

Evaluation

Name: J.T.
 Date of Birth: 03/08/1984
 Date of Testing: 07/20/2011, 07/21/2011, 07/22/2011
 Evaluator: Rhonda H. Rapp, Ph.D.

Basis for Evaluation:

Clinical Interview
 Testing Intake Questionnaire
 Behavioral Observations
 Conners' Continuous Performance Test II (CPT II)
 Learning & Study Strategies Inventory (LASSI)
 Nelson-Denny Reading Test (N-D)
 Wechsler Adult Intelligence Scale IV (WAIS-IV)
 Woodcock-Johnson III – Tests of Achievement (WJ III – ACH)

Reason for Referral

J. Taylor (J.T.) was referred for assessment by the Director of Career Services at the University of the Incarnate Word who has been working with him, because of problems he is experiencing in postsecondary education.

Background Information

J. T. is a twenty-two year old, college sophomore, pursuing postsecondary education at the University of the Incarnate Word in San Antonio, Texas. He has also taken postsecondary classes at San Antonio College in San Antonio.

J.T. was diagnosed with Attention Deficit Hyperactivity Disorder in the fifth grade. The first medication he was prescribed was Focalin (dexamethylphenidate) which is a mild stimulant. This medication is a modified version of Ritalin and contains only the most active component. Three years ago, his medication was changed to Ritalin LA. Ritalin LA capsules are specially designed to release half of the medication immediately and the second half after approximately four hours, allowing the medication to be taken just once a day. J.T.'s dosage has grown from 10 mg per day to 30 mg per day.

J.T. has also been diagnosed with Spastic Paraparesis, a rare disorder where parts of the body develop spasticity and weakness. Usually the limbs are involved (in J.T.'s case it is his legs); and Clonus, which refers to repetitive contractions and relaxations of the muscles, it is an extreme form of hyperreflexia, meaning an increase in the deep tendon reflexes. It is seen most often in the ankle, causing the foot to jerk up and down.

J.T. shared that he is a hands-on learner and that in the learning environment he prefers to receive information via demonstrations, directed practice, audio recordings, and reading and from video/film/TV because he finds it the easiest way to understand information. When it comes to expressing what he has learned, he prefers to produce a written product or to demonstrate what he has learned. J.T. indicated that he prefers these modes of demonstrating what has been learned because he is a nervous test taker and speaker.

J.T. shared that he uses several techniques when studying. Studying in a quiet environment with music playing in the background helps him to concentrate and retain information. This is a technique used by many individuals with difficulties in sustained attention/concentration as the music works to funnel attention; rocking in a rocking chair is also useful. (NOTE: If the music is loud enough to "sing along with it" then it is too loud and tends to draw the individual's attention away from studying to the music that is playing) J.T. also shared that he uses flashcards and mnemonics to help remember information and to test his memory when studying. However, it seems he doesn't use techniques that are significantly useful for those with ADHD. The ones he indicated that he didn't use include: (1) long-term planning, (2) preparing and utilizing a regular study schedule, (3) having and utilizing an assignment notebook, and (4) preparing and utilizing a daily planner. Most individuals with ADHD have a very hard time remembering to prepare and then to utilize these study-related techniques even when they agree that the techniques are useful. Preparing and utilizing schedules, planners, etc. requires direct instruction for the individual and (usually) monitoring by someone close to the individual (a peer usually works best).

When asked to describe the quality of his concentration/attention in class and/or when studying, J.T. indicated that he is fidgety, distractible and has a short attention span. He stated that he experienced these same problems when taking tests.

J.T. shared that on a daily-basis, he has the most difficulty with: (1) procrastinating, (2) keeping up with assignments, (3) managing time, (4) concentrating during a class lecture or when studying, (5) meeting new people, (6) talking to instructors, and (7) that he tends to cram for tests.

J.T. utilizes a multi-modal system when taking tests: he manages his time while taking tests, understands test directions, puts questions in his own words to help formulate his answer, eliminates incorrect answers when answering multiple-choice, true/false, and matching questions, and uses mnemonics to help him retrieve information from memory. He also indicated that he prefers short-answer, multiple-choice, fill-in-the-blank, and matching questions because they are the simplest question formats and because they ensure being able to answer questions without wasting time having to produce in-depth specific details to answer the questions (i.e., short-answer questions and essay questions).

