

WISC IV – An Interpretive Approach

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Today's Agenda

- Review the Structure of WISC IV
- Learn How to Calculate the Scores
- Consider Process-oriented Assessment
- Identify the Steps of the Interpretive Cycle
- Take a Closer Look at Subtests
- Interpret Score Profiles

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WISC-IV Model



Miller: <http://www.wisciv.com>

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Calculating the Scores

1. Enter subtest raw scores on the Summary Report or the Assessment section of the Scoring Assistant.*
2. Use age-appropriate Appendix Table A.1 to convert subtest raw scores to scaled scores.
3. Calculate index scores by summing the 10 subtest scaled scores. Use Tables A.2 through A.6 to look up composite scores.
4. Table A.7 calculates prorated scores for VCI and PRI. Use judiciously.
5. Table A.8 calculates by age the scaled scores for the process scores.
6. Table A.9 converts subtest and process raw scores to Test-Age Equivalents. Use with caution.

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Score Differences

- ❑ A statistically significant difference between scores refers to the likelihood that obtaining such a difference by chance is very low if the true difference between the scores is 0. The level of significance reflects the level of confidence you can have that the difference is a true difference.
- ❑ The difference between scores required for significance is computed from the standard error of measurement of the difference.

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Base Rates

- Cumulative Frequency tables or base rates indicate how frequently a discrepancy of a specific size occurred in the standardization sample.
- Index score base rates are also available by ability level. The B.2 Tables include
 - $FSIQ \leq 79$
 - $80 \leq FSIQ \leq 89$
 - $90 \leq FSIQ \leq 109$
 - $110 \leq FSIQ \leq 119$
 - $FSIQ \leq 120$

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Interpreting Index Scores

1. Enter the various index standard scores on the Analysis page from the Summary page.
2. Calculate the difference between scores.
3. Use Table B.1 to identify Critical Value by age.
4. Use Table B.2 to identify the Base Rate.

Discrepancy Score Differences

Discrepancy Comparisons	Scaled Score 1	Scaled Score 2	Diff	Critical Value	Std Diff %N	Base Rate
VCI - FSIQ	112	92	20	11	9	5.1%
VCI - WMI	112	102	10	11.58	N	22.2%
VCI - PSI	112	91	21	12.12	9	8.1%
WMI - WMI	92	102	-10	11.58	N	22.2%
WMI - PSI	92	91	1	12.12	N	45.2%
PSI - PSI	102	91	11	12.48	N	24.1%

Mean Ratio by Overall Sample
Statistical Significance (Critical Values) at the .05 level

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Invalidating Index Scores

If a child obtains a total raw score of 0 on two of the three subtests that compose the VCI, including potential substitutes, no VCI or FSIQ can be derived. Likewise a total raw score of 0 on two of the three subtests that compose the PRI, including potential substitutes, means no PRI or FSIQ can be derived.

A raw score of 0 on both Digit Span and Letter-Number Sequencing means no WMI or FSIQ can be calculated, and 0's on both Coding and Symbol Search mean no PSI or FSIQ.

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Subtest Substitutions

If supplemental subtests are administered, they should *not* be summed with the core subtests to determine VCI, PRI, WMI, PSI, or FSIQ.

If a supplemental subtest is used as a substitute for a core subtest, add that scaled score to the other core subtests when calculating the index scores.

Remember that only one subtest substitution is allowed when deriving each index score, but no more than two substitutions from different indices are allowed when deriving the FSIQ.

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Interpreting Subtest Scores

The Scoring Assistant offers an additional table that compares appropriate pairings of subtests by calculating score differences, looking up the critical value, noting whether the discrepancy is statistically significant and including the base rate from the standardization sample.

Subtest Score Differences

Discrepancy Comparisons	Scaled Score 1	Scaled Score 2	Diff	Critical Value	Std Diff %N	Base Rate
VCI - WMI - Letter Number Sequencing	12	11	1	2.83	N	27.1%
WMI - Symbol Search	9	8	1	5.65	N	25.2%
Symbol Search - Coding	12	8	4	3.26	9	13.0%
VCI - Symbol Search	11	10	1	2.83	N	44.4%
WMI - Symbol Search - Arithmetic	8	8	0	3.26	N	44.4%
Symbol Search - Coding	8	9	-1	5.65	N	25.2%

Statistical Significance (Critical Values) at the .05 level

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Interpreting Subtest Scores

1. Complete the subtest discrepancy analysis section by entering subtest scaled scores.
2. Calculate the subtest mean you want to use (all subtests, VCI or PRI subtests).
3. Use Table B.5 to identify critical value and B.6 for base rates.

