

CLINICAL NEUROPSYCHOLOGY REPORT

Patient's Name: Thompson, Juanita **Dates of Evaluation:** 07/16/2014 and 07/23/2014
Date of Birth: 01/01/1990 **Age:** 24
Handedness: Left **Education:** 16 years
Occupation: Sales **Ethnicity:** Columbian & African American
Current Medications: Adderall, Lamictal
Evaluation Completed by: _____, Ph.D.
Evaluation Time: 1 hour (90801) interview, 6 hours (96118 x 6) (test administration, scoring, interpretation and report)

REASON FOR REFERRAL: Ms. Thompson was referred for a neuropsychological evaluation by Dr. Xu, for a question of cognitive difficulties associated with a history of concussions.

HISTORY OF CURRENT SYMPTOMS: The symptom description and history were obtained from an interview with Ms. Thompson. She stated she has had multiple concussions over her lifetime, the most recent of which occurred six months ago. Since that time Ms. Thompson has been noticing reduced short term recall, occasional word finding problems in conversation, difficulties sustaining his attention, and increased anxiety, especially in social settings.

PAST MEDICAL, NEUROLOGICAL, PSYCHIATRIC HISTORY: (*Inclusive review of symptoms and disorders; only positive features listed*) No significant medical history reported. Neurological history is notable for 7 concussions beginning at age 10, 3 reportedly involving a loss of consciousness. Ms. Thompson did not notice the acute onset of any cognitive problems with any specific concussion. She also stated that for the past several years she has been having "seizures" described as brief periods of olfactory and gustatory hallucinations (smell/taste of metal) and then a feeling of "tripping". She has been treated with anti-epileptic medication for the past 3 months, which reportedly has eliminated these episodes with the exception of occasional brief periods of changes in taste/smell that do not progress to include other symptoms as before. Ms. Thompson stated she has been seen by a neurologist in the past, but records from her previous neurological work-up were not available. She reportedly has had multiple EEGs including a 48-hour ambulatory EEG monitoring during which she stated she did not experience any seizure-like events. She also stated she was diagnosed with an arachnoid cyst following a motor vehicle accident five years ago. Ms. Thompson stated she had an abnormal sleep study but has not followed up with the clinic yet for treatment recommendations.

Ms. Thompson stated she was diagnosed with Attention Deficit Hyperactivity Disorder and possible Bipolar Disorder at age 20 by her primary care physician, but she has never been seen by a psychiatrist (although has an appointment pending with Dr. Xu). She reported a history of binge drinking (20+ shots in one night) for several years while in college, but stated she has not used alcohol in the past 14 months. She smokes 1 pack of cigars per week and has a remote history of experimentation with illicit drugs, but denied ever being a regular user.

BIRTH, DEVELOPMENTAL, EDUCATIONAL, AND PSYCHOSOCIAL HISTORY: (*Review of perinatal factors, early childhood development and milestones, academic history and achievement, occupational history*) Ms. Thompson denied any problems with her birth or development. She was never diagnosed with a learning disability or ADHD during grade or high school. Her high school GPA was 3.7 and she scored 31 on the ACT (all prior to starting Adderall). She had some academic problems in college, which she associated with heavy alcohol use, but graduated with a bachelor's degree in Business. She stated she worked for 18 months in the sales department of a firm, but the company was sold and her job was eliminated. She worked the past year in sales for a store but was recently let go reportedly due to missing work for a medical appointment. Ms. Thompson is currently in the process of looking for work in the field of sales. She stated she has not had any problems in the past carrying out her occupational duties due to memory or other thinking concerns.

FAMILY HISTORY: (*First degree relatives; only pertinent features reported*) No family history of any neurological conditions reported. Ms. Thompson's parents are living (mother age 52, Columbian, father

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age 48, African American). Her mother reportedly has a history of depression with the first incident occurring after her family moved to the U.S. from Columbia when her mother was a senior in high school. No significant history was reported for Ms. Thompson's father; however, it was noted that her father's primary employment was as a regional manager for a major chain of physiotherapy clinics and his job required that he travel extensively due. Ms. Thompson has two siblings, a sister age 18 with a history of Grave's disease, and a brother age 30, with a history of anxiety. While Ms. Thompson's mother is reportedly bilingual (Spanish and English), only English was spoken in the home. Ms. Thompson reportedly does not understand any language other than English.

Summary of Previous Investigations and Findings: No previous neuropsychological evaluations.