J.T. feels that his learning strengths are in remembering facts and formulas and he feels his learning weaknesses are in concentration and effective study habits. When asked to list the classes in which he was the most successful, J.T. stated that he was successful in science-based classes (i.e., chemistry, anatomy/physiology) and in psychology. He also indicated that he was the least successful in math, English, and physics course.

Finally, J.T. shared that he has utilized tutoring services in the past and now uses writing center services, outpatient psychological services, career/vocational services and counseling services.

Behavioral Observation

J.T. arrived on time for his assessment appointment and worked diligently throughout the assessment. However, it became apparent very early in the assessment that he was having difficulty sustaining attention/concentration, and also with processing speed and working memory on many of the subtests. For instance on the Processing Speed subtests of the WAIS-IV, he earned a scaled score of 77, which is 35 points, over two standard deviations, below his General Ability Index score. J.T.'s difficulties were also indicated by his score on the Working Memory subtest of the WAIS-IV of 89, which is 23 points, over one and a half standard deviations below expected levels. Finally, he exhibited significant (negative) issues with the Conners' Continuous Performance test, even after taking his ADHD medication.

Overall, on the Woodcock-Johnson: Tests of Achievement, J.T.'s scores fell within expected limits. However, it became obvious that his math skills were varied, with his Math Fluency score being much lower than expected. His reading and writing skills were all commiserate with his General Ability Index score and fell within expected limits.

J.T. sat perfectly still during the computer administration of the Conners' Continuous Performance Test II (CPT-II), during which letters were randomly flashed on a computer screen for 14 minutes. This is an extremely annoying and frustrating test even for individuals without any ADHD symptoms and doubly so for those with ADHD. However, J.T. completed the entire Conners' assessment without making any comments during the assessment. This is unusual, as most students with ADHD tend to make disparaging comments throughout the entire administration of the assessment.

The Conners' (CPT-II) was the first assessment administered to J.T. during the four and a half hour test battery. The Wechsler Adult Intelligence Test IV (WAIS-IV) followed the Conners' and was then followed by the Woodcock-Johnson III: Tests of Achievement (WJ III – ACH). The Learning and Study Skills Inventory (LASSI) and the Nelson-Denny Reading Test (N-D) were the last assessments administered. J.T. required only one break during the four and a half hour test battery (another break was offered, but declined)

Despite apparent difficulties throughout the entire four and half hour assessment, J.T. seemed to approach each new task with the determination to do his best. At no time during the assessment did he quit or "blow off" tasks that were difficult for him. In addition, not only did his focus and concentration/attention problems interfere with processing most test items, they also made it impossible to truly evaluate his abilities on all tasks that were timed.

Results of Evaluation

Wechsler Adult Intelligence Scale – IV (WAIS-IV)

Average Score for Individual Subtests is 9-11

Verbal Comprehension Scale	Score	Description
Vocabulary	11	Average
Similarities	13	High Average
Information	14	High Average

Perceptual Reasoning Scale	Score	Description
Block Design	9	Average
Matrix Reasoning	11	Average
Visual Puzzles	13	High

Working Memory	Score	Description
Digit Span	7	Low Average
Arithmetic	9	Average

Processing Speed	Score	Description
Symbol Search	5	Low Average
Coding	7	Low Average

Average Score for Individual Factor Index Scores is 90 - 100

WAIS-IV Factor Index Scores	Scaled Scores	Percentile Rank	Description
Verbal Comprehension (VCI)	114	82	High Average
Perceptual Reasoning (PRI)	105	63	Average
Working Memory (WMI)	89	23	Low Average
Processing Speed (PSI)	77	6	Borderline
Full Scale (FSIQ)	106	66	Average
General Ability Index (GAI)	112	79	High Average

J.T.'s intellectual abilities were assessed using the Wechsler Adult Intelligence Scale – IV. The WAIS-IV is a widely used measure of both crystallized (learned) intelligence and fluid (problem solving) intelligence. The WAIS-IV Factor Index standard scores are based on a mean of 100, with a standard deviation of 15. Individual subtest scores are based on a mean of 10 with a standard deviation of 3. The average range of subtest scores is between 9 and 11. An individual's scores are compared to age-based norms in order to identify individual patterns of functioning relative to other people, and are also compared to each other to identify individual patterns of strengths and weaknesses.

