

WPPSI–IV Canadian Frequently Asked Questions January 2014

Test Framework, Revision Goals, and General Practice Issues

How has the test structure changed?

The changes in the test structure were influenced by contemporary structural models of intelligence, neurodevelopmental theory and neurocognitive research, clinical utility and factor-analytic studies. Changes include new and separate Visual Spatial and Fluid Reasoning index scores for ages 4:0–7:7, new measures of working memory, and a new Working Memory composite. The separation of Visual Spatial and Fluid Reasoning composites results in greater interpretive clarity, and the addition of working memory enhances the scale's clinical utility due to its sensitivity to a wide variety of clinical conditions and important outcomes (e.g., achievement).

Were expressive language requirements reduced?

Yes. New picture items were added to Similarities and Comprehension to ensure that children aged 4:0–7:7 with expressive language issues can indicate responses to some items even if they cannot or do not speak at all. These items provide children with expressive language issues an opportunity to demonstrate verbal concept formation and comprehension without a verbal response. Only Vocabulary and Picture Naming require expressive responses on the floor items, and neither of these subtests are core to the primary index scores or FSIQ for either age band. Also, two ancillary index scores, the Vocabulary Acquisition Index (VAI) and the Nonverbal Index (NVI), provide additional information about the performance of children with expressive language issues.

Why were Working Memory subtests added?

Working memory is a key aspect of intellectual functioning, with strong ties to fluid reasoning. It is also implicated in a wide variety of academic problems and clinical conditions that affect young children. Accordingly, the incorporation of working memory measures was a revision goal from the beginning of the WPPSI–IV development.

What are the language requirements for the Working Memory subtest instructions?

The verbatim instructions for the Working Memory subtests are succinct, and active demonstration and practice are used to supplement verbal instructions because young children are unlikely to maintain attention and focus during lengthy verbal explanations. The instructions were tested repeatedly with children aged 2:0–2:5 (younger than the youngest children in the WPPSI–IV age range), as well as with children with intellectual disabilities, to ensure children with developmental delays or low intellectual ability would understand task demands. A WPPSI–IV U.S. study comparing the performance of English Language Learners and matched control group showed no significant differences between the means on the Working Memory subtests for the two groups.

Why are the Working Memory subtests visual/visual-spatial rather than pure auditory/verbal as on WISC–IV and WAIS–IV? What happened to auditory working memory?

Many traditional verbal working memory tasks are impractical and developmentally inappropriate for children in the WPPSI–IV age range. Relative to older children, young children have more difficulty with verbal tasks because they often

involve comprehending complex verbal instructions, using rehearsal strategies, understanding how to sequence information, and expressing responses verbally. Furthermore, current research indicates that for young children, even memory storage in the visual domain is strongly linked with processing, whereas verbal memory storage is not. Auditory working memory is still a viable way to measure working memory in older children, adolescents, and adults. With the younger kids, we are able to limit verbal demand, which is variable in this age group.

Why were the Processing Speed subtests changed?

In response to a review of current child development literature, a number of improvements were incorporated to improve the developmental appropriateness of processing speed measures. The new subtests are more play-like to ensure more valid assessment, because play is developmentally appropriate for young children. The new stimuli are familiar and engaging to young children, and the tasks are reminiscent of popular children's games. Because fine motor skills are still developing during the WPPSI-IV age range, all of the subtests employ an ink dauber rather than a pencil to indicate responses. In addition, the stimuli are larger and have more space separating them to reduce the likelihood of inadvertent stray marks. Also, to be more sensitive to language and cognitive development, the subtests now involve instructions that avoid using high-level vocabulary and concepts a young child cannot yet grasp.

Was the WPPSI-IV designed to line up with Cattell-Horn-Carroll (CHC) theory?

Theory was not the only consideration that influenced the development of the WPPSI-IV, and no single theory determined its structure. Neurodevelopmental research and clinical utility were also important considerations when determining the WPPSI-IV test structure. However, the WPPSI-IV model reflects contemporary structural theories, such as CHC, and defensible theoretical perspectives and frameworks including CHC theory can be utilized in its interpretation.

