Clinical Utility of the Wechsler Intelligence Scale for Children-Fifth Edition (WISC-V)

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Agenda

A. Discuss the fundamental changes from the WISC-IV to the WISC-V.
B. Describe how the changes impact interpretation of results.
C. Articulate the importance of various cognitive abilities for learning.
D. Describe how the WISC-V aligns to current approaches regarding the identification of students with specific learning disabilities.

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WECHSLER INTELLIGENCE SCALE FOR CHILDREN®–FIFTH EDITION

Conceptual Structure

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WISC-IV (2003)

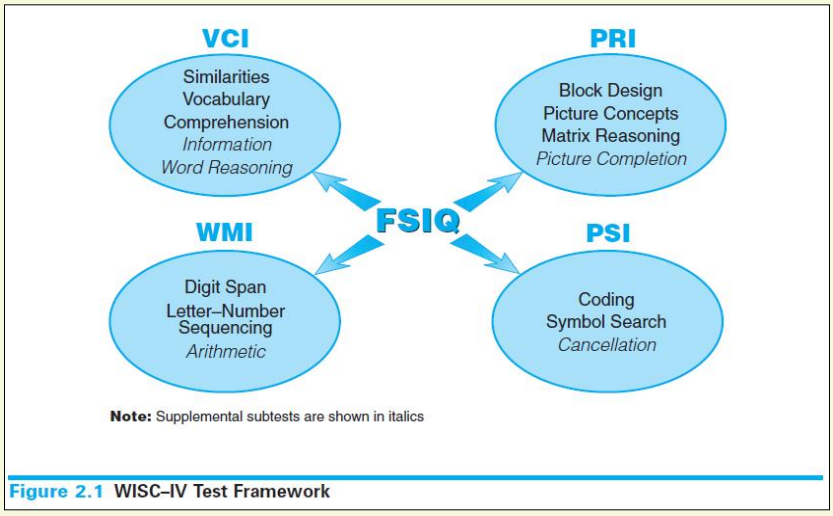

Figure 2.1 WISC–IV Test Framework

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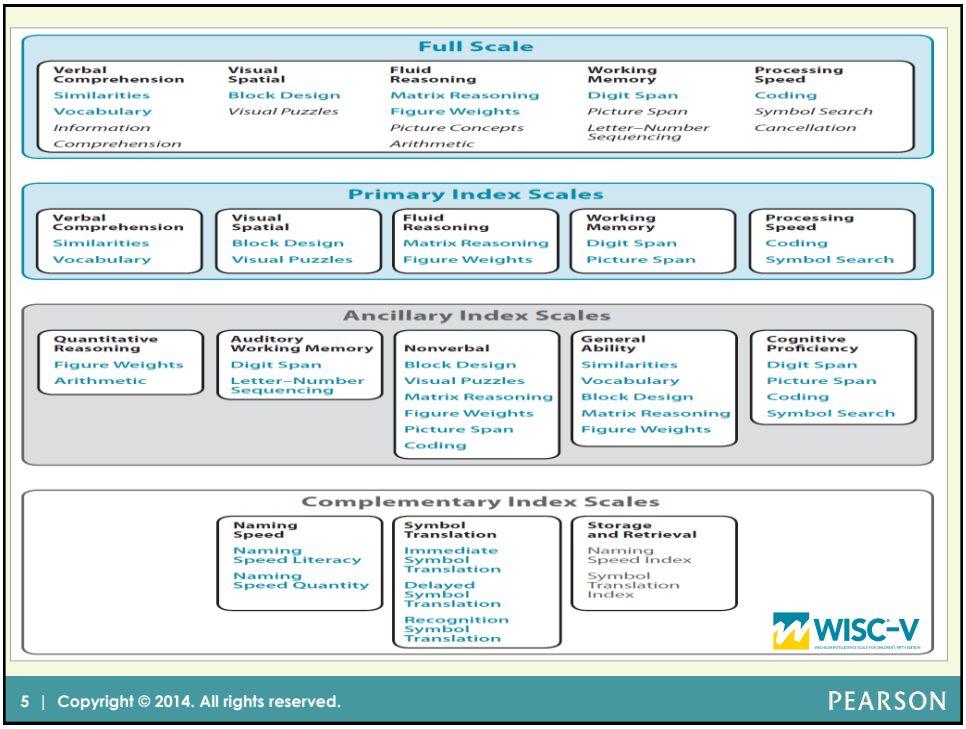
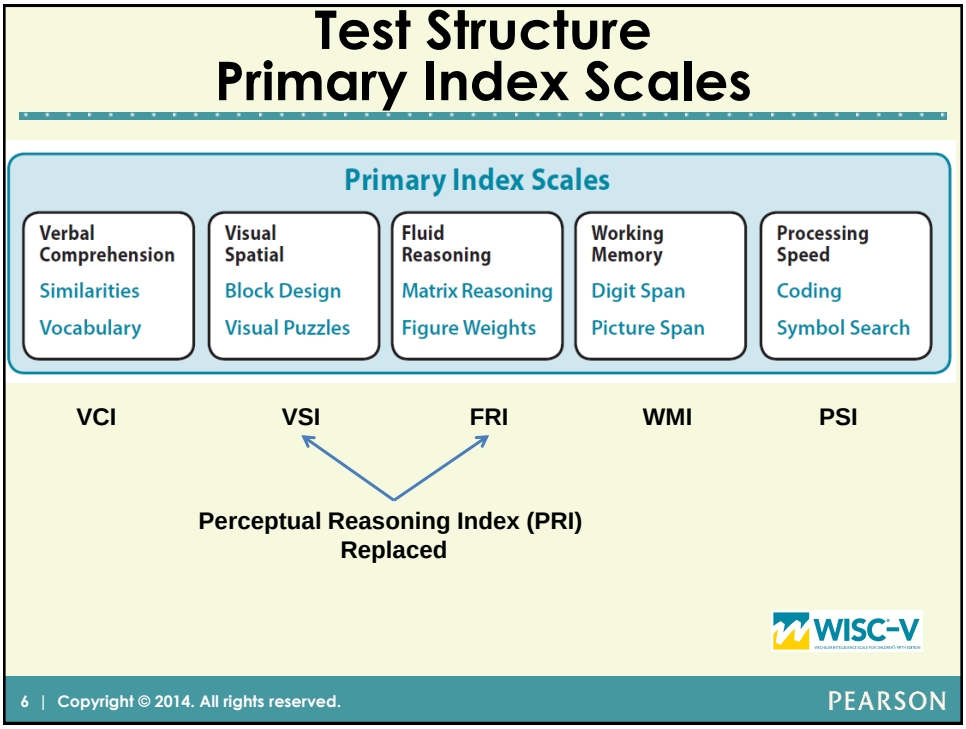




Test Structure – Full Scale IQ

WISC-V

Full Scale

Verbal Comprehension	Visual Spatial	Fluid Reasoning	Working Memory	Processing Speed
Similarities	Block Design	Matrix Reasoning	Digit Span	Coding
Vocabulary	*Visual Puzzles*	Figure Weights	*Picture Span*	*Symbol Search*
Information		*Picture Concepts*	*Letter–Number Sequencing*	*Cancellation*
Comprehension		*Arithmetic*		

Primary and Secondary Subtests

Test Structure
Ancillary Index Scales

Ancillary Index Scales

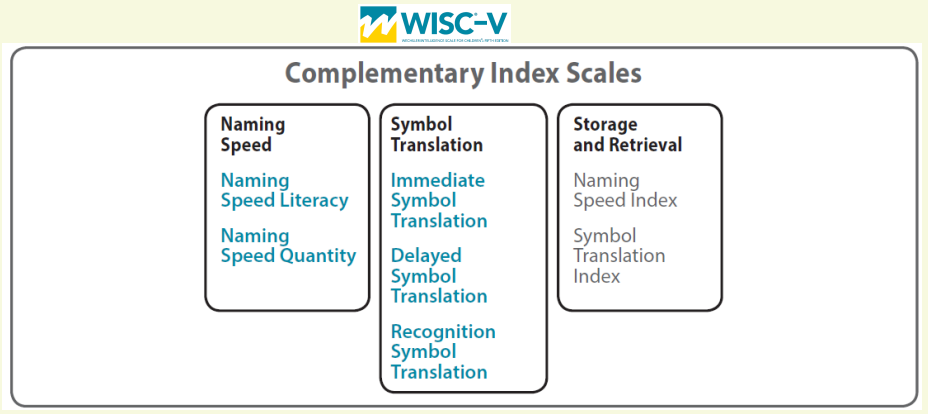
Quantitative Reasoning	Auditory Working Memory	Nonverbal	General Ability	Cognitive Proficiency
Figure Weights	Digit Span	Block Design	Similarities	Digit Span
Arithmetic	Letter–Number Sequencing	Visual Puzzles	Vocabulary	Picture Span
		Matrix Reasoning	Block Design	Coding
		Figure Weights	Matrix Reasoning	Symbol Search
		Picture Span	Figure Weights	
		Coding		

New!