J.T.'s overall intellectual functioning is in the average range as measured by a Full Scale IQ (FSIQ) of 106. His Verbal Comprehension Index (VCI) score of 114, at the 82nd percentile is in the High Average range and his Perceptual Reasoning Index (PRI) score of 105, at the 63rd percentile is in the Average range. J.T.'s Processing Speed Index Score of 77, at the 6th percentile, (Borderline range) and his Working Memory Index Score of 89, at the 23rd percentile, (Low Average range) are both significantly lower than his Verbal Comprehension Index Score and his Perceptual Reasoning Index Score and are depressing his overall cognitive abilities score (Full Scale IQ). Therefore, J.T.'s General Ability Index Scores (GAI) of 112 is a better indicator of his cognitive abilities and as such will be used for comparison to his other standard scores. The GAI provides an estimate of general cognitive ability, with *reduced emphasis* on processing speed and working memory relative to the Full Scale IQ.

The Verbal Comprehension Index is a measure of how well someone understands verbal knowledge and verbal expression. These tests are not timed and include answering oral questions about word meanings, general knowledge, and explaining relationships between two things. J.T.'s Verbal Comprehension score of 114, indicates that he has high average skills in the areas of abstract verbal reasoning, being able to comprehend and verbally express himself, and in "school acquired" knowledge.

J.T.'s Perceptual Reasoning Index score of 105 indicates that his nonverbal abstract problem solving skills, his inductive reasoning skills*, and his spatial reasoning abilities fall within the average range of intelligence.

The Processing Speed Index (PSI) is a measure of thinking speed, planning ability, and motor response speed. Processing speed is critically linked to higher order intellectual tasks that require a high degree of fluidity. It is comprised of two subtests: Symbol-Coding and Symbol Search. The Symbol-Coding test measures visual-motor speed and short-term visual memory; the Symbol Search test requires planning, sustained attention, and visual memory. J.T.'s Processing Speed Index standard score of 77 at the 6th percentile is a significant weakness for him and substantially (negatively) impacts his ability to process information quickly and accurately.

The Working Memory Index (WMI) measures one's ability to hold information in conscious awareness, manipulate it in some fashion, and then produce a result. Working Memory is an integral part of higher order cognitive processes and a critical part of developing fluid reasoning abilities. J.T. showed a Low Average ability to keep several pieces of information in his mind at once, to manipulate them successfully, and to sustain attention and concentration throughout the process. It should be noted that J.T.'s unsuccessfully controlled ADHD is significantly impacting his score in this area.

Overall, J.T.'s performance on the WAIS-IV was inconsistent with individual subtest scores ranging from a low of 5 to a high of 14 (a spread of 3 standard deviations) and Factor Index Scores ranging

from 77 (Processing Speed) to 114 (Verbal Comprehension), a significant split of over two standard deviations.

* Inductive Reasoning skills – is reasoning from a specific case or cases and deriving a general rule. It draws inferences from observations in order to make generalizations; inference can be done in four stages: *Observation*: collect facts, without bias; *Analysis*: classify the facts, identifying patterns of regularity; *Inference*: From the patterns, infer generalizations about the relations between the facts;

Confirmation: Testing the inference through further observation.

Woodcock-Johnson III – Tests of Achievement (WJ III – ACH)

Academic achievement was measured using the Woodcock-Johnson III – Tests of Achievement (WJ III - ACH), Form A. This battery is comprised of both timed and untimed tests. An age norm of twenty-two years was used in the scoring and assessment of the WJ-III. The WJ-III subtests are generally untimed, except for Math, Reading, and Writing Fluency, all tasks that require rapid processing and product production.