Widely accepted structural intelligence models based on factor analytic results, such as CHC theory, provide overwhelming evidence for general intelligence at the top of a hierarchical model and for various related and distinguishable broad abilities at the level beneath. In some models, the specific abilities are each composed of various narrow abilities at the lowest level. Although evidence from structural models does not identically converge, most indicate that verbal comprehension, visual spatial, fluid reasoning, working memory, and processing speed abilities are among the important components, and these are the five index scores available for the WPPSI-IV 4:0–7:7 age band. The names of these factors vary based on the particular team of investigators to conform to different taxonomy systems, and the CHC taxonomy provides names for these constructs (Gc, Gv, Gf, Gsm, and Gs). The Wechsler intelligence scales have evolved in response, and the WPPSI-IV continues this work by providing new measures of working memory and a new working memory composite, offering separate visual spatial and fluid reasoning composites, and improving upon the measure of verbal comprehension and processing speed while continuing to offer composite scores for each.

Does the WPPSI-IV take longer to administer than the WPPSI-III?

Substantial efforts were made during development to achieve the briefest testing time possible and still offer greater construct coverage and flexibility, and even more composite scores. As a result, administration time is kept to a minimum and is comparable to the WPPSI-III. Because administration time is determined by which composite scores are desired, it varies based on the practitioner's choices. In some situations the administration time may be shorter than that of the WPPSI-III, but if more composite scores are desired, administration time may be slightly longer.

Is there information in the *WPPSI-IV Canadian Manual* about the proportions of children with various clinical conditions that were included in the normative sample? Are norms available that do not include children from these special groups?

Representative proportions of children with various clinical conditions were included in the normative sample. In addition to

these children, children with intellectual giftedness were also included to appropriately represent children with extremely high WPPSI-IV scores. The proportions of children with clinical conditions are low, and accurately reflect their presence in the population. Norms are available for the total sample only.

What are the recommendations for using the WPPSI-IV over the WISC-IV when evaluating children aged 6:0–7:7?

Because the age range of the WPPSI-IV and the WISC-IV overlap for children aged 6:0–7:7, practitioners have the option of choosing the appropriate measure for a child between these ages. For children suspected of below average cognitive ability, the WPPSI-IV should be administered due to its lower floor at this age range. Also, children with limited English proficiency, language impairments, or verbal or expressive issues should be given the WPPSI-IV to reduce the confounding effects of language or verbal expression on the composite scores. For children of high ability, however, the WISC-IV should be considered due to its higher ceiling. For the average-ability child, the choice between the WPPSI-IV and the WISC-IV requires clinical judgment from the educational and/or psychological professional. The WISC-IV requires the administration of 10 subtests to calculate the FSIQ, whereas the WPPSI-IV requires the administration of 6 subtests. Children who have difficulty completing a lengthier assessment may benefit from use of the WPPSI-IV. The reasons for referral, familiarity with the tests, and knowledge of the child's characteristics (e.g., verbal ability, attention span) should be taken into consideration.

How long do professionals have to transition from using the WPPSI-III to using the WPPSI-IV?

Publications such as the current *American Psychological Association (APA) Ethical Principles of Psychologists and Code of Conduct, the Standards for Educational and Psychological Testing* (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 1999), and *Assessment of Children: Cognitive Foundations* (Sattler, 2008) provide guidance about the use of obsolete tests. Most practitioners make the move to the new edition within 8–12 months of the release. Consider your own practice situation and the stakes of the evaluations you conduct when making the decision. For example, in cases where the older edition is used, and an independent educational evaluation is requested, a school system may be at a greater risk of having results called into question.

What is the appropriate composite score to use when evaluating for a learning disability using ability-achievement discrepancy analyses?

The FSIQ is generally the first choice for an ability-achievement discrepancy analysis, as it provides the broadest sample of behaviour. However, there may be other circumstances that influence your choice (e.g., significant discrepancies between index scores and language disorders). In these situations, other scores might be appropriate (i.e., VCI, VSI, FRI, GAI, NVI).

