

## Neuropsychological Assessment Report

Tuesday, November 20, 12

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## The NP Assessment Report

- Identifying Information & Presenting Problem
- Background
- Symptoms & History
- Clinical Interview & Mental Status Exam
- Neuropsychological Test Results
- Interpretation & Diagnosis
- Recommendations

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## Identifying Information & Presentation

- Who is this person
  - identifying information
- Why are they receiving a NP assessment?
  - chief complaint
  - reason for referral
  - desired outcomes

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## Background : Symptoms & History : Family

- Family background - Parents, relatives and children
  - history of similar illnesses, other illnesses
    - development of symptoms
    - response to treatment
  - educational & occupational achievement
  - genetic issues

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## Background : Developmental

- Developmental
  - birth
  - early childhood milestones
- education
  - primary
  - secondary
  - post-secondary
  - learning disabilities
- psychosocial milestones
  - relationships, offspring...

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## Background : Symptoms & History

- Sx and Hx
- Course of symptoms
  - insidious vs. acute
  - episodic vs. chronic
- subjective
- objective
- treatment
- compensation
- consequence

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## Behavioral Observation

- Observation
  - direct
  - third-party
  - behavioral assessment
- Clinical Interview
  - Mental Status Exam...

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## MSE : Mental Status Exam

- Structured, systematic observation of a person's behavior during the interview
- Major Areas
  - Appearance & Behavior
  - Thought Processes (and Speech)
  - Mood & Affect
  - Intellectual functioning
  - Sensorium & Orientation

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## MSE : Appearance and Behavior

- Appearance
  - Sex, age (actual and apparent), height weight, deformities
  - Attire, Grooming
  - Gait, Posture, expressions
- Behavior
  - On time, late
  - Needing help, confused
  - Motor behavior, tics, etc.
  - Eye contact
  - Attitude

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## Review: The NP Assessment Report

- Identifying Information & Presenting Problem
- Background
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## MSE : Speech & Thought Form

- Speech Production
  - Volume
  - Rate
  - Flow
  - Accent
  - Prosody
  - Stuttering
  - Dysarthrias
- Thought Form
  - Logical, goal directed
  - Tangential, Circumstantial
  - Illogical
  - Loose
  - Perseveration
  - Incoherent (word salad)
  - Clanging / Echolalia
  - Neologisms
  - Paraphasias

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## MSE : Thought Content

- Content
  - Delusions
  - Hallucinations
  - Ideas of Reference
  - Thought insertion, withdrawal, broadcast
  - Obsessions, Ruminations, Impulses
  - Phobias
  - Ideation of Harm to self or others
    - Thoughts
    - Plans
    - Means
    - Actions

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## MSE : Mood & Affect

- Mood
  - first person impression of how they feel
  - Internal, Sustained
- Affect \*
  - external appearance of mood
    - normal, restricted, blunted flat
    - expansive, infectious
    - appropriate or inappropriate
    - mood-congruent or incongruent
  - External, momentary
- \* Note : this definition is not universal

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## MSE : Intellectual Functioning

- Abstract thought vs. Concrete
  - “What brings you here today?” - “A taxi”
- Insight
  - “My tummy hurts” vs. “I’m worried about failure”
- Judgement
  - “Should an alcohol abuser go to a bar?”
- Reasoning
  - “Why is taking your medication important?”
- Planning
  - If you have only one pill left, what should you do?
- Memory
  - Short and Long term

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## MSE : Consciousness & Sensorium

- Consciousness / Alertness:
  - sleepy, awake. Consistent or variable?
- Orientation (x3 or x4)
  - Person - who are you?
  - Place - where are you?
  - Time/Date - when is it?
  - Situation / Reason for visit - why are you here?
- Sensorium:
  - Clear or Clouded
  - Hallucinations, dissociations

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## MSE Checklist

<b>Appearance</b> : sex, age, height, weight, deformities, attire, grooming, gait, posture, expression	<b>Mood</b> : Euthymic, depressed, anxious, euphoric, angry, irritable.
<b>Behavior</b> : On time, needing help, confused. Motor behavior, tics, eye contact. Attitude.	<b>Affect</b> : Range: full, restricted, blunted, flat. Lability. Appropriate, inappropriate.
<b>Speech</b> : Volume, rate, flow, accent, prosody, stuttering, dysarthria, incoherent, word salad, clanging, echolalia, neologisms, paraphasias	<b>Cognition</b> : Abstract thought, insight, judgement, reasoning, planning, memory.
<b>Thought Form</b> : Logical & goal-directed, illogical, tangential, circumstantial, loose. Perseveration	<b>Consciousness</b> : Awake, sleepy, sedated.
<b>Thought Content</b> : Delusions, hallucination, Ideas of Reference, thought insertion / withdrawal / broadcast, obsessions, ruminations, impulses, phobias. Violent Ideation: thoughts, plans, means, actions	<b>Orientation</b> : Person, place, time, situation.