Average Score for Individual Subtests is 90-110

Special Purpose Clusters	SS	PR
Oral Language	103	57

Achievement Subtests	SS	PR
Understanding Directions	103	57
Story Recall	102	54

Reading	SS	PR
Broad Reading	105	64
Reading Fluency	104	61
Letter-Word Identification	102	55
Passage Comprehension	106	65

Written Language	SS	PR
Broad Written Language	99	48
Written Expression	100	50
Writing Fluency	97	41
Writing Samples	110	75
Spelling	99	46

Math	SS	PR
Broad Math	90	26
Math Calculation Skills	87	20
Math Fluency	74	4
Calculation	95	36
Applied Problems	94	34

Other Clusters	SS	PR
Academic Fluency	99	48
Academic Skills	98	46
Academic Applications	100	49

Academic Fluency

The Academic Fluency score measures the automaticity of reading, writing, and math skills. J.T.'s overall score on this cluster is 99, which falls in the Average range. Academic Fluency includes scores on three subtests: Reading Fluency (SS=104), Math Fluency (SS=74), and Writing Fluency (SS=97). J.T.'s Academic Fluency score of 99 is at the 48th percentile. His fluency scores in reading and writing are commiserate with his General Ability Index score and well within expected limits. However, his Math Fluency score is thirty-eight points, over two standard deviations lower than expected limits. This is indicative of automaticity skills in reading and writing in the Average range and math automaticity skills in the very Low Average range.

Academic Applications

This is a cluster of subtests that measure the examinee's ability to apply academic knowledge. The subtests that comprise this cluster are Passage Comprehension (SS=106), Applied Problems (SS=94), and Writing Samples (SS=110). This is a split of over one standard deviations. J.T.'s Academic Applications score of 100 is in the Average range and at the 49th percentile. With a GAI of 112, his Academic Application's score is lower than expected for someone of his schooling and cognitive abilities.

Oral Language

J.T.'s performance on Story Recall (SS=102) is commiserate with his cognitive abilities and suggests that he has average abilities in listening and remembering auditory information, and then being able to act upon what he has heard. His score in Understanding Directions (SS=103) is only one point higher than his Story Recall score. J.T.'s score on the Understanding Directions subtest suggests that his listening comprehension is in the Average range. The Understanding Directions subtest requires the examinee to listen to a sequence of recorded instructions and then to follow the directions by pointing to various objects in a picture, in a particular sequence. The test measures both listening comprehension abilities and short-term memory.

Mathematics

J.T.'s Mathematics cluster score is made up of his scores on the Math Calculation subtest (SS=95), Math Fluency subtest (SS=74) and Applied Problems subtest (SS=94). His scores in mathematics range from a low of 74 to a high of 95; a significant 21 point, over one standard deviation spread. This indicates that while J.T. has average abilities in applied (word) problems and in working math problems that are straight calculation problems, he has a significant weakness in being able to quickly complete basic math problems correctly (automaticity). In addition, while he was able to work some college level algebra problems, he did not work simpler math problems (i.e., mixed fraction and long division problems).

Reading

The Broad Reading cluster is a comprehensive measure of all components of reading ability, including decoding, reading speed, and comprehension. This cluster is composed of the Letter-Word Identification subtest (SS=102), Reading Fluency subtest (SS=104), and Passage Comprehension subtest (SS=106). J.T.'s overall score on this cluster subtests is 110, which is at the 64th percentile for his age. Unlike his scores on the math subtests, his reading scores are commiserate with each other and with his cognitive abilities.

Written Language

J.T.'s Written Expression cluster score (SS=99) is at the 48th percentile for his age. This score is comprised of 3 subtests, Spelling (SS=99), Writing Fluency (SS=97), and Writing Samples (SS=110); there is a 13-point difference between his scores on the writing subtests. While some writing items are comprised of a straightforward simple sentences, others include paragraphs where the first sentence of the paragraph and the third (last) sentence of the paragraph are provided and the individual must compose a sentence that will fit between the two sentences already provided (several of these instruct the examinee to write a second sentence the author might have written). J.T.'s Writing Samples subtest score (SS=110) was his highest academic score on this entire assessment. On the Spelling subtest, individuals must spell words that are delivered orally. These words begin at a relatively basic level and progress to words with complex spellings. Overall, J.T. shows average Spelling abilities. It should be noted, that the words he spelled incorrectly, were in fact, phonetically correct making it very easy to decipher what word he had been instructed to spell.