Subtests

Why were Vocabulary and Comprehension not chosen as core subtests? From a language perspective, they provide a richer sense of the child's ability to answer open-ended questions—a more authentic skill for real-life.

In the online basic training that is included with each kit, we describe in more detail the types of analyses that were conducted to make the decisions regarding which subtests would be core and which would be supplemental. To summarize, the team looked at psychometric properties such as floors, ceilings, reliability, validity, and construct coverage; clinical utility; demographic differences; user-friendliness; and feedback from practitioners and customers. There is nothing that precludes administration of supplemental subtests if a practitioner believes that useful information will be gathered for a particular child.

Why was Vocabulary, a subtest that typically holds one of the highest correlations with general intellectual ability (g), replaced by Information, a “crystallized” measure influenced by forces such as environment and education?

A variety of factors were considered when choosing between these two subtests, including floors, ceilings, reliability, validity, clinical utility, user-friendliness, and feedback from practitioners and customers. Expert consensus and factor-analytic research have demonstrated that Vocabulary and Information both involve crystallized knowledge and are both good measures of *g*. Despite clinical lore, there is no overwhelming evidence to suggest that Information is more influenced by environment or education than the other Verbal Comprehension subtests, including Vocabulary. It is the most efficient Verbal Comprehension subtest to administer and score, and possesses identical reliability to that of Vocabulary. Information also requires only brief expressive responses. This is a developmentally desirable feature in tests for young children, who are often referred due to questions about delayed language.

Why was Word Reasoning dropped?

Word Reasoning was removed due to its construct overlap with Vocabulary, its lack of strong validity evidence as a fluid reasoning measure, and its high correlation with the Information subtest, which rendered it somewhat redundant psychometrically. Because the floors for Similarities and Comprehension are substantially improved for the WPPSI-IV, the utility of Word Reasoning’s strong floor on the Verbal Comprehension scale was of reduced importance.

Did you consider removing the time limit for Object Assembly, or providing a table to use for scoring that considers completion outside of the time requirement—in essence, a process score for speed and for accuracy?

Removing the time limit on this subtest would result in a loss of the ceiling, greatly reduced reliability, and a much lower correlation with general intelligence. Removing the time limit results in children completing correctly who do not have commensurate intellectual ability. These issues greatly reduce the meaningfulness of scores that could be derived from the results. The additional puzzles that would be required to ensure a ceiling without a time requirement would substantially raise the kit cost and kit weight and greatly increase administration time. There is nothing that precludes a practitioner from returning to Object Assembly after WPPSI-IV administration to test the child’s limits of performance.

Why was Picture Completion dropped?

Picture Completion was removed to decrease the emphasis on speed in the battery and to allow the inclusion of other measures of interest (e.g., working memory subtests).

How does Zoo Locations work with children with motor deficits such as Cerebral Palsy? Is there an alternative test?

As with Block Design and Object Assembly, depending on the severity of the motor impairment, Zoo Locations may or may not be appropriate. The grids are relatively large, and unless the child has severe motor impairment, s/he may be able to complete the task. You will need to evaluate the severity and impact of the motor impairment for each case. You could also evaluate qualitatively using a modified response strategy. Zoo Locations is not required to obtain the FSIQ for any age; however, if Zoo Locations cannot be administered, the WMI and some ancillary index scores may not be obtained, depending on the child’s age.

Why were Symbol Search and Coding dropped?

Symbol Search and Coding have been replaced with new processing speed measures that are more developmentally appropriate and have fewer fine motor skill demands.

On Animal Coding, the associated pairs are presented in one row for the key. Each item is presented in a box. How did you decide on this box presentation and is it developmentally appropriate?

We tested several formats, and this one emerged as the simplest for children, including those with developmental delays and intellectual disability. Flashcards for preschoolers mimic the box format. We had to limit it to three associations to ensure developmental appropriateness, per Neo-Piagetian research and models. We also examined response processes on Animal Coding to ensure that children were engaging the expected cognitive processes. Rows were more difficult and required multicoloured rows in a response booklet because the children tended to search across other rows for a match. Bug Search has a different colour for each row for this exact reason.

Composite Scores

How is the WPPSI-IV FSIQ different than the WPPSI-III FSIQ?