Indexes Retained!

WISC-V

Test Structure
Complementary Scales and Subtests



NSI **STI** **SRI**

On Record Form Analysis Pages and in Administration and Scoring Manual Supplement: Optional carry-along

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Theoretical Foundations

Structural Intelligence Models

Neurodevelopmental and neurocognitive research

Working Memory Models

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Substitution and Proration
No More "Core" and "Supplemental"

FSIQ Subtest	Allowable Substitutions for Deriving the FSIQ*
Similarities	Information or Comprehension
Vocabulary	Information or Comprehension
Block Design	Visual Puzzles
Matrix Reasoning	Picture Concepts
Figure Weights	Picture Concepts or Arithmetic
Digit Span	Picture Span or Letter-Number Sequencing
Coding	Symbol Search or Cancellation

*Because subtest substitution may introduce additional measurement error, only one substitution is allowed.

Summary
Total Raw Score to Scaled Score Conversion

Subtest	Raw Score	Scaled Score					
		Verbal Comp.	Visual Spatial	Fluid Reas.	Work. Mem.	Proc. Speed	Full Scale
Block Design	30		12				12
Similarities	31	15					15
Matrix Reasoning	18			11			11
Digit Span	21				9		9
Coding	29					9	9
Vocabulary	invalid	—					—
Figure Weights	19			11			11
Visual Puzzles	16		12				(12)
Picture Span	21				8		(8)
Symbol Search	18					9	(9)
Information	20						(15)
Picture Concepts	13						(10)
Letter–Number Sequencing	12						(8)
Cancellation	54						(10)
Comprehension	23						(15)
Arithmetic	18						(11)
Sum of Scaled Scores		inval.	24	22	17	18	82

One Substitution

Prorating the Full Scale Sum of Scaled Scores

Not allowed when deriving Index Scores.	Allowed only when deriving FSIQ.
Proration	
See Table A.8	Multiply the sum of scaled scores for 6 subtests by $^{7}/_{6}$.

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Changes

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Subtests on WISC-IV Dropped from WISC-V

- Word Reasoning
  - Redundant measure of verbal comprehension (high correlation with Information)
- Picture Completion
  - Construct not as representative of visual spatial ability as others (secondary verbal loading)
- And we needed space for new subtests . . .

Changes to Retained Verbal Comprehension Subtests

- Updated art with increased international portability.
- Revised scoring rules with data-based queries.
- New, contemporary item content.
- Stimulus Book eliminated on Vocabulary.

Changes to Retained "Perceptual Reasoning" Subtests

Block Design

- New complex designs
- Evaluating new process scores
  - Partial Score
  - Simplified Break in Configuration Error Score

Matrix Reasoning

Two item types retained

- 2x2 matrix
- serial order

Picture Concepts

- Items revised so images not reused
- New items

Changes to Retained Working Memory Subtests

Letter-Number Sequencing

- Eliminated rhyming letters and numbers.
- Teaching modified for floor:
  - First, teach numbers before letters.
  - Then teach reordering task.

Changes to Retained WISC-IV Working Memory Subtests

- Arithmetic
  - New and revised items
  - One repetition on difficult items; no repetition on easy items.
  - Increased WM demands.
  - Cross loading
- Digit Span
  - Added trials to Forward ceiling
  - Added some trials for gradient
  - Added new Sequencing task

Changes to Retained Processing Speed Subtests

Coding
- Item difficulty consistent across rows
- Changed symbols for digital

Symbol Search
- New symbols
- Evaluating error scores

Cancellation
- New art
- Designed by quadrant (target to distracter ratio)

New Subtests

- Visual Spatial subtest
  - Visual Puzzles
- Fluid Reasoning subtest
  - Figure Weights
- Working Memory subtest
  - Picture Span
  - Digit Span Sequencing task added to Digit Span
- Complementary Subtests
  - Naming Speed
  - Symbol Translation

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Visual Puzzles

- Child views a completed puzzle and selects three response options that would combine to reconstruct the puzzle.
- Item time limit of 30 seconds.
- Measures ability to analyze and synthesize abstract information.

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Figure Weights

- Child views scale with missing weight(s) and selects the response option that balances the scale.
- Item time limit of 20 or 30 seconds.
- Measures quantitative and analogical fluid reasoning.

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Picture Span

- Child views one or more pictures, then selects them in sequential order from a larger picture array.
- Two points for correct pictures in the correct order and one point for correct pictures in the incorrect order.
- Simple visual span task with proactive interference.
- Research indicates proactive interference increases processing demands of working memory tasks (Blalock & McCabe, 2011; Carroll, et al., 2010).

Digit Span Sequencing

- Examiner reads a sequence of numbers; examinee recalls the numbers in ascending order.
- *Digit Span Sequencing* is similar to other tasks that are designed to measure working memory and mental manipulation.

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Naming Speed
(Literacy and Quantity)

- Child names elements as quickly as possible.
- Child takes two or three tasks, depending on age.
- Each task has a sample item and a 2-page test item.
- Quantity naming added to improve sensitivity to math disability (Pauly et al., 2011; Willburger et al., 2008).

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Symbol Translation

- Child learns associations between symbols and words and is then asked to translate symbol strings.
- Immediate subtest teaches visual-verbal associations in a stepwise manner, with repetition of associations introduced in the previous step.
- Delayed subtest administered 20 to 30 minutes after completion of Immediate subtest.
- Immediate subtest includes only a recall task.
- Delayed subtest includes a recall and a recognition task.

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Paper Administration

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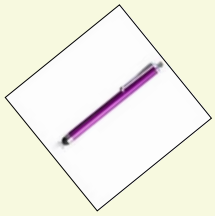
Digital Administration



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Interpretation

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Considerations for Interpretation

- All cognitive tests require multiple cognitive processes.
- Tests vary in the degree to the number of processes invoked and the difficulty of the task for examinees.
- WISC-V primary and complementary measures are specifically designed to measure complex cognitive processes while ancillary measures are designed to measure processes related to learning difficulties.

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Verbal Comprehension Index

- High VCI scores indicate a well-developed verbal reasoning system with
  - strong word knowledge acquisition,
  - effective information retrieval,
  - good ability to reason and solve verbal problems, and
  - effective communication of knowledge.
- Relative to the WISC-IV VCI, the WISC-V VCI emphasizes reasoning using word knowledge more and fund of knowledge, practical knowledge, and judgment less.

Visual-Spatial Index

- High VSI scores indicate a well-developed capacity to apply spatial reasoning and analyze visual details.
- Relative to the WISC-IV PRI, the WISC-V VSI emphasizes visual-perceptual and visual-spatial reasoning more and conceptual reasoning less.

Fluid Reasoning Index

- High FRI scores indicate a well-developed ability to abstract conceptual information from visual details and to effectively apply that knowledge.
- Relative to the WISC-IV PRI, the WISC-V FRI emphasizes abstract conceptual reasoning more and construction abilities requiring visual-perceptual integration and visual-spatial reasoning less.

