail-Making Test, Visual Scanning, Scaled Score=8). Her speeded visual-motor coordination was measured to be in the high average range (D-KEFS Trail-Making Test, Motor Speed, Scaled Score=13; DTVP-2 Visual-Motor Speed, Scaled Score=14). A simple visual transfer and psychomotor speed task suggested proficiency in the average range (WISC-IV Coding, Standard Score=9). Another speeded visual discrimination task with a larger array yielded an earned score in the average range for her age (WISC-IV Cancellation, Scaled Score=11). When the motor control demand was minimized and included linear/horizontal scanning rather than moving the eyes vertically, her score was in the average range (WISC-IV Symbol Search,

Scaled Score=11). When complex visual perception, motor coordination, and a time limit were combined, her estimated functioning was in the average range (WISC-IV Block Design, Scaled Score =10). There were no indications of significant functional problems across the visual perceptual, fine motor, and visual-motor integration arenas.

Memory

Student's memory was assessed using the WRAML-2 and WISC-IV. Her WRAML-2 Verbal Memory Index score was in the average range (Standard Score =108) and her Visual Memory Index score was in the high average range (Standard Score =115). When asked to recall details from passage-length stories read aloud, her performance was in the high average range (WRAML-2 Story Memory, Scaled Score =13). Her skill in recalling the stories after 30 minutes remained in the average range (WRAML-2 Story Memory Recall, Scaled Score =12). When asked to remember a list of unrelated words presented with repetition, her earned score was in the average range (WRAML-2 Verbal Learning, Scaled Score =10). Delayed free recall of words from the list was in the low average range (WRAML-2 Verbal Learning Recall, Scaled Score =7). When verbal information was less related, she was able to recall digits in a forward and reversed order with performance in the average range (WISC-IV Digit Span, Scaled Score=10) with equivalent skills seen with both rote recall and working memory components. Her verbal memory for information appears to be facilitated when adequate context or association between details is presented, rather than requiring that she try to memorize seemingly unrelated details. This is best accomplished by providing information as a "story" with a plot and opportunities for summarization of the material as it is presented.

In regard to Student's ability to recall visual or nonverbal information, scores were in the high average to average range. When visual information was less verbally embedded (meaningful), her immediate recall was in the high average range (WRAML-2 Design Memory, Scaled Score =13). Following a delay, her ability to identify portions of previously seen drawings was in the average range (WRAML-2 Design Memory Recognition, Scaled Score =11). Her proficiency was in the average range on a measure of visual memory skills in which she was to identify altered details from complex, meaningful pictures (WRAML-2 Picture Memory, Scaled Score =12). Her skill, when asked to recognize previously viewed portions of the pictures after a delay, was in the average range (WRAML-2 Picture Memory Recognition, Scaled Score =9). Although a slight preference was seen for remembering highly contextual verbal information and simpler and less associated visual stimuli, there were no indications of significant memory problems at this time.

Attention/Executive Functioning

Student was administered several tasks from the WRAML-2, WISC-IV, D-KEFS, and NEPSY-II, and Mrs. Surname completed the BRIEF, in order to estimate her ability to utilize attention and executive skills. Attention tasks required her to concentrate on a variety of stimuli, both visual and auditory, over differing lengths of time. Executive functions are a set of cognitive processes which guide goal-directed behaviors. They do not refer to an individual's knowledge or skills but to the mental processes that direct whether and how these are applied to accomplish a goal. They include control of attention, inhibition of impulses, shifting set, working memory, planning, organization, self-monitoring and emotional regulation.

Her ability to focus on a variety of auditory and visual stimuli was in the average to low average range. On a simple auditory attention task requiring her to recall a series of numbers and letters with no mental manipulation, her skill was in the average range (WRAML-2 Number Letter, Scaled Score =11). On a measure requiring her to use sustained auditory attention, she was able to earn a score in the average range overall (WJ-III Auditory Attention, Standard Score=109). She was able to utilize visual attention to details missing from pictures with an ability in the average range (WISC-IV Picture Completion, Scaled Score =9). When asked to sustain attention on a measure of visual scanning, discrimination, and cancellation, her obtained score was in the average range (WISC-IV Cancellation, Scaled Score =11). Her performance on another visual scanning and cancellation measure where the pictures were closer together and similar in appearance was in the average range

(WJ-III Pair Cancellation, Standard Score=101). When she was required to focus on a series of visual-spatial sequences, her earned score was in the low average range (WRAML-2 Finger Windows, Scaled Score =7).

