

## Wechsler Adult Intelligence Scale (WAIS)

Psychology 465 Human Neuropsychology Fall 2012

Saturday, October 13, 2012

1

## Wechsler Scales

- WAIS-4 : Adult Intelligence Scale (2008)
  - Evolved from Wechsler-Bellevue Intelligence Scale (1937)
  - Designed for Adults
  - Point scale rather than Age scale
  - Added Performance items (to fill void left by SB's reliance on language/verbal skills)
  - Focused on multiple abilities rather than "g"
- WISC-4 : Intelligence Scales for Children
- WPPSI-3 : Preschool and Primary Scale

Psychology 465 Human Neuropsychology Fall 2012

Saturday, October 13, 2012

2

## David Wechsler

- "[...]Spearman's theory of general intelligence (g) was too narrow. [It is] an effect rather than a cause[...] Non-intellective factors, such as personality, contribute to the development of each person's intelligence."
- "Intelligence is the aggregate or global capacity of the individual to act purposefully, to think rationally and to deal effectively with his environment"
- Developer of major IQ assessment tests
- Deviation IQ (DQ) score replaced  $IQ = MA/CA$

Psychology 465 Human Neuropsychology Fall 2012

Saturday, October 13, 2012

3

## Cognitive / Info Processing 1

- **What is required to correctly answer a single item on an IQ test?**
  - Verbal comprehension: understand the instructions you hear or read
  - Short term memory: remember the instructions
  - Long term memory: retrieve answer or procedure
  - Working memory: juggle information, do calculations, etc.
  - Judgement / Reasoning : decide between competing answers
  - Attention / Concentration: remain focused on task

Psychology 465 Human Neuropsychology Fall 2012

Saturday, October 13, 2012

4

## Cognitive / Info Processing 2

- Verbal skills: give reply with voice
- Motor skills: respond with hand
- View response of examiner: praise? criticism?
- Meta cognition: judge performance, adjust strategy accordingly
- Cognitive science believes many of these to be independent processes subsumed by independent brain systems

Psychology 465 Human Neuropsychology Fall 2012

Saturday, October 13, 2012

5

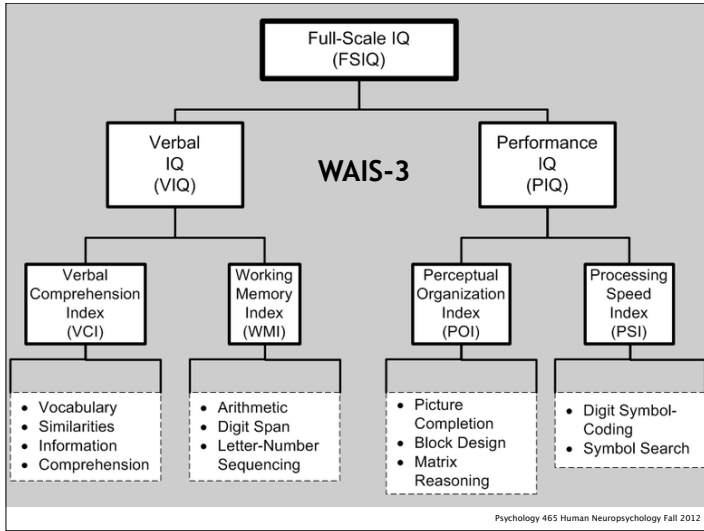
## WAIS-4 is different from WAIS-3

- Reorganized:
  - Dropped the "Verbal/Performance" IQ scores
  - Renamed them "GAI" and "CPI"
- New "General Ability Index" (GAI)
  - GAI is supposed to be more insensitive to brain disorders, providing a possible estimate of pre-morbid functioning
  - Reduced reliance on Working Memory and processing Speed
  - "Theoretically, the GAI represents an individual's overall cognitive ability, if working memory and processing speed abilities were similar to verbal and non-verbal abilities"
- New "Cognitive Proficiency Index" (CPI)
  - measure of working memory & processing speed

Psychology 465 Human Neuropsychology Fall 2012

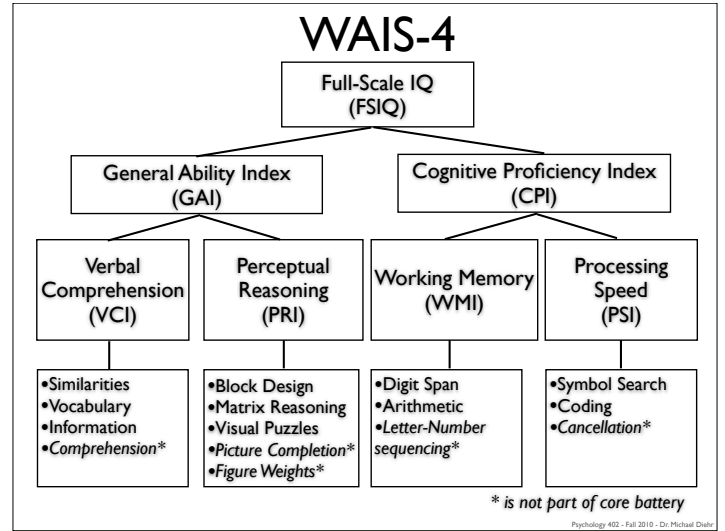
Saturday, October 13, 2012

6



Saturday, October 13, 2012

7



Saturday, October 13, 2012

8

### WAIS-IV General Ability Index (GAI)

- Verbal Comprehension Index (VCI)
  - Vocabulary
  - Similarities
  - Information
  - \*Comprehension
- Perceptual-Reasoning (PRI)
  - Block Design
  - Matrix Reasoning
  - Visual Puzzles
  - \*Picture Completion
  - \*Figure Weights