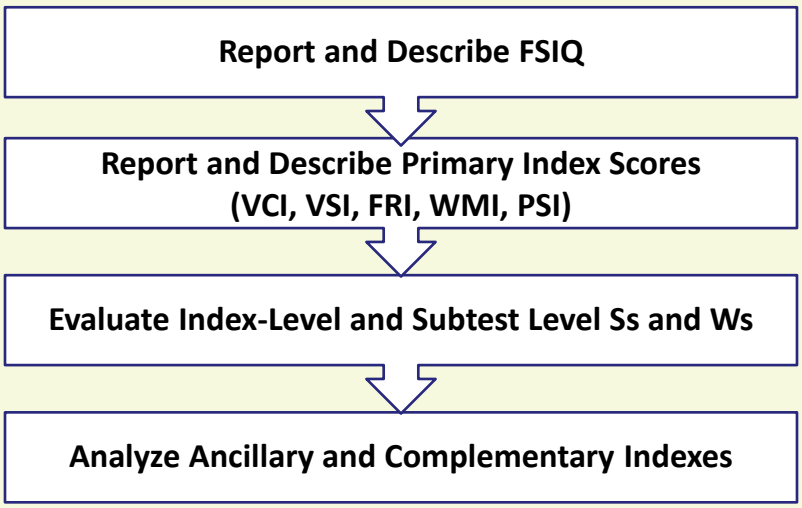
Working Memory Index

- High WMI scores indicate a well-developed ability to identify visual and auditory information, maintain it in temporary storage, and re-sequence it for use in problem solving.
- Relative to the WISC-IV WMI, the WISC-V WMI emphasizes visual working memory more and auditory working memory less.

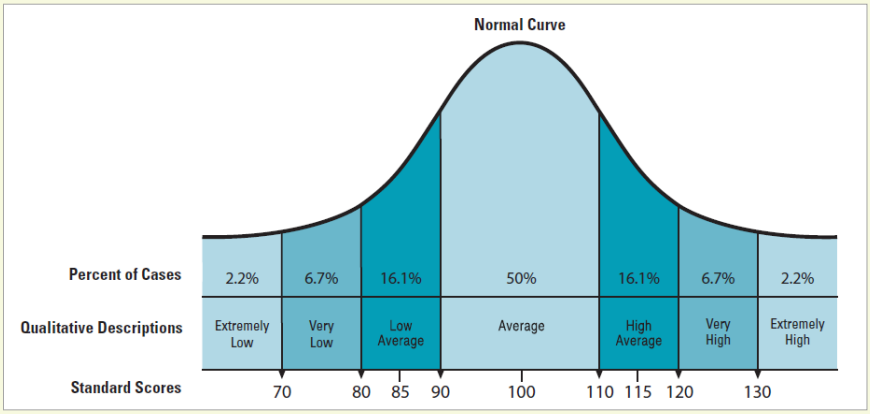
Processing Speed Index

- High PSI scores indicate a well-developed ability to rapidly identify visual information, to make quick and accurate decisions, and to rapidly implement those decisions.
- In general, the WISC-IV PSI and the WISC-V PSI are similar in composition and interpretation.
- The subtests contributing to the PSI are not measures of simple reaction time or simple visual discrimination; a cognitive decision-making and learning component is involved.

Basic Steps to Interpretation



Normal Curve



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Descriptive Classification

NEW!

Composite Score Range	Traditional Descriptive Classification ("Old")	WISC-V Descriptive Classification
130 and above	Very Superior	Extremely High
120–129	Superior	Very High
110–119	High Average	High Average
90–109	Average	Average
80–89	Low Average	Low Average
70–79	Borderline	Very Low
69 and below	Extremely Low	Extremely Low

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Before Testing . . .

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Child's Name: Student A

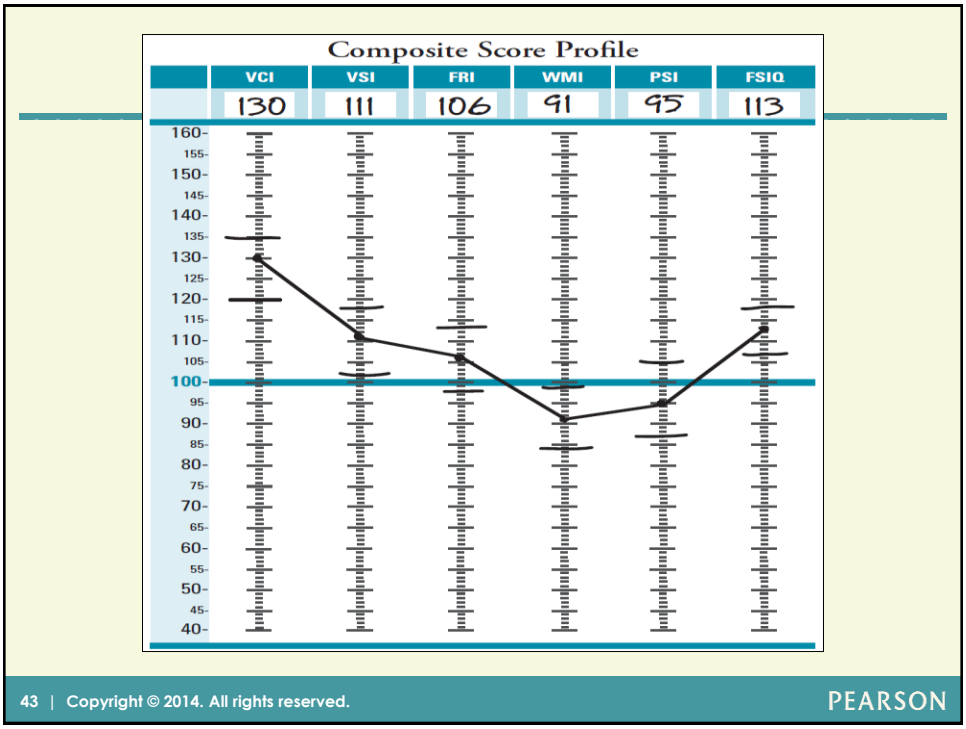
Examiner's Name: Examiner A

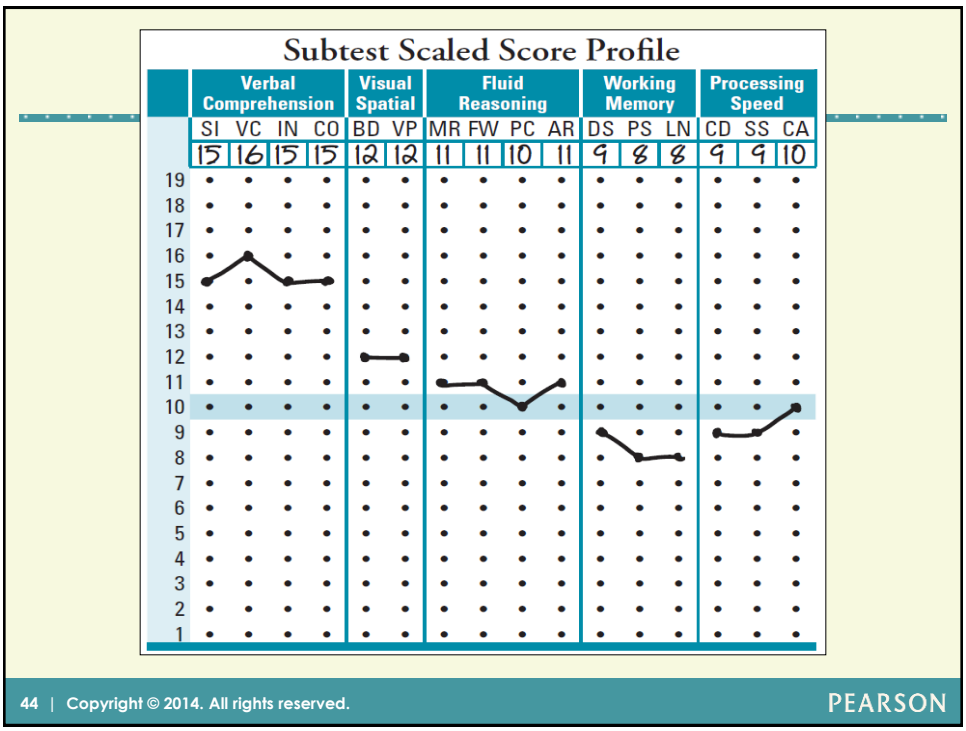
	Calculation of Child's Age		
	Year	Month	Day
Test Date	~~2014~~ 2013	~~12~~ 23	~~12~~ 42
Birth Date	2005	12	16
Test Age	8	11	26

Generating Standard Scores for Primary Indexes

1. **Use Norms and Conversion Tables**
   Administration and Scoring Manual

2. **Use Scoring Software**
   Q-Global





Invalidating Composite Scores

How many subtests with total raw scores of 0 will invalidate a composite score?