In regard to executive functioning tasks requiring visual and verbal processing, Student's skills were estimated to be in the average to impaired range. Working memory needed to mentally rearrange a series of letters and numbers was in the high average range (WISC-IV Letter-Number Sequencing, Scaled Score=13). A measure of speeded target naming suggested overall fluency in the high average range (NEPSY-II Inhibition-Naming Combined, Scaled Score=13). Her performance was marked by average speed when responding (Scaled Score=9) and fewer than expected errors. When the complexity of the task increased to include inhibition of automatic responding, her performance was in the average range overall (NEPSY-II Inhibition-Inhibition Combined, Scaled Score=8). Her responses on this portion of the measure were as would be expected in regard to accuracy but her response time was somewhat slower than would be expected (Scaled Score=7; low average). When additional cognitive flexibility was needed to alternate between cognitive sets, her skill was in the average range in regard to time and error rates (NEPSY-II Inhibition-Switching, Scaled Score=10). Her ability to fluidly alternate between verbal domains was in the average range (D-KEFS Verbal Fluency-Switching, Scaled Score=12). When using deductive reasoning to establish conceptual associations between seemingly dissimilar concepts, her earned score was in the average range (WISC-IV Similarities, Scaled Score=11). When asked to determine a target concept after a series of clues, which required her to problem solve and monitor her own response for accuracy, her ability was in the average range (WISC-IV Word Reasoning, Scaled Score=10). When social comprehension and understanding was required, her performance dropped slightly to the low average range for her age (WISC-IV Comprehension, Scaled Score=7).

On a simple visual scanning and cancellation task with adequate spacing, her score was in the average range (D-KEFS Trail Making Test-Visual Scanning, Scaled Score=8). As the visual and cognitive complexity increased, her score was in the impaired range when sequencing numbers (D-KEFS Trail Making Test-Number Sequencing, Scaled Score=2). However, a practice effect served to increase the speed with which she was able to generate response and her ability on a letter sequencing rebounded to the average range (D-KEFS Trail Making Test-Letter Sequencing, Scaled Score=8). When additional cognitive flexibility was added to the measure requiring her to alternate between sequencing numbers and letters, Student's demonstrated ability was in the average range (D-KEFS Trail Making Test-Number-Letter Switching, Scaled Score=10). When required to complete visual patterns and puzzles by choosing the correct piece to finish the established sequence, her measured skill was in the average range (WISC-IV Matrix Reasoning, Scaled Score =12). Her ability was average when identifying pictures that were associated by a common theme (WISC-IV Picture Concepts, Scaled Score =9). She was able to complete a series of visual mazes requiring planning and strategizing with proficiency in the average range for her age (WISC-IV Elithorn Mazes, Scaled Score=8). When compared with her performance in July 2009, her skills have improved consistently in regard to processing speed, cognitive flexibility, and attention when placed under a time limit. On the BRIEF, a parent rating scale used to assess a child's executive functioning in the home and community, Mrs. Surname was asked to respond to a variety of questions regarding Student's range of behaviors and their frequencies. Her endorsements resulted in validity scales in the acceptable range, suggesting adequate consistency. Her responses yielded a Global Executive Composite that was in the average range (T-score=40) with all scale scores also within the expected ranges. This was consistent with parent indications during the clinical interview that although some mild problems with interrupting others continues to be present, Student functions fairly well when independently required to use reasoning, planning, problem-solving, and emotional/behavioral regulation and control.

Social-Emotional/Behavioral Functioning

Student's mother, Mrs. Surname, completed the BASC-2 as an overall measure of skills across the social, emotional, and behavioral domains. Based on her pattern of endorsements, Mrs. Surname's responses were considered to generally consistent. All scores derived from Mrs. Surname's endorsements were in the expected range with no elevations in regard to internalizing/psychologically driven behaviors or

externalizing/behaviorally inappropriate responses. This was confirmed with the ADDES-3, which indicated that Student exhibits levels of inattention (Scaled Score=12) and hyperactivity and impulsivity (Scaled Score=12) in the expected range for her age. The BASC-2 also provides an indication of a child's adaptive skills. Mrs. Surname's responses suggested no significant difficulty with activities of daily living, socialization, or functional independence.

