

Ch. 10: Wechsler Scales

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Review: Principles of IQ

- Reification or Nominal fallacy:
 - “Intelligence” is a construct
- Numerical Fallacy:
 - IQ score measures Intelligence
- Ranking Fallacy
 - compare IQ scores, determine worth or value
 - *life-altering* decisions are made

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IQ Test: Sample Question

- Some of the fastest ships can travel at 30 miles per hour. On such a ship, how many days will it take to make the trip between New York and Paris, a trip of 3600 miles?

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

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Cognitive / Info Processing 2

- Verbal: give reply with voice
- Motor: respond with hands
- Interpersonal: evaluate response of examiner: praise? criticism?
- Intrapersonal / Metacognition: judge performance, adjust strategy accordingly

- Cognitive science believes many of these to be independent processes subsumed by independent brain systems

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Performance Scale

- Declarative (“knowing that”)
 - What is the distance between NYC and Paris?
 - Dependent on Language
 - Trainable? subject to education / culture?
- Procedural (“knowing how”)
 - Riding a bicycle
 - Arrange blocks to form a pattern
 - Long Division: divide 347 by 19
- Early IQ tests focused more on Declarative tasks

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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 (vs. SB which used only language-based items)
- Multiple factors, rather than “g”
- WISC-4 : Intelligence Scales for Children
- WPPSI-3 : Preschool and Primary Scale

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David Wechsler

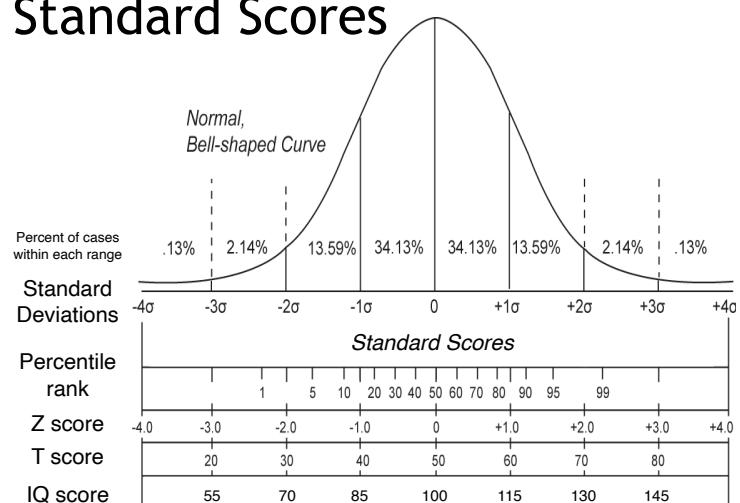
- “[...] Spearman’s theory of general intelligence (g) was too narrow. [It is] an effect rather than a cause [...] Non-intellective factors, such as personality, contribute to the development of each person’s intelligence.”
- “Intelligence is the aggregate or global capacity of the individual to act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

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Standard Scores



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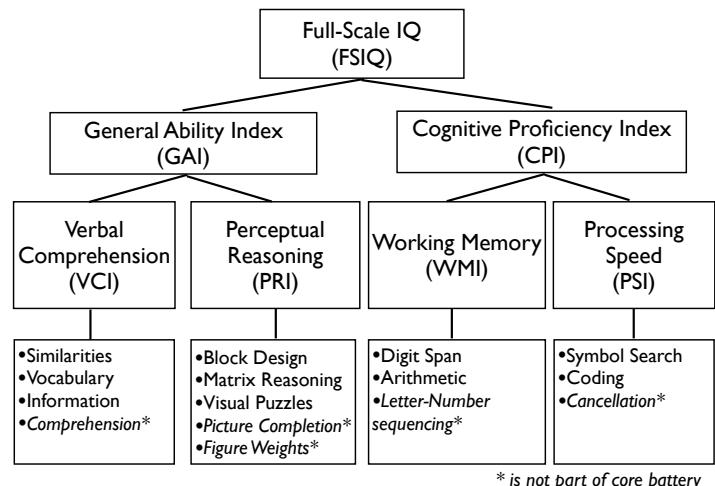
IQ Terminology

IQ Range (M=100, SD=15)	Stanford-Binet 5	WAIS 4
145-160	Very gifted or highly advanced	Very Superior
130-144	Gifted or very advanced	
120-129	Superior	Superior
110-119	High Average	High Average
90-109	Average	Average
80-89	Low Average	Low Average
70-79	Borderline	Borderline
55-69	Mildly impaired or delayed	Very Low
40-54	Moderately impaired or delayed	

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WAIS-4



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WAIS-IV General Ability Index (GAI)¹⁵¹⁴

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

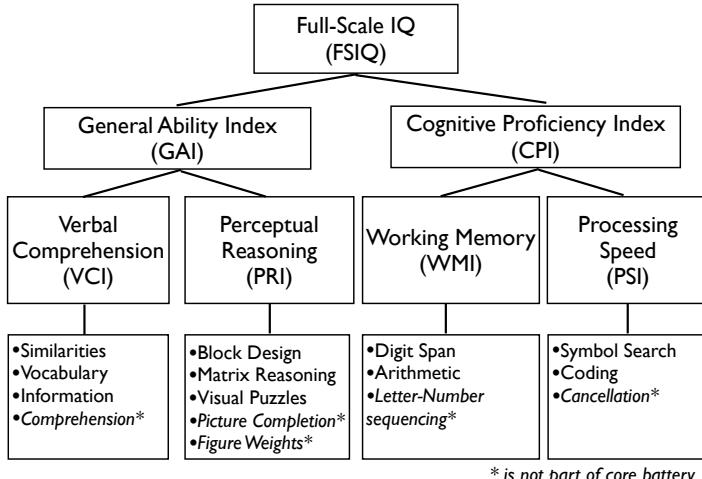
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PRI: Perceptual Reasoning Index¹⁵¹⁸

- Perceptual-Reasoning (PRI)
 - Block Design
 - Matrix Reasoning
 - Visual Puzzles
 - *Picture Completion
 - *Figure Weights

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WAIS-4¹⁵²⁵



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WMI: Working Memory Index¹⁵²⁶

- Digit Span
- Arithmetic
- Letter-Number Sequencing

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PSI: Processing Speed Index¹⁵³⁵

- Symbol Search
- Coding
- Cancellation

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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?

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WAIS Psychometrics-Reliability

- 11 subtests, 4 index scores
- Full-Scale IQ (FSIQ) $r = .98$
 - Verbal IQ (VIQ) $r = .97$
 - Performance IQ (PIQ) $r = .94$
- FSIQ: SEM = 2.29: 95% of the time a measured score is $+/- 4.6$ of actual score
- Very good normative sample (n=2450 gender, ethnicity, region, education level)
- Widely researched in many fields (portions of the WAIS are used as neuropsychological tests)

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WAIS Psychometrics-Validity

- Reliability is good, but...
- How can we measure validity?

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WAIS Psychometrics-Validity

- Correlations of .93 with WISC
- What should the Criterion be?

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WISC-IV and WPPSI-III

- WISC - Wechsler Intelligence Scale for Children:
 - A version of the WAIS, specially adapted and revised to be more appropriate for children aged 6 thru 16
- WPPSI-III - Wechsler Preschool and Primary Scale of Intelligence:
 - for children 2-6 years old

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Multiple Intelligences

- Both the SB5 and WAIS-4 test multiple factors of intelligence
- this is not the same thing as multiple intelligences
- Which of Gardner's 8 intelligences are actually measured by the SB5 or WAIS-4?

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