The WPPSI-III FSIQ and the WPPSI-IV FSIQ differ in some respects for both age bands. The WPPSI-III FSIQ for the 2:6–3:11 age band was based on four subtests: Information, Receptive Vocabulary, Block Design, and Object Assembly. The WPPSI-IV FSIQ for this age band is based on five core subtests: Information, Receptive Vocabulary, Block Design, Object Assembly, and Picture Memory. Relative to the WPPSI-III FSIQ, the WPPSI-IV FSIQ for this age band is a more comprehensive measure of general intellectual functioning with the inclusion of Picture Memory, which is designed to measure working memory: The WPPSI-III FSIQ did not include any measures of working memory.

The WPPSI-III FSIQ for the 4:0–7:7 age band was based on seven subtests: Information, Vocabulary, Word Reasoning, Block Design, Matrix Reasoning, Picture Concepts, and Coding. The WPPSI-IV FSIQ for this age band is based on six subtests: Information, Similarities, Block Design, Matrix Reasoning, Picture Memory, and Bug Search. Relative to the WPPSI-III FSIQ, the WPPSI-IV FSIQ for this age band differs in a number of ways. The WPPSI-IV FSIQ assigns a relatively lighter weight to Verbal Comprehension ability, as it is based on two Verbal Comprehension subtests, whereas the WPPSI-III FSIQ was based on three. The WPPSI-IV FSIQ places equal emphasis on the other cognitive domains measured by the WPPSI-IV, with one subtest each from Visual Spatial, Fluid Reasoning, Working Memory, and Processing Speed contributing to overall intelligence. With the removal of Vocabulary and Word Reasoning and the addition of Similarities, the WPPSI-IV FSIQ can be conceptualized as more heavily sampling acquired knowledge, verbal concept formation, and verbal reasoning with less emphasis on vocabulary knowledge and verbal expression. Relative to the WPPSI-III FSIQ, the WPPSI-IV FSIQ is a more comprehensive measure of general intellectual functioning with the inclusion of Picture Memory, which is designed to measure working memory: The WPPSI-III FSIQ did not include any measure of working memory. The WPPSI-IV FSIQ includes a more developmentally appropriate measure of processing speed with the inclusion of Bug Search: The WPPSI-III FSIQ was based, in part, on Coding, which, relative to Bug Search, had a weaker floor, depended more heavily on fine motor performance, and was less play-like and appealing to children.

What is the fundamental difference between the FSIQ and the primary index scores?

The FSIQ is usually considered the score that is most representative of general intellectual functioning (g). The primary index scores (e.g., VCI, VSI, WMI) represent intellectual functioning in specified cognitive areas (e.g., verbal comprehension, visual spatial ability, working memory). The FSIQ is derived from a subset of the subtests that contribute to each primary index score that is available for a given age band.

If there are significant discrepancies between the primary index scores (e.g., VCI, WMI), is the FSIQ still interpretable (e.g., for diagnosing intellectual disability/mental retardation)?

Research suggests that even when a cognitive ability composite score such as the FSIQ is based on disparate abilities, it still has predictive validity. Best practice suggests that you conduct a complete discrepancy analysis (looking at statistical and

clinical significance of strengths and weaknesses) and conduct additional assessments (e.g., adaptive behaviour, social and emotional functioning) to fully understand a child's needs. There may be times where there are such statistically and clinically significant discrepancies in a child's profile that the FSIQ does not represent a unitary construct; however, this does not render the FSIQ *invalid*. Rather, the FSIQ may not tell you everything that you need to know to plan appropriately for a child. In most cases, abundant information regarding treatment needs can be gained from the various primary and ancillary index scores (and other information) available. You will also need to consider the child's cultural, language, and background and consult your local guidelines for eligibility in making a determination.

What does the Fluid Reasoning Index (FRI) measure?

The FRI may be conceptualized as measuring fluid and inductive reasoning, broad visual intelligence, simultaneous processing, conceptual thinking, and classification ability. Relative to the WPPSI-III PIQ for ages 4:0–7:7, the FRI has increased emphasis on fluid and inductive reasoning and classification ability, and has reduced emphasis on integration of part-whole relationships, spatial processing, visual-motor integration, and speeded performance.