Conners' Continuous Performance Test II (CPT II)

J.T. was administered the Conners' Continuous Performance Test II. This computerized test provides an assessment of potential attention problems. During this assessment, letters are randomly flashed on a computer screen for 14 minutes. Examinees are instructed to click the left mouse button whenever a letter appears, unless the letter is an X. Examinees are told to avoid clicking the mouse button whenever the letter X appears. Based on the examinees' performance, the CPT computer version creates a performance profile that is compared to ADHD clinical and non-clinical profiles. The results from the comparison between profiles are indicated by Confidence Index levels given in percentage values.

J.T.'s discriminate function Confidence Index score suggests that he fits an ADHD Clinical profile (76.31% Confidence Index) much better than a non-clinical profile. This result is of particular importance because he had taken his ADHD medication prior to arriving for the assessment session. It should also be noted, that this was the first test of the assessment battery that he took, so being "fatigued" is an unlikely factor in his performance on this assessment. Results indicate that J.T. made a large number of omission errors. His percentage of omission errors was substantially higher than the average of the normative group. He also made a large number of commission errors. The percentage of commission errors is higher than the average of the normative group. J.T.'s results indicate that he exhibited below par detectability for target and non-target objects. This could reflect serious limitations in quickly and effectively perceiving and processing visual stimuli. In addition, he became less consistent as the test progressed. Finally, J.T.'s reaction times were faster than the norm, **but** there were lots of errors in his responses. This pattern is usually associated with an impulsive style of ADHD.

Since J.T. performed so poorly on the Conners' Continuous Performance Test (even after having taken his ADHD medication) it is entirely probable that he is on too low of a dosage of his ADHD medication and/or that he needs to be taking a different medication. J.T. should re-evaluated by his doctor to answer the "medication" concern.

Nelson-Denny Reading Test

	Standard Score	Percentile	Grade Equivalent
Vocabulary	120	91	15.9
Comprehension	115	84	15.4
Total Score	119	90	15.9
Reading Rate	109	73	N/A

The Nelson-Denny Reading Test is a standardized assessment that measures three areas of academic achievement: reading vocabulary, reading comprehension, and reading rate. The Vocabulary and Reading Comprehension subtests are timed and use a multiple-choice format for answering. J.T.'s Vocabulary score (SS=120) is at the 91st percentile and indicates that his reading vocabulary is in the Superior range; his Comprehension score, (SS=115) at the 84th percentile is commiserate with his Reading Vocabulary score and it is indicative of reading comprehension abilities in the High Average range. Finally, his Reading Rate score of 109, (73rd percentile), while in the Average range for his age and cognitive abilities, is a relative weakness for him. It's important to note that if an individual reads slowly their brain tends to lose track of the beginning of a reading passage by the time they get to the end. Typically, this leads to the student having to read and reread passages several times

before being able to access the information in the chapter, thus significantly slowing down the reading process even more. In addition, if the student has problems with sustaining attention, concentration, or focus, the re-reading process can become overwhelmingly long and the student may “shutdown” and not process anything that is being read.

Learning and Study Strategies Inventory (LASSI)

The LASSI is an assessment of a student’s perception of their current command of necessary college-learning skills. Total scores of 75-100 on any of the scales indicates relative strength in the area(s) assessed; scores between 50-75 indicate a mild to moderate need for college learning skills improvement; and scores below 50 are indicative of an immediate need for improvement of the measured college-learning skill. J.T.’s scores indicate two areas of strength, two areas that need some work, and six areas that need immediate attention.