Differences Between Subtest and Mean of Subtest Scores

Subtest	Subtest Scaled Score	Mean Scaled Score	Diff from Mean	Critical Value	EW	Base Rate
Block Design	9	9.67	-0.67	2.27		<25%
Digit Span	12	12.33	-0.33	2.27		<25%
Picture Concepts	9	9.67	-0.67	2.27		<25%
Word Reading	13	12.33	0.67	2.11		<25%
Matrix Reasoning	9	9.67	-0.67	2.05		<25%
Comprehension	12	12.33	-0.33	2.41		<25%

Verbal Comprehension: Mean = 12.33, Scatter = 1, Base Rate = 66.4%
Perceptual Reasoning: Mean = 9.67, Scatter = 1, Base Rate = 58.2%
Statistical Significance (Critical Values) at the .05 level

Recommendations for Interpretation

- Give more weight to composite score differences that are *infrequent* than to those that are merely *statistically significant*
- Don't be unduly impressed by *apparent* scatter (variability among subtest scores)
- Include relevant qualitative process information in reports

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Recommendations

Interpretation of Scatter

- Variability among subtest scores is common
 - Does not necessarily indicate a learning disability or other cognitive problem
- Assess frequency of a student's scatter using Table B.6 before assuming it to be unusual or important

For example:

- Over half of all students exhibit scatter of up to 7 points among the 10 Core subtests
- When all 15 subtests are administered, well over a third of students exhibit scatter of up to 9 points

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Interpreting Process Scores

1. Complete the Process Analysis section by entering scaled scores, finding the difference, looking up the critical values in Table B.9, and the base rates in Table B.10.

Subtest/Process Score	Scaled Score 1	Scaled Score 2	Diff	Critical Value	Sig. Diff. Y/N	Base Rate
2003 Form I - 2004 Form I (No Time Bonus)	17	20	0.00	1.70	N	
2003 Form Forward - 2004 Form Backward	17	20	1.00	3.62	N	44.2%
2003 Form I - 2004 Form I (Time Bonus)	17	20	-2.00	4.40	N	24.8%

Statistical Significance (Diff Scale Values) at the .05 level

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Qualitative Descriptions of IQ Scores

Score	Classification	Percent Included in Theoretical Normal Curve
130 and above	Very Superior	2.2
120–129	Superior	6.7
110–119	High Average	16.1
90–109	Average	50.0
80–89	Low Average	16.1
70–79	Borderline	6.7
69 and below	Extremely Low	2.2

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General Guidelines for a Process-oriented Approach

- WISC IV information must be integrated with other information available about the child, his cultural background, and his home and school environments.
- A process-oriented approach can be visualized as a process of information aggregation that combines details within a conceptual framework unit to produce a more easily distinguishable pattern.

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Five Information Aggregation Units

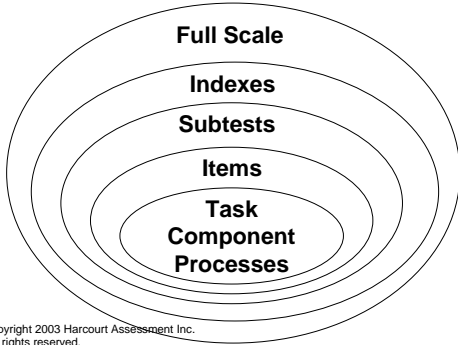
1. **Intra-item task performance** – combining the interplay of various component cognitive processes within the performance of a single test item
2. **Intra-subtest item performance** – combining performance elements common to various items within a subtest

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3. **Subtest Scaled Scores** – combining performance on similar items of a single subtest
4. **Index Standard Scores** – combining subtest scores into distinguishable domains
5. **Full Scale Score** – combining the information from all distinguishable domains into a total score

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WISC-IV: A Process Approach



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More About the Process-approach

- Belief that **how** a child performs tasks is as important, and often even more important, than the score he obtains at the subtest and above levels of aggregation.
- Understanding performance on individual items, including the kinds of errors a child makes, can provide rich clinical information when it can be established that the observations reflect a pattern of behavior observed in multiple contexts.