What does the Working Memory Index (WMI) measure?

The WMI is a measure of visual working memory, visual-spatial working memory, and the ability to resist proactive interference. Working memory involves attention, concentration, mental control, and reasoning. Contemporary research indicates that working memory is an essential component of other higher-order cognitive processes.

How does the WMI on WPPSI-IV correlate with the WMI on the WISC-IV?

The corrected correlation coefficient between the WPPSI-IV WMI and the WISC-IV WMI is .55 (U.S. study). A correlation of this nature provides evidence of validity for this new WPPSI-IV composite score. Given that the WPPSI-IV WMI involves visual and visual-spatial tasks, and the WISC-IV WMI includes verbal tasks, the correlation between the two scores is higher than expected and suggests that both are measuring a similar construct.

What is the difference between primary index scores and ancillary index scores?

The nine index scores available on the WPPSI-IV can be subdivided into two categories: primary and ancillary. The five *primary index scores* include those factor-based composite scores that are typically obtained for a comprehensive evaluation of cognitive ability, including the Verbal Comprehension Index, Visual Spatial Index, Fluid Reasoning Index, Working Memory Index, and Processing Speed Index. The four remaining *ancillary index scores* are primarily theoretically based and include the Vocabulary Acquisition Index, Nonverbal Index, General Ability Index, and Cognitive Proficiency Index. The ancillary index scores may be used to provide additional or supporting information regarding a child's WPPSI-IV performance.

The ancillary index scores are described below.

Vocabulary Acquisition Index (VAI) –The General Language Composite (GLC) is retained from the WPPSI-III and is renamed the VAI to better reflect its construct coverage. The VAI provides additional information about the performance of children with expressive language issues and is an indicator of the child's acquisition of receptive and expressive vocabulary.

Nonverbal Index (NVI) – Offers an estimate of overall ability for children using subtests that do not require any verbal responses. Due to the relatively reduced verbal demands of its contributing subtests, the NVI may offer a more appropriate estimate of overall ability than the FSIQ for children with expressive language problems, with clinical conditions associated with expressive language issues (e.g., autism spectrum disorders), or who are English language learners.

General Ability Index (GAI) – Provides an estimate of general ability that is less reliant on working memory and processing speed relative to the FSIQ.

Cognitive Proficiency Index (CPI) – Provides an estimate of the efficiency with which cognitive information is processed in the service of learning, problem solving, and higher order reasoning. It is based on Working Memory and Processing Speed subtests, and can be compared to the GAI for ages 4:0–7:7.

Is the NVI recommended for students with varying degrees of communication deficits? Could you use the NVI to determine eligibility for students who are nonverbal?

The NVI may be especially useful in these types of situations. Refer to the special group studies in Chapter 5 in the *WPPSI-IV Technical and Interpretive Manual* and Appendix D in the *WPPSI-IV Canadian Manual* for use of the NVI. Ability-achievement discrepancy analyses are available for the NVI in Appendix C of the *WPPSI-IV Canadian Manual*.

What is the difference between the FSIQ and the GAI?

The GAI provides an estimate of general intellectual ability that is less impacted by working memory and processing speed than the FSIQ. Children with neurodevelopmental disorders associated with difficulties in working memory and processing speed, such as learning disabilities, ADHD, Language Disorder, or autism spectrum disorders, may obtain lower FSIQ scores than children without such difficulties, because these areas of relative weakness are included in the FSIQ. In these situations, the lower FSIQ score may mask meaningful differences between general cognitive ability (represented by the FSIQ) and other cognitive functions (e.g., achievement, memory, and specific neuropsychological functions). The GAI was specifically developed to help practitioners with the identification of relative strengths and weaknesses that are based on comparisons between general ability and other cognitive functions. Relative to the FSIQ, the GAI provides the practitioner with an estimate of general intellectual ability that is less sensitive to the influence of working memory and processing speed difficulties by excluding those subtests. The FSIQ can be compared to the GAI to assess the effects of a weakness in cognitive proficiency (as measured by the working memory and processing speed subtests) on the child's overall cognitive functioning. In some situations, it may be appropriate to use the GAI for score comparisons with measures of achievement or other cognitive functions. An evaluation of the significance and frequency of GAI–FSIQ differences may inform decisions about when to use the GAI in specific clinical situations.