2	VCI, VSI, FRI, WMI, PSI, QRI, AWMI
>4	FSIQ (>3 for prorated FSIQ)

For further information, see pp. 61-62 in Admin & Scoring Manual.

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Primary Analysis

Strengths and Weaknesses

		Score		Comparison Score		Difference	Critical Value	Strength or Weakness	Base Rate
Index Level	VCI	130	-	106.6	=	23.4	9.74	(S) or W	≤2%
	VSI	111	-	106.6	=	4.4	8.96	S or W	
	FRI	106	-	106.6	=	-0.6	8.11	S or W	
	WMI	91	-	106.6	=	-15.6	8.96	S or (W)	≤5%
	PSI	95	-	106.6	=	-11.6	11.13	S or (W)	≤25%
Subtest Level	Similarities	15	-	11.2	=	3.8	2.82	(S) or W	≤5%
	Vocabulary	16	-	11.2	=	4.8	2.99	(S) or W	≤2%
	Block Design	12	-	11.2	=	0.8	2.56	S or W	
	Visual Puzzles	12	-	11.2	=	0.8	2.64	S or W	
	Matrix Reasoning	11	-	11.2	=	-0.2	2.45	S or W	
	Figure Weights	11	-	11.2	=	-0.2	1.91	S or W	
	Digit Span	9	-	11.2	=	-2.2	2.36	S or W	
	Picture Span	8	-	11.2	=	-3.2	2.64	S or (W)	≤10%
	Coding	9	-	11.2	=	-2.2	3.28	S or W	
	Symbol Search	9	-	11.2	=	-2.2	3.21	S or W	

For strengths and weaknesses, refer to Tables B.1–B.4 of the *WISC–V Administration and Scoring Manual*.

Comparison Selections

Comparison Score

Sum of 5 Index Scores: ☑ MIS 533 ÷ 5 = MIS 106.8

☐ FSIQ

Critical Value Significance Level: ☐ .01 ☐ .05 ☑ .10 ☐ .15

Base Rate Reference Group: ☐ Overall Sample ☑ Ability Level

Comparison Selections

Comparison Score

Sum of Scaled Scores for 10 Primary Subtests: ☑ MSS-P 112 ÷ 10 = MSS-P 11.2

Sum of Scaled Scores for 7 FSIQ Subtests: ☐ MSS-F ÷ 7 = MSS-F

Critical Value Significance Level: ☐ .01 ☐ .05 ☑ .10 ☐ .15

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Pairwise Difference Comparisons

	Comparison	Score 1		Score 2		Difference	Critical Value	Significant Difference	Base Rate
Index Level	VCI – VSI	VCI 130	-	VSI 111	=	19	10.43	(Y) or N	9.4
	VCI – FRI	VCI 130	-	FRI 106	=	24	9.83	(Y) or N	3.5
	VCI – WMI	VCI 130	-	WMI 91	=	39	10.43	(Y) or N	0.3
	VCI – PSI	VCI 130	-	PSI 95	=	35	12.04	(Y) or N	3.2
	VSI – FRI	VSI 111	-	FRI 106	=	5	9.20	Y or (N)	
	VSI – WMI	VSI 111	-	WMI 91	=	20	9.83	(Y) or N	10.2
	VSI – PSI	VSI 111	-	PSI 95	=	16	11.53	(Y) or N	22.8
	FRI – WMI	FRI 106	-	WMI 91	=	15	9.20	(Y) or N	19.0
	FRI – PSI	FRI 106	-	PSI 95	=	11	10.99	(Y) or N	37.7
	WMI – PSI	WMI 91	-	PSI 95	=	-4	11.53	Y or (N)	
Subtest Level	Similarities – Vocabulary	SI 15	-	VC 16	=	-1	2.53	Y or (N)	
	Block Design – Visual Puzzles	BD 12	-	VP 12	=	0	2.54	Y or (N)	
	Matrix Reasoning – Figure Weights	MR 11	-	FW 11	=	0	2.18	Y or (N)	
	Digit Span – Picture Span	DS 9	-	PS 8	=	1	2.41	Y or (N)	
	Coding – Symbol Search	CD 9	-	SS 9	=	0	3.04	Y or (N)	

Comparison Selections
Critical Value Significance Level
☐ .01 ☐ .05 ☑ .10 ☐ .15
Base Rate Reference Group
☐ Overall Sample ☑ Ability Level

Comparison Selections
Critical Value Significance Level
☐ .01 ☐ .05 ☑ .10 ☐ .15

For pairwise difference comparisons, refer to Tables B.5–B.8 of the *WISC–V Administration and Scoring Manual*.

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Choosing the Level of Significance

Comparison Selections
Critical Value Significance Level
☐ .01 ☐ .05 ☐ .10 ☐ .15

More stringent ⟷ Less stringent

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Using GAI and CPI

Consider deriving and interpreting the GAI and the CPI in a number of clinical situations, not limited to, but including the following:

Compare WMI and PSI to Other Indexes

a significant and unusual discrepancy exists between either of the comparisons below:

WMI and MIS or FSIQ	WMI and VSI
PSI and MIS or FSIQ	PSI and VSI
WMI and VCI	WMI and FRI
PSI and VCI	PSI and FRI

GAI and CPI

Additionally, consider using GAI and CPI if a significant and unusual discrepancy exists between

- WMI and PSI, or
- the subtests that contribute to either the WMI or to the PSI, or
- a Working Memory or Processing Speed subtest and the MSS-P or MSS-F.

Generating Scores for Ancillary and Complementary Indexes

1. Use Norms and Conversion Tables
   Administration and Scoring Manual Supplement
2. Use Scoring Software
   Q-Global

Ancillary and Complementary Analysis

Sum of Scaled Scores

Subtest	Scaled Score				
Block Design			12	12	
Similarities				15	
Matrix Reasoning			11	11	
Digit Span		9			9
Coding			9		9
Vocabulary				16	
Figure Weights	11		11	11	
Visual Puzzles			12		
Picture Span			8		8
Symbol Search					9
Letter–Number Seq.		8			
Arithmetic	11				
Sum of Scaled Scores	22	17	63	65	35
	Quan. Reason.	Auditory Work. Mem.	Nonverbal	General Ability	Cognitive Proficiency

Ancillary Indexes

Sum of Scaled Scores to Index Score Conversion

Scale	Sum of Scaled Scores		Index Score	Percentile Rank	Confidence Interval 90% or (95%)
Quantitative Reasoning	22	QRI	106	66	99-112
Auditory Working Memory	17	AWMI	92	30	85-100
Nonverbal	63	NVI	103	58	97-109
General Ability	65	GAI	120	91	114-125
Cognitive Proficiency	35	CPI	91	27	84-99

For index score conversions, refer to Tables C.1–C.5 of the *WISC–V Administration and Scoring Manual Supplement.*

Complementary Subtests and Indexes

Total Raw Score to Standard Score Conversion

Subtest	Raw Score	Standard Score	
Naming Speed Literacy	149	112	
Naming Speed Quantity	31	100	
Immediate Symbol Translation	60		95
Delayed Symbol Translation	45		97
Recognition Symbol Translation	24		95
Sum of Standard Scores		212 (Naming Speed)	287 (Symbol Trans.)