CURRENT EXAMINATION: *Review of records; Clinical Interview; General Cognitive Assessment: Wechsler Adult Intelligence Scale-IV; Attention Tests: Digit Span, Semantic Fluency, Lexical Fluency, Trail Making Tests, Go-No Go Test, Stroop Color Word Test, Paced Auditory Serial Digit Test; Language Tests: Vocabulary, Arithmetic, Boston Naming Test; Visuospatial Tests: Block Design, Rey Complex Figure Copy, Target cancellation; Learning/Memory Tests: California Verbal Learning Test-II (CVLT-II); Reasoning/Abstraction: Similarities, Matrix Reasoning, Wisconsin Card Sorting Test*

BEHAVIORAL OBSERVATIONS:

Ms. Thompson arrived on time for her appointment and was alone. She was neatly groomed and dressed. Her social skills were appropriate and he was fully cooperative throughout the evaluation. Frustration tolerance and task persistence during testing were preserved. There were no behavioral indications of a mood disturbance and a full range of affect was demonstrated.

The results of this evaluation are considered reliable and valid for interpretation.

SUMMARY OF FINDINGS:

- 1. Expected level of performance prior to the onset of symptoms:** *(On the basis of demographic information and/or measures of estimated intellectual capacity)* Overall estimated level of functioning is within the average to high average range based on the WAIS-IV. Although her verbal skills were slightly stronger than non-verbal, the difference between these areas was not significant. The remainder of the examination was interpreted with the expectation of performance at least in the average range.
- 2. Attention:** *(Immediate span, sustained attention; working memory)* Immediate attention span was within the average range (7 digits forward), but when working memory was involved (4 digits backwards) his performance was mildly reduced relative to expectation. However, her ability to sustain attention over time and her performance on all other working memory tests was intact.
- 3. Language and Related Functions:** *(Speech; auditory comprehension; repetition; naming; reading; writing; praxis; calculations)* Speech was fluent and adequately articulated, and there was no indication of significant word finding pauses or paraphasic errors in conversational speech. Confrontation naming was intact and auditory comprehension was preserved.
- 4. Visuospatial/Perceptual Functions:** *(Spatial attention, orientation and perception; form/object discrimination; constructions)* No evidence of a primary visuospatial impairment, such as hemispatial neglect, or object agnosia. She used a mildly disorganized approach when copying a complex figure, but her overall performance was within normal limits.
- 5. Learning and Memory:** *(Orientation; acquisition, retention and retrieval of new information).* Ms. Thompson was fully oriented. Her ability to encode new information was notable for a lower than normal learning curve on the CVLT-II word list test, although his overall amount of learning was average for her age group. New learning was not susceptible to retroactive or proactive interference. She remembered 8 out of 9 words initially encoded and recognition was intact. He had more difficulty

learning longer length (story) information that was presented in a single-trial format and delayed recall was also reduced. Delayed recall of complex figural information was also mildly impaired. Her overall pattern on memory testing suggests a significant weakness in encoding but relative preservation of anterograde memory ability.

6. Reasoning/Conceptual Flexibility/Executive Functions: (*Abstractions, categorical thinking; cognitive flexibility: organization, sequencing, use of strategies to perform more efficiently*) Verbal and non-verbal reasoning were both intact. She performed within the high average range on a measure of problem solving and cognitive flexibility.

7. Comportment: (*Social awareness and adherence to rules of appropriate social conduct; social-interpersonal skills; judgment; decision making*) No problems in social aspects of comportment were noted during the clinical interview and examination. Ms. Thompson said he feels he has problems in judgment and decision-making in day-to-day activities such "always wanting instant gratification" and procrastinating on completing important tasks, although these may be related to psychiatric issues rather than an indication of neurological dysfunction. Insight appears to be generally intact.

8. Assessment of Mood and Affect: (*On the basis of self-report, observation, and/or quantitative measures*) Although she described his mood as "pretty optimistic" during the interview, Ms. Thompson scored in the "severe" range for both anxiety and depression symptoms on self-report mood questionnaires. She reported the following symptoms of depression: feelings of failure, self-criticism, reduced interest and pleasure in typical activities, excessive sleeping, reduced energy, and agitation. Her most significant anxiety symptoms endorsed were an inability to relax, numbness/tingling feeling, and "wobbliness" in his legs. She reported occasional suicidal thoughts but stated she would not carry them out.

SUMMARY AND IMPRESSION:

1. *Neurocognitive Profile:* The profile on testing is one of mild weaknesses in new learning and recall within the context of an overall average to high average level of general intellectual functioning. Difficulties in new learning were most evident on tests that involved single-trial encoding. In contrast, he showed a normal learning curve and an overall average level of encoding when information was repeated over multiple trials. All other areas including attention, language, visuospatial abilities, executive functions and comportment are intact. Significant ongoing symptoms of anxiety and depression were reported.

2. *Diagnostic Formulation:* The findings on testing are consistent with a mild dysfunction in frontal networks. There are a number of factors that are likely to be contributing including his history of multiple concussions, possible seizure disorder, medication side effects, and ongoing mood symptoms. Although his current medication (Adderall) may be improving his attentional performance to some extent, the pattern on the testing was not strongly suggestive of a diagnosis of adult residua of Attention Deficit Disorder.