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## Neuropsychological Test Results

- Issues
  - Qualitative vs. Quantitative...
  - Norms & premorbid functioning...

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## Quantitative Data

- Pros
  - standardized
  - replicable
  - precision, accuracy, reliability & validity
    - can be estimated
  - bias : reduced
  - science
- Cons
  - impersonal
  - penalizes individual differences / creativity
  - may miss important clues
  - sensitive but perhaps not specific
    - Example: poor performance on Trails B - why?

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## Qualitative Data

- Pros
  - personal
  - individualized
  - detailed
  - pathognomonic - *latin, pathos: disease, gnomon: judge*
  - explains Why or How
    - may suggest compensation strategy
  - art
- Cons
  - biased, arbitrary
  - cultural issues
  - subject to over-interpretation
  - limited reliability, validity, precision and accuracy

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## Interpretation

- Establish premorbid functioning
- Compare current functioning to premorbid
- Explain in context of symptoms & history
- Diagnosis

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## Recommendations

- Based on diagnosis and interpretation
  - describe Prognosis
    - immediate
    - recovery
    - long-term
    - social
    - vocational
  - recommend clinical interventions
    - medical
    - psychological
  - recommend compensations
    - operational
    - vocational
    - psychosocial

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## Recommendations 2

- Rehabilitation
- Further NP Assessment
- Referrals to other specialists

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## Common Issues

- Estimating Premorbid Functioning
- Ecological Validity & Overgeneralization
- Confirmatory Bias
- Base Rates, Hit Rates, False Positives & False Negatives
- Effects of Effort & Motivation

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## Premorbid Functioning

- Rarely have pre-morbid test data, so must estimate it
- Demographic variables affect performance
- Use statistical normative data and adjust for
  - age, education, sex, race...
- Problems:
  - normative data : rarely detailed enough
  - definitions of "education", "race"...
  - cohort changes

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## Ecological Validity & Overgeneralization

- NP Testing is artificial
  - at one place
  - at one time
  - uncomfortable
  - doesn't measure ability to learn, improve, adapt
- Problems
  - "having a bad day"
  - strategy: accuracy vs. speed tradeoffs
- Conclusion:
  - predictions should be humble
  - "will never be able to work again" -- are we sure of this?

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## Confirmatory Bias

- Motivations of related parties
  - lawsuit? medical care? release from responsibility?
  - individual variations
    - most people have odd behavior if you look closely enough
    - over-pathologizing

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## Base rates & Hit Rates

- When the Base Rate of a disorder is very low, even using tests with very high sensitivity & specificity
  - Likely to have more False positives & False negatives than Hits
- Example:
  - if a disease is in 1/1000 patients, and your tests have 99% specificity and 99% sensitivity...
  - You will diagnose 10 of 1000 as having the disease
    - but 9 of them will not (a 90% false positive error rate!)

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## Effort & Motivation

- Low effort impacts performance
- What affects effort?
  - motivation
  - ability
  - fatigue
  - frustration
- Problem:
  - risk of confusing "Can't do it" with "Won't do it"
- Strategies:
  - ensure motivation, rest breaks, maintain rapport
  - symptom validity tests
    - detect malingering

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## Neuropsychological Assessment Report Assignment

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## NP Assessment Report Assignment

- Goals:
  - Clinical, individualized, humanistic : real-world issues of human emotion and illness
  - Technical, scientific : calculating and interpreting NP tests and making a diagnosis
  - Writing: college-level writing to meet CSUSM writing requirement
- Reminders:
  - 2500 words (about 10 pages double spaced)
  - Grammar & writing style counts. Help if needed from CSUSM writing center.
  - Submitted twice: once for feedback (60 points), once for final grade (40 points).

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## NP Report: Scoring

- Format: Use APA format. Graphs and tables may be located within the text, or in an appendix at the end.
- Grading
  - 30% Overall Grammar, Style & Organization, APA format
  - 70% Each of the seven sections is worth 10%
- Outline
  - Identifying Information & Presenting Problem
  - Background
  - Symptoms & History
  - Clinical Interview and Mental Status Exam
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## NP Assessment Report Assignment

- Materials
  - Patient video (10 minutes)
  - Additional background information
  - NP Test Results
    - NP Test score conversion tables
    - use formulas and tables from published articles
  - Textbook
  - Lecture Notes

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## NP Report : Score Table

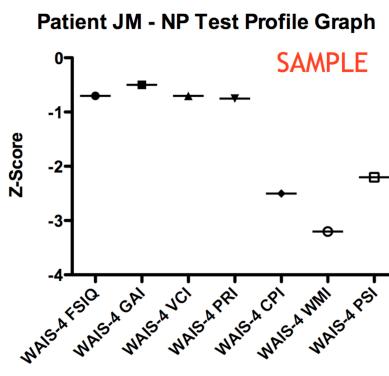
Test Name	Subtest Name	Raw	SS	IQ	T	Z
WAIS-4	FSIQ			80		
WAIS-4	GAI			91		
WAIS-4	VCI			90		
WAIS-4	PRI			92		
WAIS-4	CPI			70		
WAIS-4	WMI			68		
WAIS-4	PSI			72		
Trail Making	Trails A	34 seconds				
Trail Making	Trails B	110 seconds				
COWAT	FAS (Letter)	28 words				
COWAT	Animals (category)	31 words				
NAART	# correct	54 words				