Average Score for Each Assessed Area is 50 - 75

Area	Score	What’s Assessed
Anxiety	3	Assesses the degree to which a student worries about school and his/her academic performance. Students who score low on this scale are experiencing high levels of anxiety associated with school.
Attitude	10	Assesses a student’s attitudes and interest in college and academic success. It examines how facilitative or debilitating his/her approach to college and academics is in helping him/her get schoolwork done and in succeeding in college. Students with a low score on this scale need to examine why they are in college, whether or not they are in the right major for them, and/or why they are attending a particular school.
Concentration	20	Assesses a student’s ability to direct and maintain attention on academic tasks. Students scoring less than 75 on this scale need to learn to monitor their level of concentration and need to develop techniques to redirect attention and eliminate interfering thoughts or feelings.
Information Processing	75	Assesses how well a student can use imagery, verbal elaboration, organization strategies, and reasoning skills as learning strategies to help build bridges between what they already know and what they are trying to learn and remember.
Motivation	40	Assesses a student’s diligence, self-discipline, and willingness to exert the effort necessary to successfully complete academic requirements. Students who score less than 75 on this scale need to learn how to set and use short-term and long-term goals to help accomplish tasks.

Average Score for Each Assessed Area is 50 – 75

Area	Score	What's Assessed
Self-Testing	30	Assesses a student's use of reviewing and comprehension monitoring techniques to determine their level of understanding of the information to be learned.
Selecting the Main Idea	40	Assesses a student's skill at identifying important information for further study from among less important information and supporting details. Students who score low on this scale need to develop the skill of separating out critical information on which to focus their attention.
Study Aids	80	Assesses a student's use of supports or resources to help them learn or retain information. Students who score below 75 on this scale may need to develop a better understanding of the resources available to them at their college/university.
Time Management	40	Assesses a student's application of time management principles to academic situations. Students who score low on this scale need to develop effective scheduling and monitoring techniques in order to assure timely completion of tasks and to avoid being overwhelmed by academic requirements.
Test Strategies	60	Assesses a student's use of test preparation and test taking strategies. Students who score less than 75 on this scale need to learn more effective techniques for preparing for tests so that they can accurately demonstrate their knowledge of the subject matter.

Diagnosis

Axis I:

314.0 Attention Deficit Hyperactivity Disorder

315.9 Learning Disability NOS (Processing Speed and Working Memory) secondary to ADHD)

Axis II:

No Diagnosis

Axis III:

Spastic Paraparesis

Clonus

Axis IV:

No Diagnosis

Axis V:

GAF 65

Discussion:

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Overall, J.T.'s achievement scores on the WJ-Achievement III are in the average range. However, significant weaknesses in Math Fluency and Math Calculation Skills were noted. On the Nelson-Denny Reading Test - J.T.'s Vocabulary score (SS=120) at the 91st percentile, indicates that his reading vocabulary is in the Superior range and his Comprehension score (SS=115) at the 84th percentile, is in the High Average range. Finally, his reading Rate score of 109, which is at the 73rd percentile, while in the average range for his age and cognitive abilities, is a relative weakness for him.

The LASSI is an assessment of a student's perception of their current command of necessary college-learning skills. J.T.'s scores indicate two areas of strength, two areas of that need some work and six areas that need immediate attention.

Recommendations

The following accommodations are needed to offset the negative impact of J.T.'s Attention Deficit Hyperactivity Disorder and related Processing Speed and Working Memory Disorders:

- Extended test time (double time)
- Testing in a quiet, non-distracting environment
- Being allowed to record lectures
- Access to copies of the instructor's lecture notes, PowerPoint slides, and overheads
- Priority registration
- Not being called on to answer questions in class unless he has been told in advance what the question(s) will be so that he can prepare

The following actions are also needed:

- Medication effectiveness check-up with J.T.'s doctor (this needs to be done as soon as possible)
- Register for only 12 college credit hours each semester; if registered for 15 hours, one course should be one that is an "easy A" course for J.T. (NOTE: registering for 18 college credit hours should be avoided)
- Attempt to register for classes that are taught in more of a "hands-on" modality (than a lecture modality)
- Limit the number of science courses being taken in the same semester as a math course

- Re-evaluate choice of major
- J.T. needs to find the best place to study – one that presents the fewest visual and auditory distractions for him
- Break studying down into short, 10- to 30-minute sessions (whichever works best for J.T.) and minimize breaks in between study sessions to no more than 10 minutes at a time to keep cognitive processes from breaking down

Doctoral Practicum Student

Post-Doctoral Fellow

Clinical Director