For raw score to standard score conversions, refer to Table C.6 in the *WISC–V Administration and Scoring Manual Supplement.*

Sum of Standard Scores to Index Score Conversion

Scale	Sum of Standard Scores	Index Score		Percentile Rank	Confidence Interval 90% or (95%)
Naming Speed	212	NSI	106 (1)	66	97–114
Symbol Trans.	287	STI	94 (2)	34	88–101
Storage & Ret.	200 (3)	SRI	99	47	92–106

NSI 106 (1) + STI 94 (2) = 200 (3) Storage & Ret. Sum of Standard Scores

For index score conversions, refer to Tables C.7–C.9 of the *WISC–V Administration and Scoring Manual Supplement.*

Pairwise Difference Comparisons

	Comparison	Score 1		Score 2		Difference	Critical Value	Significant Difference	Base Rate
Composite Level	GAI – FSIQ	GAI 120	-	FSIQ 113	=	7	3.00	(Y) or N	8.0
	GAI – CPI	GAI 120	-	CPI 91	=	29	8.52	(Y) or N	8.0
	WMI – AMWI	WMI 91	-	AWMI 92	=	-1	5.73	Y or (N)	
	NSI – STI	NSI 106	-	STI 94	=	12	10.99	(Y) or N	24.1
Subtest Level	NSL – NSQ	NSL 112	-	NSQ 100	=	12	15.56	Y or (N)	
	IST – DST	IST 95	-	DST 97	=	-2	13.48	Y or (N)	
	IST – RST	IST 95	-	RST 95	=	0	14.56	Y or (N)	
	DST – RST	DST 97	-	RST 95	=	2	14.56	Y or (N)	
	FW – AR	FW 11	-	AR 11	=	0	1.95	Y or (N)	
	DS – LN	DS 9	-	LN 8	=	1	2.35	Y or (N)	

Comparison Selections
Critical Value Significance Level: ☐ .01 ☐ .05 ☑ .10 ☐ .15
Base Rate Reference Group: ☐ Overall Sample ☑ Ability Level

Comparison Selections
Critical Value Significance Level: ☐ .01 ☐ .05 ☑ .10 ☐ .15

For pairwise difference comparisons, refer to Tables B.7 and B.8 of the *WISC–V Administration and Scoring Manual* and Tables C.10–C.13 of the *WISC–V Administration and Scoring Manual Supplement.*

WISC-V

Complete Process Analysis Page

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WECHSLER INTELLIGENCE SCALE FOR CHILDREN®–FIFTH EDITION

Child's Name: Student A Age: 8:11
Sex: ☑ F ☐ M Handedness: ☑ R ☐ L ID: 12345
Examiner's Name: Examiner A
Testing Site: ABCD Elementary School

Process Analysis

Total Raw Score to Scaled/Standard Process Score Conversion

Process Score	Raw Score	Scaled Score	Process Score	Raw Score	Scaled/Standard Score
Block Design No Time Bonus (BDn)	30	12	Cancellation Random (CAr)	26	11
Block Design Partial Score (BDp)	51	14	Cancellation Structured (CAs)	28	10
Digit Span Forward (DSf)	8	10	Naming Speed Color–Object (NSco)	Age 6	Age 6
Digit Span Backward (DSb)	8	10	Naming Speed Size–Color–Object (NSsco)	108	111 Age 8
Digit Span Sequencing (DSs)	5	8	Naming Speed Letter–Number (NSln)	41 Age 8	117 Age 8

For raw score to scaled/standard score conversions, refer to Tables C.6 and C.14 in the *WISC–V Administration and Scoring Manual Supplement*.

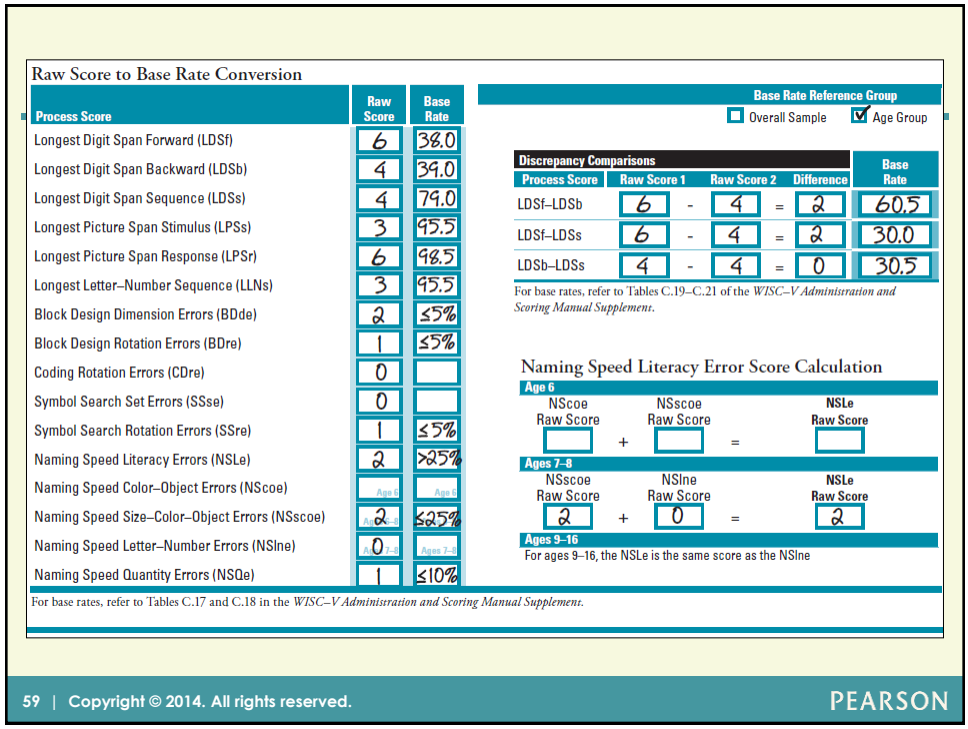
Pairwise Difference Comparisons

Comparison	Score 1		Score 2		Difference	Critical Value	Significant Difference	Base Rate
BD – BDn	BD 12	–	BDn 12	=	0	2.84	Y or N	
BD – BDp	BD 12	–	BDp 14	=	-2	2.60	Y or N	
DSf – DSb	DSf 10	–	DSb 10	=	0	3.08	Y or N	
DSf – DSs	DSf 10	–	DSs 8	=	2	3.04	Y or N	
DSb – DSs	DSb 10	–	DSs 8	=	2	3.06	Y or N	
LN – DSs	LN 8	–	DSs 8	=	0	2.82	Y or N	
CAr – CAs	CAr 11	–	CAs 10	=	1	3.00	Y or N	
NSco – NSsco	NSco Age 6	–	NSsco Age 6	=			Y or N	
NSsco – NSln	NSsco 111 Age 8	–	NSln 117 Age 8	=	-6	15.56	Y or N	

Comparison Selections
Critical Value Significance Level
☐ .01 ☐ .05 ☑ .10 ☐ .15

Base Rate Reference Group
☐ Overall Sample ☑ Ability Level

For pairwise difference comparisons, refer to Tables C.10, C.13, C.15 and C.16 of the *WISC–V Administration and Scoring Manual Supplement*.



Raw Score to Base Rate Conversion

Process Score	Raw Score	Base Rate
Longest Digit Span Forward (LDSf)	6	38.0
Longest Digit Span Backward (LDSb)	4	39.0
Longest Digit Span Sequence (LDSs)	4	79.0
Longest Picture Span Stimulus (LPSs)	3	95.5
Longest Picture Span Response (LPSr)	6	98.5
Longest Letter–Number Sequence (LLNs)	3	95.5
Block Design Dimension Errors (BDde)	2	≤5%
Block Design Rotation Errors (BDre)	1	≤5%
Coding Rotation Errors (CDre)	0	
Symbol Search Set Errors (SSse)	0	
Symbol Search Rotation Errors (SSre)	1	≤5%
Naming Speed Literacy Errors (NSLe)	2	>25%
Naming Speed Color–Object Errors (NScoe)	Age 6	Age 6
Naming Speed Size–Color–Object Errors (NSscoe)	2	≤25%
Naming Speed Letter–Number Errors (NSlne)	0	Ages 7–8
Naming Speed Quantity Errors (NSQe)	1	≤10%

For base rates, refer to Tables C.17 and C.18 in the *WISC–V Administration and Scoring Manual Supplement*.