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## NP Report : Graph

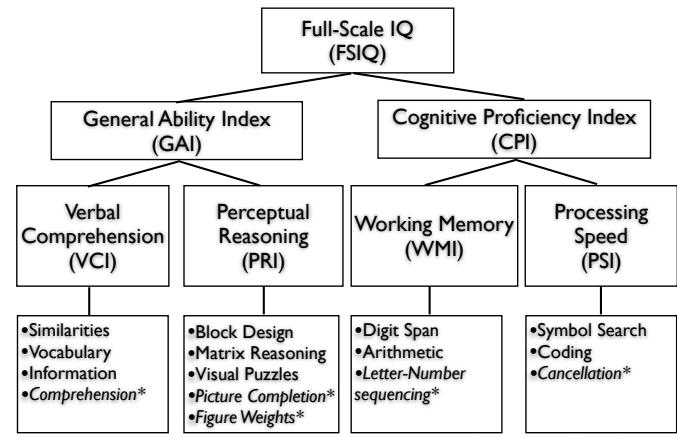
- You may use any graph program
- Minor variations are OK
- Free license to Graphpad Prism for CSUSM Students



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## WAIS-4

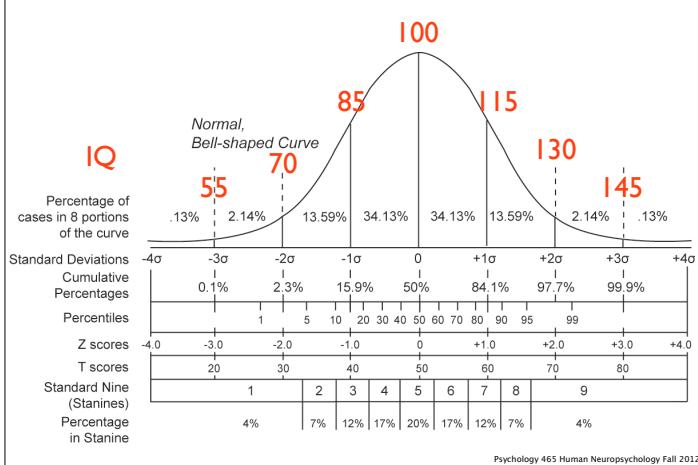


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Psychology 402 - Fall 2010 - Dr. Michael Diehr

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## Standard Scores



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## COWAT - Scoring Example

- First, determine your Raw score  
▪  $X = \underline{\hspace{2cm}}$  (for FAS, total across all letters)
- Next, convert Raw score to Scaled score (see table)  
▪ Scaled =  $\underline{\hspace{2cm}}$
- Next, determine demographic variables (age, education, gender, ethnicity)
- Use formula to convert Scaled score to T score  
▪  $T\text{-score} = \underline{\hspace{2cm}}$
- Now, double-check by comparing computed T score with T-score from lookup table

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## COWAT - Raw to Scaled Conversion

Table 4  
Scaled Score Equivalents to Raw Scores for Letter (FAS)  
and Category (Animal) Fluency

Raw score		
Scaled score	FAS	Animal
19	78+	37+
18	73 - 77	33 - 36
17	67 - 72	31 - 32
16	63 - 66	30
15	58 - 62	29
14	54 - 57	27 - 28
13	50 - 53	25 - 26
12	46 - 49	23 - 24
11	42 - 45	21 - 22
10	37 - 41	19 - 20
9	33 - 36	17 - 18
8	29 - 32	15 - 16
7	26 - 28	14
6	21 - 25	13
5	18 - 20	12
4	15 - 17	11
3	13 - 14	10
2	0 - 12	8 - 9
1	0 - 7	0 - 7

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## COWAT - Formula

### Appendix B

#### Letter (FAS) and Category (Animal) Norms Formulas

Demographically corrected T scores for fluency can be calculated as follows:

$$\text{Letter (FAS) } T\text{-score} = 14.796 + (3.584 \times \text{FAS Scaled Score}) - (0.914 \times \text{Education}) + (0.177 \times \text{Age}) + (5.470 \times \text{Race})$$

$$\text{Category (Animal) } T\text{-score} = 10.450 + (3.558 \times \text{Animal Scaled Score}) - (1.048 \times \text{Education}) + (0.301 \times \text{Age}) + (8.476 \times \text{Race})$$

Education = years of education successfully completed.

Age = actual age (if age is 20-34 years, age is coded as 34 years).

Race: Caucasian = 0, African American = 1.

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