RECOMMENDATIONS:

1. Ms. Thompson should continue to have regular neurological follow-up to monitor the status of his arachnoid cyst as well as for ongoing management of seizure-like events. If the seizure-like events change or worsen then he should discuss with his physician whether inpatient EEG monitoring would be worthwhile. She should also follow-up with the sleep clinic for the results of his previous sleep study and to discuss treatment recommendations for better management of sleep issues.

2. Ms. Thompson may want to discuss with Dr. Xu whether a stimulant-free trial period would be helpful to determine the impact of this medication on her ongoing sleep and overall level of functioning.

3. Ms. Thompson is encouraged to make use of non-pharmacological methods of managing attentional weaknesses including the following:
 - a) participate in regular aerobic exercise, at least 30 minutes per session, 5-6 session per week
 - b) develop improved organization/planning, maintain a routine for important tasks such as paying bills, taking medications, etc.
 - c) consider taking a class in yoga or meditation (particularly Mindfulness meditation).

4. Although her retentive memory is intact, if difficulties in new learning and recall occur they are likely to be secondary to attentional weakness, and therefore may be improved by utilizing behavioral strategies to facilitate increased efficiency in attention and concentration:
 - Take frequent rest breaks from tedious work/studying.
 - Work in a distraction-free environment. When trying to read material or learn a new task it is best to do so in an area that has minimal distractions-turn off the television and phone.
 - Use written reminders and notes to support verbal learning and recall. If attempting to learn something that you are reading, take written notes while reading and then review these afterwards.
 - Work on one task at a time until completed. Try to minimize "multi-tasking" environments.
 - Write down all important information and upcoming events in **one** central location, such as a daily planner or appointment book. Do not use sticky notes or other individual pieces of paper to keep track of things as these are easily lost or mixed up.

5. Maintaining good sleep hygiene (e.g., going to bed and getting up at the same time each day) and getting regular aerobic exercise as described above are both helpful in facilitating concentration skills.

_____, Ph.D., ABPP-CN
Licensed Clinical Psychologist
Board Certified Neuropsychologist

cc: Dr. Xu
Ms. Juanita Thompson

TESTING SUMMARY:	Raw Scores	Normative Data	Current Level*
GENERAL FUNCTIONING			
WAIS-IV			
Verbal Comprehension	--	SS = 110	High Average
Perceptual Reasoning	--	SS = 102	Average
Processing Speed	--	SS = 100	Average
Working Memory	--	SS = 102	Average
ATTENTION			
WAIS-IV Digit Span	7F, 4B	ss = 9	Average
Semantic Fluency (words/min)	24	z = 0.4	Average
FAS Test (words/min)	18	z = 0.7	High Average
Trail Making Test Part A (time)	22"	T = 45	Average
Trail Making Test Part B (time)	59"	T = 43	Average
PASAT			
3' Test	--	z = 0	Average
2' Test	--	z = 0.7	High Average
VISUOSPATIAL			
Rey Complex Figure Copy	36/36	--	Within Normal Limits
Target Cancellation time (errors)	81" (0)	--	Within Normal Limits
WAIS-IV Block Design	--	ss = 11	Average
LANGUAGE			
Boston Naming Test	55/60	z = -0.4	Average
WAIS-IV Vocabulary	--	ss = 11	Average
WAIS-IV Information	--	ss = 11	Average
MEMORY			
WMS-IV			
Logical Memory I	--	ss = 5	Mild Impairment
Logical Memory II	--	ss = 3	Moderate Impairment
Visual Reproduction I	--	ss = 12	High Average
Visual Reproduction II	--	ss = 5	Mild Impairment
CVLT-II			
Learning Trial 1	7/16	z = -0.5	Average
Learning Trial 5	11/16	z = -1.5	Mild Impairment
Total Learning	44/80	T = 43	Average
Interference Trial	6/16	z = -0.5	Average
Short Delay Recall	9/16	z = -1.0	Low Average
Long Delay Recall	8/16	z = -1.5	Mild Impairment
Recognition	16/16	z = 0	Average
EXECUTIVE FUNCTIONS			
WAIS-IV Similarities	--	ss = 14	Superior
WAIS-IV Matrix Reasoning	--	ss = 11	Average
Wisconsin Card Sorting Test	--	z = 1.1	High Average

*Based on age and/or education-matched normative data (as available)

WNL = within normal limits based on clinical impression; SS = standard score; mean = 100, standard deviation = 15; ss = scaled score; mean = 10, standard deviation = 3; T = T-score; mean = 50, standard deviation = 10; z = z-score; mean = 0, standard deviation = 1