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- Understanding the multiple component processes involved in performing individual items of a subtest can add substantial depth to the clinical interpretation of test performance.
- Describing the strategies a child employs when performing tasks provides a basis of interpretation that resonates deeply with parents and teachers and even with the child.

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Conceptualization Structure

- **Core Input Requirements**
 - e.g., Hearing, Vision, Motor, etc...
- **Core Output Requirements**
 - Minimal verbal expression to maximal verbal expression required.
 - Minimal motor output required to maximal motor output required.
 - Maximal structure and organization provided to minimal amount of structure and organization required.
 - Maximal amount of contextual information provided to minimal amount of contextual information provided.

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Conceptualization Structure

- Characteristics of Response
 - Correct, Efficient and Automatic
 - Incorrect, Efficient and Automatic
 - Correct, Inefficient and Effortful
 - Incorrect, Inefficient and Effortful

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Looking at WISC IV Score Profiles

- Index Score Comparisons
- Verbal Task Comparisons
- Perceptual Task Comparisons
- Verbal-Perceptual Comparisons
- Working Memory Comparisons and Contrasts
- Processing Speed Comparisons

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WISC IV Factor Index Descriptions

- **Verbal Comprehension Index (VCI)**
 - Composed of Similarities, Comprehension, and Vocabulary subtests
 - Requires verbal conceptualization, stored knowledge access and oral expression
 - Child must answer orally presented questions that assess common-sense reasoning, reasoning out or retrieving word associations, and the ability to describe the nature or meaning of words.
 - All tasks require the ability to express ideas in words.

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VCI

Verbal Comprehension Subtests

- Can be used to evaluate *receptive* language processes
 - “Auditory lag” (CAPD)
 - Efforts to mask auditory lag (“buying time”)
 - Requests for repetition
 - Repeating some or all of question
 - Beginning responses with formulaic or rambling language
 - Watch for “red flags”

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VCI

Verbal Comprehension Subtests

- Can be used to evaluate *expressive* language processes
 - Word-finding difficulties
 - Phonemic and semantic paraphasias (word substitutions)
 - Syntax errors
 - “Chasing rabbit” responses
 - Compensatory strategies
 - Gestures, examples

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VCI

Vocabulary Subtest

Word knowledge (and retrieval)

- Difficulties with oral expression of knowledge
 - Receptive and reading vocabulary vs. subtest score
- “Receptive paraphasias”
 - Phonemic – *Unanimous/Anonymous, Encumber/Incumbent, Ominous/Amish*
 - Semantic – *Absorb/Evaporate, Migrate/Hibernate* (encoding and retrieval problems)

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VCI

Similarities Subtest

Verbal concept formation and verbal reasoning

- Concrete vs. abstract responses
- Functional vs. categorical responses
 - Verbs vs. nouns
- Difficulties with oral expression of knowledge
 - Responses that improve with talking

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VCI

Comprehension Subtest

Social knowledge and reasoning

- Concrete vs. abstract items
- Applying old knowledge to new questions
- Cognitive flexibility
 - Generation of alternative responses
- Impulsivity, poor response inhibition
- Personal associations, emotional interference

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VCI

Information Subtest

Recall (retrieval) of verbally-encoded factual knowledge

- Single word (noun) retrieval vs. understanding of concepts
- Confusion of verbally-encoded material
- Sequencing difficulties
- Content areas

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WISC IV Factor Index Descriptions

- **Perceptual Reasoning Index**
 - Composed of Matrix Reasoning, Picture Concepts, and Block Design subtests
 - Requires visual perception and organization and reasoning with visually presented, nonverbal material to solve the kinds of problems that are NOT school taught
 - BD also requires visual-motor coordination and the ability to apply all skills in a quick, efficient manner. The highest scores reflect both accurate and very quick responses.