CONCLUSIONS

Student Surname is a 10 year and 6 month old female who was referred for a neuropsychological assessment due to recent history of head trauma requiring in-patient treatment. Medical records suggested that on June 23, 2009 Student sustained a left frontal epidural hematoma, left orbital roof fracture, and left temporal squamous bone fracture after colliding with the head of a horse she was riding. After the impact, the horse then fell with Student still sitting on its back. Emergency services providers estimated her initial GCS to be a 6, which improved to a 12 when she was examined again in the emergency room. After a period of altered consciousness and then steady improvement, Student's discharge was set for July 1, 2009; however, neuroimaging findings consistent with an interval increase in the size of her left frontal epidural hematoma delayed her leaving the hospital until July 6, 2009. Birth, developmental, and previous medical histories were generally non-contributory with no indications of serious illnesses, injuries, or developmental delays. Vision will continue to be monitored due to noted swelling of the optic nerve but overall acuity was assessed to be 20/20 bilaterally. No history of hearing problems was reported. Student is not currently taking any prescription medications. Behaviorally, Student presented as a pleasant young lady who was hard working and eager to please. She exhibited some mild indications of continued cognitive fatigue but had made progress in regard to processing speed, vigilance, and attention.

In regard to findings from the current assessment, an overall estimate of her intellectual functioning suggested abilities in the average range with visual cognitive processing in the high average range and verbal intellectual functions in the average range. Comparisons with scores earned at the July 2009 testing session suggested significant improvement in her visual-perceptual reasoning and speeded processing in the visual domain. Academic proficiency was in the expected range for her age and grade in all areas assessed and were marked by significant increases in her ability to independently complete math calculations, which were less skilled at her most recent neuropsychological screening. Student's ability to complete receptive and expressive language tasks were in the average to low average range with no indications of significant deficits. Her skills when asked to perceive visual stimuli, provide a coordinated motor response, and integrate visual input and an appropriate motor output were in the high average to average range. In the memory domain, a slight preference was seen for remembering highly contextual verbal information and simpler visual stimuli, but on the whole, there were no features of significant problems at this time. Her ability to focus on a variety of auditory and visual stimuli was in the average to low average range. At least in a relatively quiet environment, Student is able to allocate and manage appropriate attentional effort across both visual and verbal domains. In regard to executive functioning tasks requiring visual and verbal processing, Student's skills were estimated to be in the average to impaired range. There was only one problematic score in this domain, which was reflective of some ongoing difficulty. Specifically, when asked to engage systematic visual scanning, her initial attempt was inefficient, resulting in slow and tedious responding. However, with some practice and an opportunity to become more comfortable with the demands of the task, her performance rebounded to the expected range for her age on subsequent trials. When compared with her performance in July 2009, her skills have improved consistently in regard to processing speed, cognitive flexibility, and attention when placed under a time limit. Parent rating were consistent with current formal findings and suggest that Student functions fairly well when independently required to use reasoning, planning, problem-solving, and emotional/behavioral regulation and control. Measures of social, emotional, and behavioral functioning were all in the expected ranges and suggested that Student is well behaved, emotionally controlled, and not experiencing any current problems.

In summary, Student is a young lady with a history of recent severe head trauma involving the left frontal region of her brain. Her neurocognitive profile appears to be fairly strong for both visual and verbal tasks executed at her own pace with some mild indications that processing speed and cognitive flexibility impact her performance on novel tasks on which she has had no chance to practice her skills. Previously noted neurocognitive deficits in visual and verbal processing speed, cognitive flexibility, and visual scanning and sequencing have improved significantly and for the most part, Student's functioning was in the expected range for her age at the current evaluation. Despite significant signs of improvement, ongoing difficulty suggests that Student continues to meet DSM-IV-TR criteria as a child with a Cognitive Disorder, Not Otherwise Specified (294.9) associated with severe head trauma (800.14). For school purposes, she appears to qualify as a child with a Traumatic Brain Injury (TBI) under the current state and federal regulations. Given this diagnosis and her current profile of strengths and weaknesses, the following recommendations have been made:

RECOMMENDATIONS

1. Mr. and Mrs. Surname should provide a copy of the current report to parties involved in Student's care and recovery. Ongoing support will be needed for Student at school, although her cognitive skills are continuing to improve.