Base Rate Reference Group: ☐ Overall Sample ☑ Age Group

Discrepancy Comparisons

Process Score	Raw Score 1		Raw Score 2		Difference	Base Rate
LDSf–LDSb	6	-	4	=	2	60.5
LDSf–LDSs	6	-	4	=	2	30.0
LDSb–LDSs	4	-	4	=	0	30.5

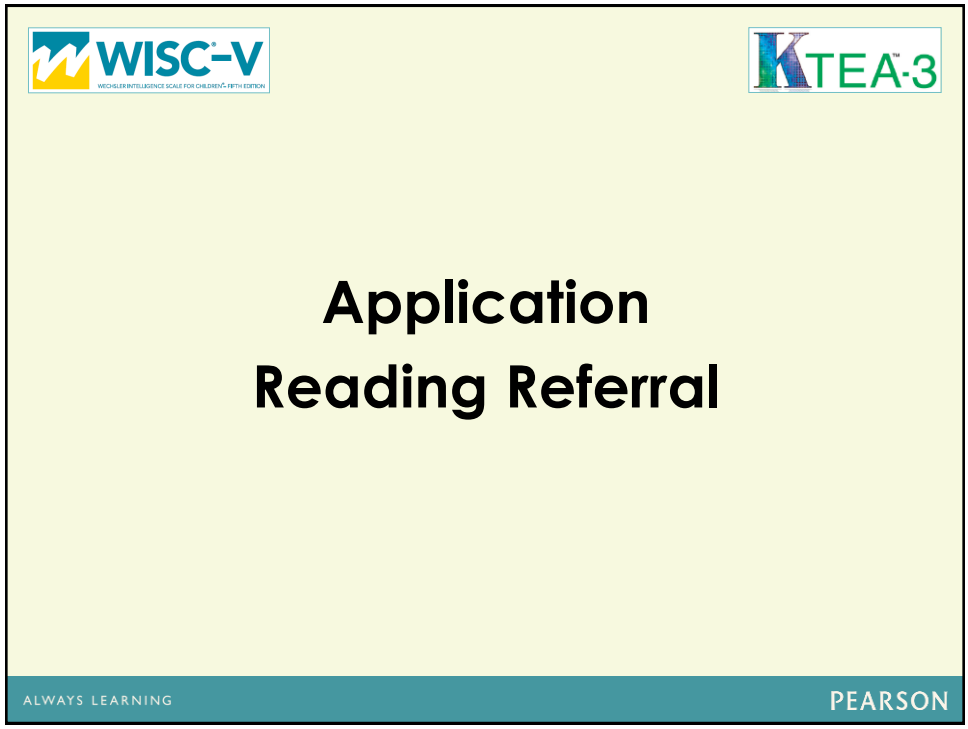
For base rates, refer to Tables C.19–C.21 of the *WISC–V Administration and Scoring Manual Supplement*.

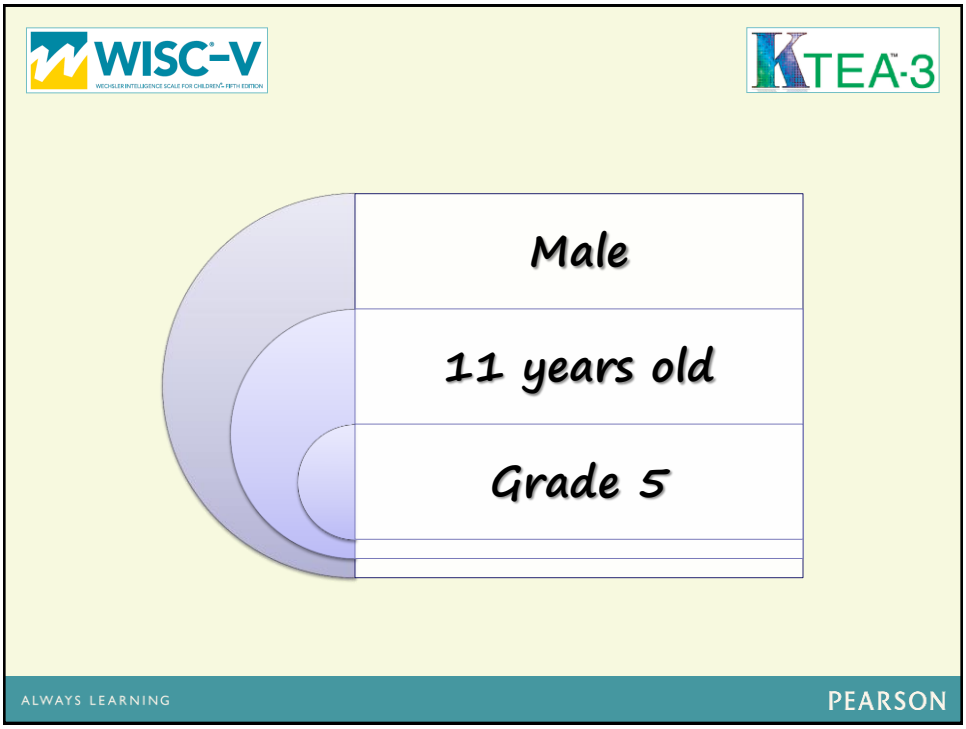
Naming Speed Literacy Error Score Calculation

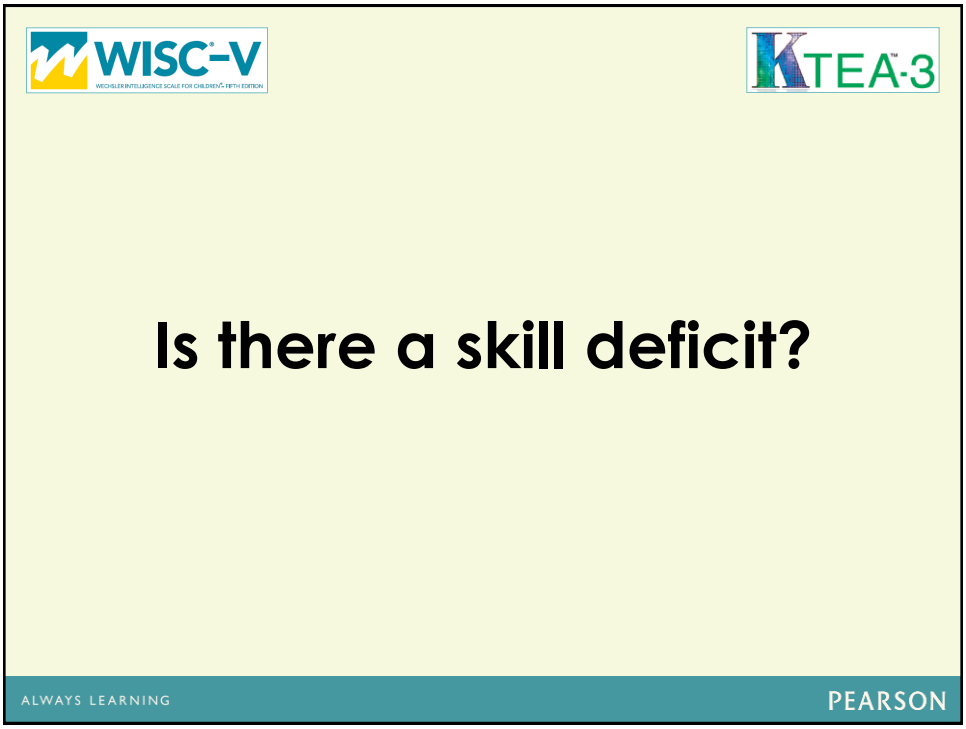
Age 6: NScoe Raw Score ( ) + NSscoe Raw Score ( ) = NSLe Raw Score ( )

Ages 7–8: NSscoe Raw Score (2) + NSlne Raw Score (0) = NSLe Raw Score (2)

Ages 9–16: For ages 9–16, the NSLe is the same score as the NSlne







Identifying a Skill Deficit

- Response to Intervention
  - Dual Discrepancy (Fuchs, 2003)
    - Gap in Skill
    - Gap in Rate of Learning
- Ability-Achievement Discrepancy Analysis
  - Simple Difference
  - Predicted Difference

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Core Composites and Subtests

Composite/Subtests	Standard Score (Mean=100)	Percentile Rank
Academic Skills Battery	***74***	***4***
Reading	***73***	***4***
Letter-Word Recognition	76	5
Reading Comprehension	71	3
Written Language	***64***	***1***
Written Expression	62	19
Spelling	70	2
Math	***92***	***30***
Math Concepts & Applications	88	21
Math Computation	98	45

KTEA-3

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What is the Underlying Cause of the Identified skill deficit?