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PRI

Block Design Subtest

Visuospatial reasoning; visuo-constructional ability

- Record student's solution process in block-by-block manner
- Look at whether he/she tends to work in L → R (typical) or R → L (atypical) direction
 - Also, top → bottom (typical) or vice versa
- Also note novel and original approaches to construction
 - e.g., beginning 9-block designs by "anchoring" the four corners, then constructing the middle

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PRI

Block Design Subtest

- Differentiate detail errors from "violations of configuration"
- Look for repeated errors on same side or in same quadrant of multiple designs
- When items become too difficult for student, test the limits using various modifications (after stand. admin.)
 - Transparent overlay with grid lines
 - Covering all but one row or column at a time
 - Modeling use of verbal mediators
 - E.g., "Which way should the red triangle be pointing?"
 - Having student build design inside block box

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PRI

Matrix Reasoning Subtest

Nonverbal reasoning and concept formation

- Look for errors on particular types of items
 - Repetition, pattern
 - Analogy
 - Visual rotation or manipulation
 - Rule derivation
 - Inference
- Note verbal mediation

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PRI

Picture Completion Subtest

Attention to visual detail

- May be the best subtest for eliciting word-finding difficulties and paraphasias
 - These do not affect scoring, but should be noted in report
- Note an impulsive response style
- Note perseveration

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PRI

Picture Completion Subtest

- Look for impatience in dealing with stimulus materials
- Unusual scanning behaviors
 - E.g., holding head close to booklet
- Note accuracy on left vs. right sides of stimuli

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PRI

Picture Completion Subtest

- Differences in item content draw on different cognitive skills, reflect different types of difficulties
 - Visual attention
 - 6. Bow (braid)
 - Familiarity
 - 5. Ringer (bell); 17. Filament (bulb)
 - Access to mental representations
 - 4. Whiskers (cat)
 - Conceptual understanding
 - 7. Doll (reflected in mirror); 19. Trail (of bicycle)

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WISC IV Factor Index Descriptions

- **Working Memory Index**
 - Composed of Letter-Number Sequencing and Digit Span
 - Requires working memory processes applied to the manipulation of orally presented verbal sequences
 - Note that Digits Forward only requires initial encoding and a verbal response as do the initial items on LN

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WMI

Digit Span Subtest

Auditory short-term memory (Digits Forward); auditory working memory (Digits Backward)

- Look for pull to automatized sequences (“3 – 2 – 1”)
 - Suggests problems with response inhibition
- Difficulties with “acoustic frame” vs. content/sequence
- Inconsistencies *within* given string length
 - Fluctuations in attention, motivation

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WMI

Digit Span Subtest

- After administration, ask student how he/she did **Digits Backward** task
 - “Hearing” vs. “seeing/reading”
 - “Chunking” or other high-level strategies

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WMI

Digit Span Subtest

- Report **Forward** and **Backward** string lengths in report
- Use Process Scores to evaluate **Forward** and **Backward** performances independently
 - Table B.7
- Evaluate differences between **Forward** and **Backward** performance
 - Table B.8
 - Median difference at all ages is 2 digits

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WMI

Letter-Number Sequencing Subtest

- After administration, ask student how he/she performed task
 - “Hearing” vs. “seeing/reading”
 - “Chunking” or other high-level strategies
- Compare errors on letters vs. numbers
- Look for inconsistency and warm-up effects at individual string lengths

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WMI

Arithmetic Subtest

Auditory short-term memory, auditory working memory, fact retrieval

- Good indicator of attention and working memory problems
 - Repetition requests
 - Audible self-talk
 - Finger counting
 - “Writing” on table

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WMI

Arithmetic Subtest

- Nature of errors
 - Retrieval errors
 - Minor calculation errors
 - Language errors
 - Lack of conceptual understanding
- Testing the limits
 - Timed vs. untimed scores
 - Mental processing vs. pencil-and-paper scores

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WISC IV Factor Index Descriptions



• Processing Speed Index

- Composed of Coding and Symbol Search
- Requires visual perception and organization, visual scanning, and the efficient production of multiple motor responses
- These tasks require executive control of attention and sustained effort for a 2-minute period of time while working with visual material as quickly as possible
- Performance on Coding is also dependent on paired-associative learning

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PSI

Coding Subtest

Graphomotor speed and accuracy (fine motor control); incidental learning

- Record student's position at 30", 60", 90", and 120" to allow later calculation of output (speed) changes over time
 - Look for student who starts strong but loses momentum, student who needs to “warm up” to task

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PSI

Symbol Search Subtest

Mental processing speed and accuracy

- Most important use for this subtest is score comparison with **Coding**
 - Allows partialing out of fine motor (graphomotor) speed from mental processing speed

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Possible Verbal Task Comparisons

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Vocabulary – Information

Both subtests rely on retrieval from long-term storage, provided the information has actually been stored.