Are there norms tables available to show the frequency of GAI minus CPI differences among a gifted population?

Table E.5 in the *WPPSI-IV Canadian Manual* reports the frequency of GAI minus CPI differences for the total WPPSI-IV sample by ability level. One portion of this table reports the information for children with $GAI \geq 120$. There is not an analogous table that reports these data for the gifted population, or for any other special group.

If I substitute a supplemental subtest for a core subtest to derive a composite score, is it considered a standard administration?

No. Because this procedure estimates performance on a core subtest using a supplemental subtest, the results should be interpreted with caution and considered non-standard.

How was it decided that one subtest score could or could not be substituted for another?

Because substituted subtests are being used as an estimate of performance on another subtest, only supplemental subtests within the same cognitive domain that are sufficiently highly related to the core subtest can be substituted.

Can I substitute the supplemental subtests for a core subtest?

For composite scores that are derived from more than two subtests (i.e. FSIQ, NVI, GAI, and CPI), a maximum of one substitution may be made. However, the supplemental subtest must be from the same cognitive domain as the core subtest.

Can I administer all of the core and supplemental subtests and choose to use the highest subtest scaled scores when computing composite scores?

No. When deriving composite scores, you can only substitute supplemental subtests for core subtests that are spoiled or invalidated, or for a specific clinical purpose. Supplemental subtests can also provide additional information on cognitive functioning. If you need to substitute a supplemental subtest in place of a core subtest, it is best practice to decide this before you administer the subtest—not after you have derived scaled scores. Supplemental subtests are also useful when the scores within a primary index score are widely discrepant. In this situation, additional information from supplemental subtests can help to shed light on factors that may contribute to such disparate results.

Why isn't supplemental subtest substitution allowed on the VCI, VSI, FRI, WMI, or PSI?

Because the use of supplemental subtest substitution for core subtests may introduce measurement error into derived composite scores, substitution is limited. The primary index scores are derived from only two subtests, and the risk of such error therefore is greater for these composite scores. Furthermore, if a supplemental subtest substitutes for a core subtest for the FSIQ or an ancillary index score that permits substitution, the Q-global™ scoring software will not allow calculation of the primary index score to which the substituted subtest contributes.

Is score proration still available?

Under specific guidelines and circumstances, prorating is available for the FSIQ only. Substitution, if available, is preferred over proration.

Kit Materials**On the WPPSI-III, a pencil was used to draw forms in Coding (thus also assessing fine motor skills). It seems like it will be more difficult to assess fine motor skills when children are only using the ink dauber. Have you found this to be true?**

In terms of the fine motor demands, yes, the ink dauber reduces the influence of fine motor demands on the measure of processing speed. Using the pencil was difficult for many 4- year-old children with developmental delays or other fine motor issues. Because the assessment of fine motor control was mainly qualitative in nature on the prior tasks, other measures such as the Beery VMI or portions of the NEPSY-II and consulting with an occupational therapist may be helpful if the referral question requires investigation of fine motor skills.

Have you found the ink dauber to be distracting to the children?

Children have found the ink dauber to be fun, but this does not result in unwillingness to complete the tasks. Similar daubers are quite commonly used in many daycare, preschool, and no-cost community recreational programs, so most children have encountered them. Dauber practice was built into the WPPSI-IV standard administration procedures; consequently, children are familiar with the dauber prior to completing any test items. Extra dauber use might also be used as a reinforcement technique following test completion.

How long do the ink daubers last? Are there replacement ink daubers available?

The ink dauber is approximately 4 inches long, with a standard amount of ink inside. The duration will be directly linked to how often it is used. Two daubers are provided in each WPPSI–IV test kit, and replacement ink daubers are available for purchase.

Can I replace an ink dauber with one I purchase at a craft store?