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Reading-Related Subtests and Composites

Composite/Subtests	Standard Score (Mean=100)	Percentile Rank
Sound-Symbol	***77***	***6***
Phonological Processing	89	23
Nonsense Word Decoding	73	4
Decoding	***73***	***4***
Letter & Word Recognition	76	5
Nonsense Word Decoding	73	4
Reading Understanding	***75***	***5***
Reading Comprehension	71	3
Reading Vocabulary	82	12
Reading Fluency	***74***	***4***
Word Recognition Fluency	86	18
Decoding Fluency	68	2
Silent Reading Fluency	78	7

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Oral Language Subtests and Composites

Composite/Subtests	Standard Score (Mean=100)	Percentile Rank
Oral Fluency	***81***	***10***
Associational Fluency	102	55
Object Naming Facility	68	2
Oral Language	***105***	***63***
Associational Fluency	102	55
Listening Comprehension	116	86
Oral Expression	95	37

KTEA-3

Cross Domain Subtests and Composites

Composite/Subtests	Standard Score (Mean=100)	Percentile Rank
Orthographic Processing	***67***	***1***
Spelling	70	2
Letter Naming Facility	58	0.3
Word Recognition Fluency	86	18
Academic Fluency	***71***	***3***
Writing Fluency	77	6
Math Fluency	80	9
Decoding Fluency	68	2

KTEA-3

Cross Domain Subtests and Composites

Composite/Subtests	Standard Score (Mean=100)	Percentile Rank
Comprehension	***93***	***32***
Reading Comprehension	71	3
Listening Comprehension	116	86
Expression	***76***	***5***
Written Expression	62	1
Oral Expression	95	37

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What is the Underlying Cause of the Identified skill deficit? (PSW Analysis)

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WISC–V Score Summary

Subtest	Scaled Score	Index	Standard Score
Similarities	9	Verbal Comprehension Index	98
Vocabulary	10	Visual Spatial Index	129
Information	9	Fluid Reasoning Index	109
Comprehension	8	Working Memory Index	79
Block Design	17	Processing Speed Index	86
Visual Puzzles	13	Full Scale IQ	105
Matrix Reasoning	13		
Figure Weights	10	Quantitative Reasoning Index	94
Picture Concepts	9	Auditory Working Memory Index	87
Arithmetic	8	Nonverbal Index	110
Digit Span	7	General Ability Index	112
Picture Span	6	Cognitive Proficiency Index	79
Letter-Number Sequencing	8		
Coding	9		
Symbol Search	6		
Cancellation	10		

WISC–V Score Summary

Subtest	Standard Score	Index	Standard Score
Naming Speed Literacy	55	Naming Speed Index	66
Naming Speed Quantity	68	Symbol Translation Index	91
		Storage and Retrieval Index	74
Symbol Translation Immediate	93		
Symbol Translation Delayed	88		
Symbol Translation Cued	97		

General Ability Index

- Conceptually, the GAI provides an estimate of general intellectual ability that is less reliant on working memory and processing speed relative to the FSIQ.
- High GAI scores indicate well-developed abstract, conceptual reasoning, visual-perceptual and spatial reasoning, and verbal problem solving.
- Low GAI scores may occur for a number of reasons, including poor reasoning skills, visual-spatial processing difficulties, language deficits, or general low intellectual ability.

Cognitive Proficiency Index

- Conceptually, the CPI provides an estimate of the efficiency with which information is processed in the service of learning, problem solving, and higher order reasoning.
- High CPI scores indicate a high degree of cognitive efficiency for manipulating and rapidly processing information.
- Low CPI scores may occur for many reasons, including visual or auditory processing deficits, inattention, distractibility, visuomotor difficulties, limited working memory storage or mental manipulation capacity, or generally low cognitive ability.

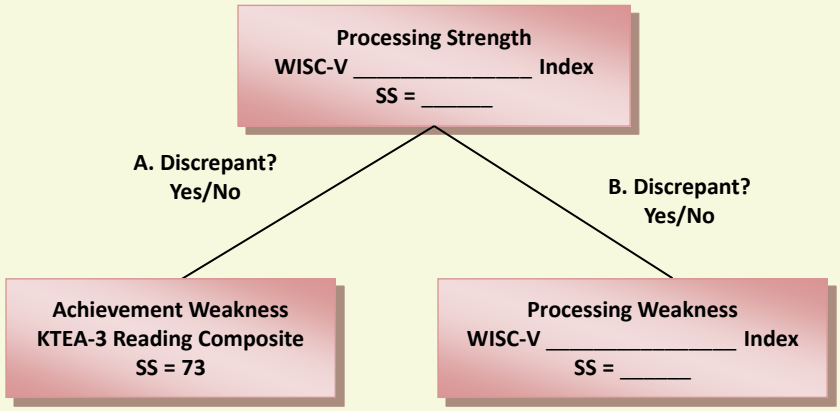
Naming Speed Index

- High NSI scores indicate a high degree of naming automaticity and rapid, efficient verbal retrieval abilities.
- Low NSI scores may occur for many reasons, including visual-processing deficits, information retrieval difficulties, weak language skills, low naming skills, or generally slow cognitive functioning.

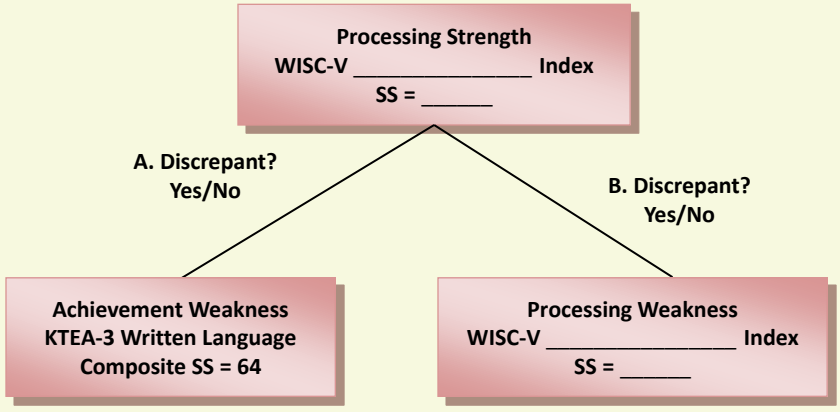
Symbol Translation Index

- The STI provides a broad estimate of visual-verbal associative memory drawn from a variety of conditions.
- High STI scores indicate well-developed encoding and retrieval of newly learned visual-verbal associations after short and long delays.
- Low STI scores may occur on this index for many reasons, including visual or verbal processing deficits, inattention, distractibility, poor information encoding, difficulties accessing information from memory, rapid forgetting, or general memory impairment.