Children who dropped out of school early, were/are excessively truant, find reading distasteful, or who have a reading disability, often do relatively poorer on these 2 subtests than they do on verbal measures that are less reliant on formal schooling and reading (Comprehension and to some extent, Similarities).

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For students with reading and other school-related difficulties, scores on these 2 subtests often start out in the average and above range at younger ages because the knowledge to be retrieved for the early items is more widely accumulated than just within formal schooling.

As these children get older, their scores on these subtests begin to drop substantially as content relies more on formal schooling, and a studious approach to formal schooling, for success.

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Similarities – Comprehension

When these 2 subtests form a cluster that is distinct from the other Verbal subtests, the probability that these are acting primarily as measures of fluid verbal reasoning is much greater.

The greater the difference between the SI/CO cluster and the VC/IN cluster, the more likely the need to explore the possible contrast between the child's ability to apply fluid reasoning in a novel situation (SI/CO) and the breadth and/or depth of the child's crystallized knowledge base (VC/IN).

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Vocabulary – Information – Similarities

When these 3 subtests form a cluster that is extremely divergent from the CO subtest score, the likelihood is much greater that SI is being approached as a task requiring access of crystallized knowledge base through long-term retrieval mechanisms similar to VC and IN rather than a task requiring novel fluid reasoning.

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This is also likely to be the case when Word Reasoning (WR) joins CO to form more of a fluid reasoning cluster that is in contrast to performance on VC-IN-SI.

The WR/CO cluster as a measure of fluid reasoning is more likely to emerge with older children than younger children because at earlier ages, WR is less of a fluid reasoning task and more of a direct retrieval of factual information like IN. Thus for younger children, the contrast between the application of fluid reasoning and crystallized knowledge storage and access will often be only CO contrasted with VC/IN/SI/WR.

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Possible Perceptual Task Comparisons

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Picture Concepts – Picture Completion

These 2 subtests involve a child's facility with the manipulation of concrete visual images and the use of these to cue retrieval of stored information related to the pictured objects.

This processing demand is distinct from the requirements of MR and BD where the geometric designs pictured have no inherent meaning as concrete objects, and are imaged and manipulated in ways different from those used to image and manipulate the concrete images of PCn and PCm.

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Matrix Reasoning – Block Design

These 2 subtests involve a child's facility with applying abstract visual imaging processes to quickly establish a perceptual organization framework that can be used to manipulate and work with the images.

The greater the difference between the PCn/PCm cluster and the MR/BD cluster, the more likely the need to explore the contrast between the ability to manipulate concrete objects and cue retrieval of information with these concrete images (PCn/PCm) and the ability to organize and manipulate more abstract visual images to derive or create an abstracted level of meaning (MR/BD)

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Possible Verbal-Perceptual Comparisons

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Similarities – Picture Concepts

When performance on these tasks is consistent, there is a greater likelihood that the child's ability to apply fluid reasoning abilities to establish new associations between objects or concepts is consistent across presentation formats (i.e., auditory presentation of verbal information, visual presentation of nonverbal images) and response demands (free response format for verbally presented questions versus recognition response format for visually presented object pictures).

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Similarities – Comprehension – Word Reasoning – Picture Concepts – Matrix Reasoning – Block Design

Taken together, these 6 subtests usually involve the use of fluid reasoning processes much more so than the remaining subtests of the WISC IV. If they cluster together tightly, they are likely to be the best estimate of the child's ability to reason with both auditorily presented verbal and visually presented nonverbal information.

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When performance on BD is significantly lower than performance on the other subtests of this cluster, attention should be directed at investigating the child's ability to use executive functions to direct the integration of this multifaceted task.