COGNITIVE FATIGUE

1. Children with a history of recent head trauma are at increased risk of suffering from cognitive fatigue. In Student's case, the amount of time needed to process information paired with the increased levels of mental energy that is needed to maintain appropriate pace impacts her cognitive endurance and stamina. As a result, she tires quickly and her processing speed and efficiency of mental processing slows even further. When possible, she should be provided with a class schedule that reflects core academic classes alternated with electives or free time (study hall, office or teacher assistant position, lunch, art, music). Additional "cognitive breaks" may be needed to facilitate full attention and participation and may include short, regularly scheduled breaks to use the restroom, get a drink, deliver messages, take supplies between school staff members, assist with collecting and handing back student papers, etc.

PROCESSING SPEED

1. Student has demonstrated significant improvement in her ability to quickly process information. However, she is likely to need additional time to complete high stakes tasks like mid-term and final exams. She would benefit from assessment in a small group setting so the speed that other children are completing work does not add increased stress to the situation.
2. Student's processing speed deficits can sometimes impact her attention. Specifically, she is more inattentive when tasks are very challenging for her and when she is overwhelmed by too much information at one. School staff may assist Student by providing her with preferential seating near the teacher and the location that primary instruction will occur and away from sources of distraction such as doors, windows, and children that may seek to talk or interact with her during instruction.
3. Additionally, she should be allowed extended time on homework, should she need it. She may do well with all of her homework assigned at the beginning of the week and having it due at the beginning of the following week. This will allow her to work with her parents at her own pace. She may be better able to complete more work on some nights than others and will also have the days on the weekend. This will allow for a more accurate representation of her actual level of knowledge.
4. When she is working diligently in class teachers should accept whatever she has completed at the end of class as the finished product rather than assigning the remainder as homework. Specifically, if 30 arithmetic problems are assigned and she only completes 20, her grade should be taken from the 20 items finished

rather than the entire assignment.

5. Student should not be required to take notes in class. The cognitive skills needed to simultaneously listen to instruction, glean important points, and quickly transcribe details are currently impacted by her history of head injury. Instead, teachers should provide a summary or outline of key instructional points, have another high achieving Student keep notes and make copies, and/or have teachers audio record lessons so that Student may refer back to them when studying.

FOLLOW-UP

1. Student should have a full neuropsychological assessment to gain a more thorough look at her neurocognitive profile. The timeframe should be before the transition between middle and high school and prior to high school graduation. This will allow for an updated look at her neurocognitive skills as the environment becomes more demanding and her skill set evolves.

I am available to speak by phone with teachers or other educators regarding more specific modifications and accommodations Student needs. Please contact me if I can be of further assistance in this case.

Jennifer Morrison, Ph.D.
Licensed Psychologist

SUMMARY OF TEST RESULTS

Key to Test Scores:

Standard Scores are ways to compare an individual's performance across tests. On test batteries with standard scores with a mean of 100 and standard deviation of 15, two-thirds of all individuals will obtain a score between 85 and 115. Standard scores between 90 and 110 are often considered "average," though may be significantly below or above expectation for an individual, depending on other factors.

Subtest scaled scores typically have a mean of 10 with a standard deviation of 3. Two-thirds of all individuals will obtain a scaled score between 8 and 12. Scaled scores of 15 and above are considered to be significant areas of strength and are in the "superior" range. When scaled scores fall between 13 and 14, this typically denotes scores that are within normal limits but at the higher end of the scores in the average range and are considered to be "high average." Scaled scores between 8 and 12 are considered to be "average." Performance in the 6 to 7 range is considered to be "low average" and is at the lower end of the average range but still considered to be within normal limits in comparison with others in the same age range. Scaled scores from 4 to 5 are "borderline" and are considered to be red flag areas of performance. When functional skills are estimated to be significantly problematic they fall in the "impaired" range, which is found when the scaled score falls between 3 and 1.

Percentiles refer to the percent of peers around the United States that the test maker found to typically score below an individual's score. For example, a percentile (percentile) score of "70%" indicates that an individual performed better than 70% of peers taking that test.

INTELLIGENCE

Wechsler Intelligence Scale for Children-Fourth Edition (WISC-IV)			
Composite Scores	Standard Score	Percentile	Descriptive Range
Verbal Comprehension (VCI)	95	37	Average
Perceptual Reasoning (PRI)	110	75	High Average (strength)
Working Memory (WMI)	107	68	Average
Processing Speed (PSI)	100	50	Average
Full Scale (FSIQ)	104	61	Average