Pattern of Strengths and Weaknesses



Pattern of Strengths and Weaknesses



Hypotheses

Cognitive Strengths _____

_____

Cognitive Weaknesses _____

_____

Academic Strengths _____

_____

Academic Weaknesses _____

_____

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Technical Properties

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WISC-V Normative Sample

11 age groups	n = 200 per group
Total n = 2,200	
Nationally Stratified Sample	Age; Sex Race/Ethnicity; PEL Geographic Region

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WISC-V Normative Sample and US Population

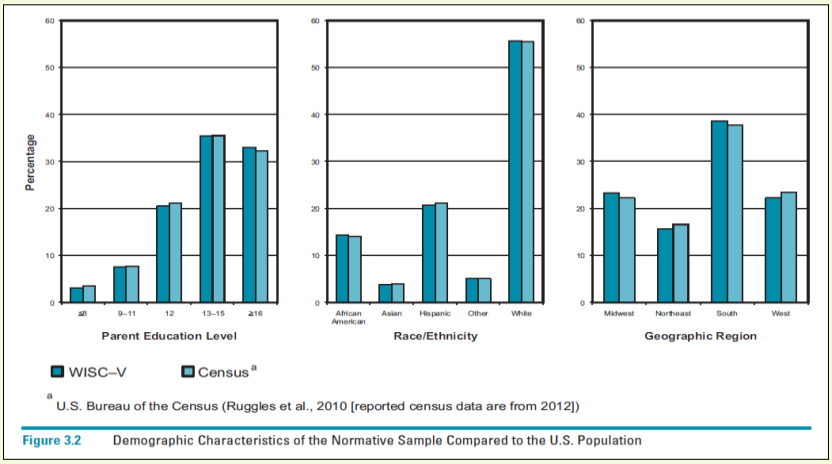

Figure 3.2 Demographic Characteristics of the Normative Sample Compared to the U.S. Population

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WISC-V Normative Sample and Special Education Population

Percentages of Normative Sample and U.S. Population by Special Education Classification		
Special Education Classification	**Normative Sample**	**U.S. Population**
Developmental Delay	0.6	0.7
Intellectual Disability	1.6	0.9
Specific Learning Disability	1.7	4.9
Speech/Language Impairment	1.5	2.9
Attention-Deficit/Hyperactivity Disorder	1.1	5.0
Gifted and Talented	1.7	6.7

Evidence of Internal Consistency

Average Reliability Coefficient	
Composite	**Overall Average (r_{xx}[a])**
VCI	.92
VSI	.92
FRI	.93
WMI	.92
PSI	.88
FSIQ	.96
QRI	.95
AWMI	.93
NVI	.95
GAI	.96
CPI	.93

Reliability Coefficients

Subtest	Overall Average (r_{xx}^a)
SI	.87
VC	.87
IN	.86
CO	.83
BD	.84
VP	.89
MR	.87
FW	.94

Subtest	Overall Average (r_{xx}^a)
PC	.83
AR	.90
DS	.91
PS	.85
LN	.86
CD	.82
SS	.81
CA	.82

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Evidence of Internal Consistency

Average Reliability Coefficient	
Composite	Overall Average (r_{xx}^a)
NSL	.86
NSco	.89
NSsco	.82
NSin	.84
NSQ	.83
IST	.88
DST	.87
RST	.82
NSI	.90
STI	.94
SRI	.94

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Evidence of Validity
Confirmatory Factor Analysis

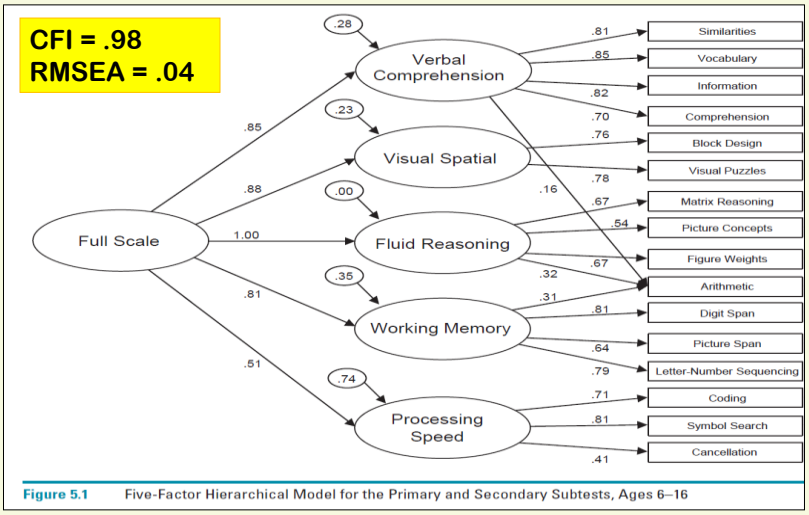

Figure 5.1 Five-Factor Hierarchical Model for the Primary and Secondary Subtests, Ages 6–16

Evidence of Validity
Confirmatory Factor Analysis

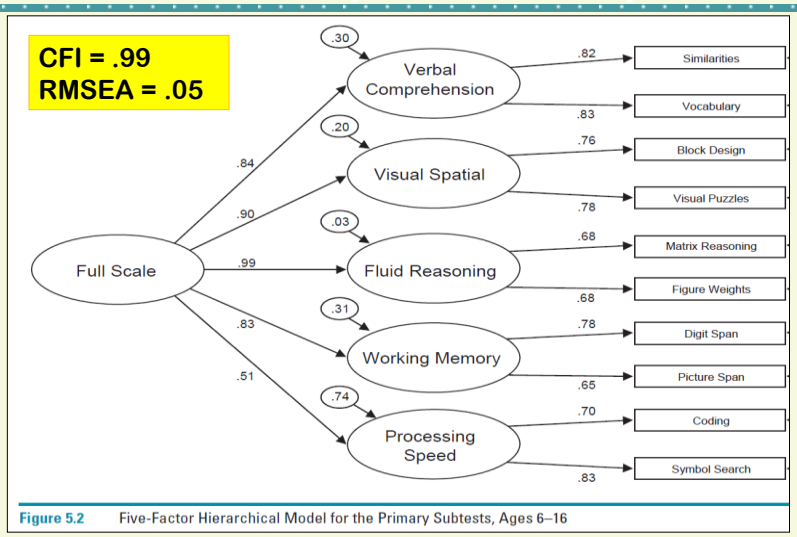

Figure 5.2 Five-Factor Hierarchical Model for the Primary Subtests, Ages 6–16

Relations with Other Measures

Ability

- WISC–IV
- WPPSI–IV
- WAIS–IV
- KABC–II

Achievement

- KTEA–3
- WIAT–III

Adaptive Behavior

- Vineland–II

Behavior

- BASC–2 Parent Rating Scales

Correlations With WISC-IV

Composite	WISC-V Mean	WISC-IV Mean	Standard Difference
VCI	102.7	104.3	.12
VSI-PRI	102.8	107.3	.33
FRI-PRI	104.3	107.3	.22
WMI	101.7	103.0	.10
PSI	103.7	102.3	.09
FSIQ	104.4	106.0	.14
AWMI-WMI	102.5	103.1	.05
GAI	104.0	106.9	.23
CPI	103.2	103.3	.01

n = 242; ages 6-16

Special Group Studies

- Intellectually Gifted
- Intellectual Disability-Mild Severity
- Intellectual Disability-Moderate Severity
- Borderline Intellectual Functioning
- Specific Learning Disorders
- Attention-Deficit/ Hyperactivity Disorder
- Disruptive Behavior
- Traumatic Brain Injury
- English Language Learners
- Autism Spectrum Disorder

Intellectual Disability – Mild

Composite	Clinical Mean	Control Mean	Mean Diff.	*p* value	Std. Diff.
VCI	66.0	96.1	30.14	<.01	2.16
VSI	66.0	101.1	35.14	<.01	2.82
FRI	67.0	99.3	32.34	<.01	2.35
WMI	65.1	98.7	33.60	<.01	2.64
PSI	71.6	97.3	25.78	<.01	1.87
FSIQ	60.9	98.0	37.07	<.01	2.92
QRI	64.2	98.1	33.86	<.01	2.67
AWMI	62.2	99.2	36.96	<.01	2.91
NVI	62.1	99.5	37.40	<.01	3.02
GAI	63.5	97.9	34.46	<.01	2.71
CPI	63.4	97.6	34.19	<.01	2.66

n = 74; ages 6-16

How Does WISC-V Enhance Clinical Utility?

- Processing Speed
- Test Structure
- Score Differences Comparison Methodology
- Expressive Language Scores

- Ancillary Index Scores
- Complementary Subtests
- Process Scores
- Special Group Studies
- Statistical Links to Measures of Achievement

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WISC®-V
WECHSLER INTELLIGENCE SCALE FOR CHILDREN®- FIFTH EDITION

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