Vocabulary often joins this cluster, not because it is a measure of fluid reasoning abilities, but because many children who are good at reasoning tasks also have well-developed vocabularies.

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Possible Working Memory Comparisons and Contrasts

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Digit Span Forward – Digit Span Backward

Performance on these 2 separate components of the Digit Span subtest is often highly consistent, with most individuals earning similar scores on DSF and DSB. When performance is significantly different, the source of variability should be investigated, as it is likely to provide some insight into how the child uses, or fails to use, encoding and working memory resources.

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When the DSF score is much greater than DSB, the possibility of working memory inefficiencies should be explored.

When DSB is greater than DSF, the possibility of encoding inefficiencies is much greater. The DSB>DSF pattern is often related to a lack of adequate engagement of the necessary processing resources required to do DSF because the task is perceived as relatively simple.

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The conception that DSF and DSB are using different and separate neural networks to process the information is not accurate. Both require initial encoding of auditory information and are therefore processed with the same auditory input processing neural networks for initial encoding.

The difference is what is done after initial encoding, where DSF tends to be held in a relatively passive manner in the initial encoding buffer and accessed directly to produce a response. In contrast, DSB requires the movement of information from the initial encoding buffer into working memory where it is actively manipulated in order to produce a response.

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Letter-Number Sequencing – Digit Span Backward

Both LNS and DSB require the use of working memory processes after initial encoding to manipulate the information before providing a response. When DSB and LNS cluster together and are significantly different from performance on DSF, this cluster is the better indication of working memory capacity for basic mental manipulations.

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Word Reasoning – Arithmetic

Both subtests require the increasing use of working memory resources for successful completion. For both, the harder the item, the greater the working memory demands. Once the orally presented verbal information is comprehended, the child must hold the information in working memory long enough to search for a response or bring into play the necessary mathematical operations to derive a response. These tasks represent a greater demand on the coordination of working memory processes with other cognitive processes than do LNS or DSB.

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When performance on the WR/AR cluster is significantly poorer than performance on WMI or the DSB/LNS cluster, there is greater likelihood that the child has basic working memory capacities but is unable to effectively utilize them when additional cognitive processes must be engaged in coordination with working memory.

When performance on AR/WR is significantly better than performance on WMI, the possibility of encoding inefficiencies or limitations related to the processing of isolated sequential details should be explored, especially if DSF is performed as poorly as DSB and LNS.

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Matrix Reasoning – Picture Concepts

These tasks also require a great deal of working memory resource use for certain children. When scores of these subtests are poor and consistent with scores on WR, AR, LNS, and DSB, the likelihood is greater that working memory difficulties are impacting negatively on task performance.

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Possible Processing Speed Comparisons

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Coding – Symbol Search

These timed performance tasks both require executive control processes in addition to other component processes such as visual discrimination. Direction of sustained attention to task and sustained output, monitoring of speed of performance and achieving a balance between speed and accuracy are some of the executive task component processes involved.

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Executive function influences on task performance are best assessed through the use of 15 or 30 second interval coding techniques that allow an analysis of performance over successive time periods.

Coding is also much more influenced by graphomotor skill and endurance than Symbol Search. Although some slight declines in performance across 30 second intervals are not unusual on either subtest, extreme declines in performance on Coding over 30 second intervals suggests a need to consider possible detrimental effects from graphomotor fatigue.

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Wide variations in performance across 15 or 30 second intervals often indicate an inability to sustain attention and consistently perform for a brief 2 minute period.

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Steps of the Interpretive Cycle

1. Administer all of the WISC IV subtests including the Supplemental Subtests.
2. On the first pass through the interpretive cycle, attempt to gather and summarize all relevant information from each of the interpretive units.
3. For every subtest item administered, carefully observe all behavior related to task performance. Keep in mind how the effects of component cognitive processes might be affecting efforts to solve items.

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3. For every subtest administered, carefully note any evidence of intrasubtest item scatter such as clusters of items that are missed or answered correctly at unexpected points in the subtest (e.g., unusual alternation of right-wrong responses, unusual patterns of item performance such as getting easy items wrong and hard items correct).
4. Calculate Subtest Scaled Scores, carefully observing what items are, and are not, contributing to the subtest raw score.