Wechsler Intelligence Scale for Children-Fourth Edition (WISC-IV): Subtest Scores			
Subtest	Scaled Score	Subtest	Scaled Score
Verbal Comprehension Index		Perceptual Reasoning Index	
Similarities	11	Block Design	10
Vocabulary	9	Picture Concepts	13
Comprehension	7	Matrix Reasoning	12
Word Reasoning	10	Picture Completion	9
		Elithorn Mazes	
Working Memory Index		Processing Speed Index	
Digit Span	10	Coding	9
Letter-Number Sequencing	13	Symbol Search	11
		Cancellation	11

ACHIEVEMENT

Gray Oral Reading Tests- Fourth Edition (GORT-4)		
Index	Standard Score	Percentile Rank
<i>Oral Reading Quotient</i>	97	42
Scale	Scaled Score	Percentile Rank
Rate	8	25
Accuracy	11	63
Fluency	10	50
Comprehension	9	37

Wechsler Individual Achievement Test-Second Edition (WIAT-II)		
	Standard Score	Descriptor
Word Reading	102	Average
Numerical Operations	105	Average
Math Reasoning	122	Superior
Spelling	102	Average
Written Expression	108	Average

LANGUAGE

Oral and Written Language Scales-Listening Comprehension Scale (OWLS)	
Standard Score	94
Percentile	34
Expressive One-Word Picture Vocabulary Test (EOWPVT-3)	
Standard Score	106
Percentile	66
Receptive One-Word Picture Vocabulary Test (ROWPVT-3)	
Standard Score	106
Percentile	66

MOTOR AND VISUAL PERCEPTUAL

Wide Range Assessment of Visual Motor Abilities (WRAVMA)	
Subtest	Scaled Score
Fine Motor: Pegboard	94
Fine Motor: Pegboard Non-Dom	104

Developmental Test of Visual Perception – Second Edition (DTVP-2)		
Composite	Standard Score	Percentile
General Visual Perception	117	87
Motor-Reduced Visual Perception	117	87
Visual-Motor Integration	117	87
	Scaled Score	Percentile
Eye-Hand Coordination	13	84
Position in Space	10	50

Copying	11	63
Figure-Ground	13	84
Spatial Relations	12	75
Visual Closure	14	91
Visual-Motor Speed	14	91
Form Constancy	13	84

ATTENTION/ EXECUTIVE FUNCTIONING

Delis-Kaplan Executive Function System (D-KEFS)		
Measure	Scaled Score	Descriptor
Trail Making Test		
Visual Scanning	8	Average
Number Sequencing	2	Impaired
Letter Sequencing	8	Average
Number-Letter Switching	10	Average
Motor Speed	13	High Average
Verbal Fluency		
Letter Fluency	11	Average
Category Fluency	9	Average
Category Switching Correct	12	Average
Category Switching Accuracy	12	Average

NEPSY-II: A Developmental Neuropsychological Assessment		
Measure	Scaled Score	Descriptor
Inhibition-Naming Time	9	Average
Inhibition-Naming Combined	13	High Average
Inhibition-Inhibition Time	7	Low Average
Inhibition-Inhibition Combined	8	Average
Inhibition-Switching Time	10	Average
Inhibition-Switching Combined	10	Average
Inhibition Total Errors	11	Average

WJ-III Tests of Cognitive Abilities		
Measure	Standard Score	Descriptor
Auditory Attention	109	Average
Pair Cancellation	101	Average

Behavior Rating Inventory of Executive Functions-Parent Form (BRIEF)		
Scale	T-score	Percentile
Inhibition	47	56
Shift	39	16
Emotional Control	36	5
Initiate	36	9
Working Memory	48	56
Plan/ Organize	40	22
Organization of Materials	48	49
Monitor	41	26
Behavior Regulation Index	39	15

<i>Metacognition Index</i>	42	24
<i>Global Executive Composite</i>	40	17

MEMORY

Wide Range Assessment of Memory and Learning- Second Edition (WRAML-2)	
Composite Scores/Subtests	Standard Scores/Scaled Scores
Verbal Memory Index	108
Visual Memory Index	115
Attention/ Concentration	94
Story Memory	13
Story Memory Delayed	12
Verbal Learning	10
Verbal Learning Delayed	7
Design Memory	13
Design Recognition	11
Picture Memory	12
Picture Memory Recognition	9
Finger Windows	7
Number Letter	11

BEHAVIOR

Attention Deficit Disorders Evaluation Scale-Third Edition (ADDES-3)-Home Version		
Subscales	Standard Score	Scaled Score
Quotient Standard Score	112	
Inattentive		12
Hyperactive-Impulsive		12

* Note: lower scores are reflective of more problematic behaviors