A similar ink dauber may be purchased from another source to use as a replacement; however, it is recommended that the replacement be as close to the original ink dauber as possible (e.g., colour and size), and that it meets the necessary safety requirements for use with young children.

Is the ink in the dauber washable?

Yes, the ink is washable. It is also non-toxic. Product safety requirements to which all kit components adhere are discussed in the *WPPSI–IV Administration and Scoring Manual*.

Q-global Scoring and Reporting**What is Q-global?**

Q-global is a web-based scoring and reporting platform that offers accessibility from any computer connected to the Internet and allows for quick and automatic organization of examinee information and the ability to generate scores and produce accurate and detailed results. Reports are available in a PDF or Word document format.

When will the WPPSI–IV scoring assistant and WPPSI–IV writer be available?

WPPSI–IV scoring and reporting is available on Q-global. The score report is available now. For updates on the availability of the interpretive report for WPPSI–IV^{CDN}, please visit HelloQ.ca.

Can I reprint a scoring report at no charge?

Yes. You can reprint a report at no charge if you change any demographic or report options. The exception to this is if you change the norm set to be used, or if you alter raw data; in both cases, a new record is created and a new report usage is required to print the output.

Can I score a test using U.S. norms instead of Canadian norms?

Both Canadian and U.S. norms are available in the WPPSI–IV kit. Q-global also allows users to generate reports using either Canadian or U.S. normative data; however, as mentioned above, each norm set generates a new report and will be charged as a new report usage.

The Canadian norms are the most appropriate reference for Canadian children tested using the WPPSI–IV. When using the WPPSI–IV with Canadian children, practitioners are advised to use the WPPSI–IV Canadian normative information, unless there is significant justification for doing otherwise. Responses to referral questions should be guided by best practice procedures and ethical considerations. Practitioners should make a priori decisions regarding the use of normative information. Guidelines for the appropriate use of Canadian norms are described in Chapter 6 of the *WPPSI–IV Canadian Manual*.

How do you use supplemental subtest substitution and proration when scoring WPPSI–IV in Q-global?

Two dropdown menus within the WPPSI–IV Q-global scoring software facilitate supplemental subtest substitution. Choose your substitution in the first dropdown menu.

The second dropdown menu will become activated if additional substitutions are allowed. A table within the Q-global Resource Library section explains which subtest substitutions are allowed together in the Q-global scoring software.

On rare occasions, an inadequate number of valid subtest scores are obtained to derive the FSIQ, despite the availability of supplemental subtests. Q-global automatically prorates the FSIQ if a core subtest that contributes to it is missing and a supplemental subtest is not selected for substitution. If more than one core subtest is missing, the FSIQ is not calculated. Proration is only available for the FSIQ, and only when the prorated sum of scaled scores is based on core subtests. You cannot combine supplemental subtest substitution and proration when deriving the FSIQ.

Are the allowable substitutions for core subtests different on Q-global compared to hand scoring?

The rules governing allowable substitutions for core subtests for Q-global and hand scoring (i.e., in the *WPPSI–IV Administration and Scoring Manual*) are the same. Substitution should only be used when the core subtest is invalid or in certain clinical situations when it is determined that a supplemental subtest is a better estimate of the cognitive ability than the core subtest (e.g., when a child's physical condition interferes with performance). Any substitution selected within Q-global is made on all applicable composites, and any score comparisons that utilize the substituted subtest are impacted. Please see the Q-global Resource Library section for more details.

Why are some score comparisons not available on the Q-global platform if I substitute a supplemental subtest for a core subtest?

The score comparisons are not available because the data they are based on require the missing subtest. For example, pairwise index-level difference comparisons that include the VCI are not provided in Q-global if Vocabulary is substituted for Information when deriving the FSIQ, because the VCI is not calculated.

Some other comparisons may also be unavailable if substitution is used. For example, index-level strengths and weaknesses comparisons require calculation of the mean primary index score or the FSIQ. If the VCI is unavailable, the MIS cannot be calculated. In this situation, the FSIQ becomes the comparison score, and the other available primary index scores are compared with the FSIQ rather than the MIS.