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5. Calculate the VCI, PRI, WMI, and PSI Standard Scores, percentile ranks, and confidence intervals.
6. Calculate the Full Scale score, obtain a Standard Score, percentile rank and a confidence interval.
7. After this first forward pass through the cycle, reverse the cycle, employing psychometric and clinical procedures to deconstruct each unit into its constituent details for analysis.
8. Moving backward from Full Scale to Indexes. Compare VCI and PRI for statistical significance and degree of unusualness (using base rates) if a significant difference is found. Compare the other Index Standard Scores for possible significance and degree of unusualness of any differences found. Of special interest is the contrast between VCI and WMI and PRI and PSI. Also note when VCI and PRI form a cluster that is substantially different from WMI and PSI.

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9. Moving backward from Indexes to Subtests, look for VCI Lack of Homogeneity (abnormal scatter). Determine if there is an extreme amount of scatter within the VCI subtest profile. If at least one of the three VCI subtest scores is significantly different from the other subtests, the VCI is not likely to be an adequate overall indicator of general ability to comprehend and reason with auditorily presented verbal material. NOTE: Lack of an abnormal amount of scatter, however, does not necessarily mean that the VCI is an adequate overall indicator of general ability to comprehend and reason with auditorily presented verbal material.

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10. Look for PRI Lack of Homogeneity (abnormal scatter). Determine if there is an extreme amount of scatter within the PRI subtest profile. If at least one of the three PRI subtest scores is significantly different from the other subtests, the PRI is not likely to be an adequate overall indicator of the ability to reason with visually presented nonverbal material. NOTE: Lack of an abnormal amount of scatter, however, does not necessarily mean that the PRI is an adequate overall indicator of the ability to reason with visually presented nonverbal material.

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11. Look for WMI Lack of Homogeneity (abnormal scatter). If the 2 subtest scores are significantly different from each other, the WMI is not likely to be an adequate overall indicator of the ability to hold and manipulate auditorily presented verbal information in working memory.
12. Look for PSI Lack of Homogeneity (abnormal scatter). If the 2 subtest scores are significantly different from each other, the PSI is not likely to be an adequate overall indicator of processing speed with visual material.

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13. Moving backward from Index scores to identify shared ability subtest clusters. Examine the subtest profile using strengths and weaknesses and significant degree of variance to identify shared ability dimensions. Be careful not to overemphasize or over-rely on a subtest mean strengths and weaknesses analysis to identify shared ability clusters. Look for polarized clusters that demonstrate a significant degree of variance. The next levels of analysis will likely assist in understanding where true shared abilities exist.

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14. Moving backward from subtest shared ability clusters to individual subtest performance. When subtests that appear to be measuring similar abilities demonstrate significant inconsistency in scores, a thorough analysis of subtest level task demands and item-by-item performance is necessary to help understand the difference.

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Ability Achievement Discrepancy Analysis
Date of Ability Testing: 07/03/02
Ability Score Type: FSIQ
Ability Score: 101

Predefined Difference Method

	Predicted Score	Actual Score	Expected Diff.	Critical Value	Sig. Diff. Y/N	Base Rate
WMI or SUBJECT						
Visual Mapping	101	74	-27	4.30	Y	<1%
Reading Comprehension	101	81	-20	3.22	Y	4%
Revised Word Reading	101	72	-29	4.32	Y	<1%
Revised Quantitative	101	77	-24	3.76	Y	1%
Block Design	101	86	-15	2.15	Y	10.0%
Verbal Expression	101	75	-26	4.18	Y	1%
Nonverbal Comprehension	101	84	-17	2.71	Y	4%
Oral Expression	101	80	-21	3.12	Y	3.0%
NON-VERBAL						
Block Design	101	74	-27	4.30	Y	<1%
Picture Vocabulary	101	86	-15	2.15	N	>10%
Visual Language	101	81	-20	3.22	Y	4%
Oral Language	101	81	-20	3.22	Y	4%
Total	101	80	-21	3.08	Y	<1%

Statistical Significance: Critical Values at the .05 level
Base Rates are not reported when the achievement score equals or exceeds the ability score.

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