Psychology 465 Human Neuropsychology Fall 2012

Saturday, October 13, 2012

9

### WAIS-IV Vocabulary, Similarities, Information

- Vocabulary
  - "What is a guitar?"
- Similarities
  - "In what way are an apple and a pear alike?"
- Information
  - "How far is it from New York to Paris?"
- Comprehension
  - "Why is food often sold in sealed containers?"
    - 1 point : to keep it clean
    - 1 point : to keep it fresh
    - 1 points : to make it easy to transport

Psychology 465 Human Neuropsychology Fall 2012

Saturday, October 13, 2012

10

### WAIS-IV: Block Design

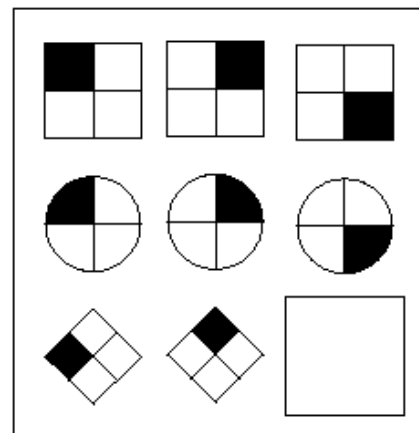


Psychology 465 Human Neuropsychology Fall 2012

Saturday, October 13, 2012

11

### WAIS: Matrix Reasoning



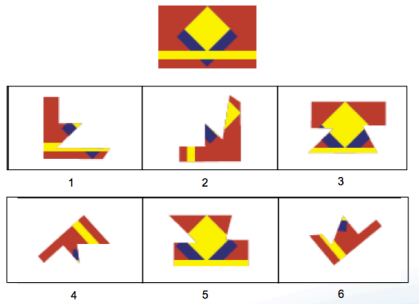
Psychology 403 - Fall 2010 - Dr. Michael Dwyer

Saturday, October 13, 2012

12

## WAIS-IV: Visual Puzzles

Which 3 of these pieces go together to make this puzzle?



Psychology 465 Human Neuropsychology Fall 2012

Saturday, October 13, 2012

13

## WAIS-IV Cognitive Proficiency Index (PCI)

- Working Memory Index (WMI)
  - Digit Span
  - Arithmetic
  - \*Letter-Number Sequencing
- Processing Speed Index (PSI)
  - Symbol Search
  - Coding
  - \*Cancellation

Psychology 465 Human Neuropsychology Fall 2012

Saturday, October 13, 2012

14

## WAIS: Digit Span

68910

68910

Psychology 465 Human Neuropsychology Fall 2012

Saturday, October 13, 2012

15

## WAIS-IV Arithmetic & Letter-Number Sequencing

- Arithmetic
  - "How many 45-cent stamps can you buy for a dollar?"
- Letter-Number Sequencing
  - "Repeat Q-1-B-3-J-2 in numerical and alphabetical order"
  - ex. "123, BJQ"

Psychology 465 Human Neuropsychology Fall 2012

Saturday, October 13, 2012

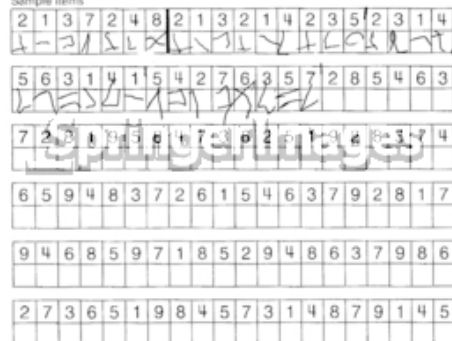
16

## WAIS : Digit Symbol Coding

Digit Symbol—Coding



Sample Items



Human Neuropsychology Fall 2012

Saturday, October 13, 2012

17

## WAIS-4

- Which of these tests are completely "pure" measures of an ability?
  - Verbal / language issues?
  - Cultural bias?
  - Motivation?
  - Expectancy effects?
  - Strategy : speed vs. accuracy?

Psychology 465 Human Neuropsychology Fall 2012

Saturday, October 13, 2012

18

## Multiple Intelligences

- The WAIS-4 tests multiple dimensions of intelligence, but this is not the same thing as multiple intelligences
- Which of Gardner's 8 intelligences are actually measured by the WAIS-4?

## Gardner's 8 Intelligences

- logical-mathematical (\*)
- verbal-linguistic (\*)
- spatial (\*)
- musical
- bodily-kinesthetic
- naturalist
- interpersonal
- intrapersonal