WISC-V A&NZ Interpretive Considerations for Sample Report (06/03/2016)

Interpretive considerations provide additional information to assist you, the examiner, in interpreting Sample's performance. *This section should not be provided to the parent or recipient of the report.*

Please review these interpretive considerations before reading the report, as they may suggest that you make changes to the report settings in Q-global. If you make changes to the report settings, you can re-run the report without being charged.

Recommendation Considerations

Items listed in the 'Recommendations' section at the end of the report are meant to be an aid to you as a clinician, not a substitute for individualised recommendations that should be provided by a professional who is familiar with the examinee. Please read through the automatically generated recommendations carefully and edit them according to the examinee's individual strengths and needs.

The recommendation section entitled 'Recommendations for Verbal Comprehension Skills' was included in the report because the examinee's verbal skills were an area of strength relative to other areas of cognitive functioning.

The recommendation section entitled 'Recommendations for Visual Spatial Skills' was included in the report because the examinee's visual spatial skills were an area of strength relative to other areas of cognitive functioning.

The recommendation section entitled 'Recommendations for Fluid Reasoning Skills' was included in the report because fluid reasoning skills were an area of weakness relative to other areas of cognitive ability.

The recommendation section entitled 'Recommendations for Working Memory Skills' was included in the report because the examinee's working memory skills were an area of strength relative to other areas of cognitive functioning.

The recommendation section entitled 'Recommendations for Processing Speed' was included in the report because the examinee's PSI fell below a standard score of 90.

End of Interpretive Considerations

[1.3 / RE1 / QG1]

WISC®-V A&NZ

Wechsler Intelligence Scale for Children®-Fifth Edition: Australian and New Zealand Interpretive Report

Examinee Name	Sample Report	Date of Report	07/03/2016	
Examinee ID	12345	Year/Grade	Year/Grade 3	
Date of Birth	24/11/2008	Primary Language	English	
Gender	Male	Handedness	Right	
Race/Ethnicity	Australian	Examiner Name	Sample Examiner	
Date of Testing	06/03/2016	Age at Testing	7 years 3 months	Retest? No

Comments:

PsychCorp

[1.3 / RE1 / QG1]

ABOUT WISC-V A&NZ SCORES

Sample was administered 16 subtests from the Wechsler Intelligence Scale for Children-Fifth Edition: Australian and New Zealand (WISC-V A&NZ). The WISC-V is an individually administered, comprehensive clinical instrument for assessing the intelligence of children ages 6:0-16:11. The primary and secondary subtests are on a scaled score metric with a mean of 10 and a standard deviation (*SD*) of 3. These subtest scores range from 1 to 19, with scores between 8 and 12 typically considered average. The primary subtest scores contribute to the primary index scores, which represent intellectual functioning in five cognitive areas: Verbal Comprehension Index (VCI), Visual Spatial Index (VSI), Fluid Reasoning Index (FRI), Working Memory Index (WMI), and the Processing Speed Index (PSI). This assessment also produces a Full Scale IQ (FSIQ) composite score that represents general intellectual ability. The primary index scores and the FSIQ are on a standard score metric with a mean of 100 and an *SD* of 15. The primary index scores range from 45 to 155; the FSIQ ranges from 40 to 160. For both the primary index scores and the FSIQ, scores ranging from 90 to 109 are typically considered average.

Ancillary index scores are also provided. The ancillary index scores represent cognitive abilities using different primary and secondary subtest groupings than do the primary index scores. The ancillary index scores are also on a standard score metric with a mean of 100 and an *SD* of 15. The Quantitative Reasoning Index (QRI) and Auditory Working Memory Index (AWMI) scores have a range of 45-155. The remaining three ancillary index scores have a range of 40-160: Nonverbal Index (NVI), General Ability Index (GAI), and the Cognitive Proficiency Index (CPI). Scores ranging from 90 to 109 are typically considered average.

A percentile rank (PR) is provided for each reported composite and subtest score to show Sample's standing relative to other same-age children in the WISC-V normative sample. If the percentile rank for his Verbal Comprehension Index score is 88, for example, it means that he performed as well as or better than approximately 88% of children his age. This appears in the report as PR = 88.

The scores obtained on the WISC-V reflect Sample's true abilities combined with some degree of measurement error. His true score is more accurately represented by a confidence interval (CI), which is a range of scores within which his true score is likely to fall. Composite scores are reported with 95% confidence intervals to ensure greater accuracy when interpreting test scores. For each composite score reported for Sample, there is a 95% certainty that his true score falls within the listed range.

It is common for children to exhibit score differences across areas of performance. Comparing the score differences in relation to three separate benchmarks may yield a richer portrait of a child's strengths and weaknesses. The three types of score difference comparisons presented in this report use interpretive statements that describe what can be generically understood as strengths or weaknesses. Because many score comparisons are possible within the WISC-V, attention to exactly what the scores are compared to is necessary to understand Sample's performance. The first type of comparison may be used to detect a normative strength or weakness, which occurs if a composite or subtest score differs from what is typical in the normative sample. For the purposes of this report, scores that fall above or below the Average qualitative descriptor range suggest either a normative strength or a normative weakness. The report will include phrases such as 'very high for his age' or 'lower than most children his age' when this occurs. The second type of comparison may be used to examine score differences from an intrapersonal perspective. For this comparison, a score is described as a strength or weakness if a primary index or subtest score differs from an indicator of overall performance (i.e., the mean of the primary index scores, the mean of the FSIQ subtest scores, the mean of the primary subtest scores, or the mean of the FSIQ subtest scores). Statistically significant differences are described with phrases such as 'personal strength' or 'personal weakness' or as one of the child's 'strongest or weakest areas of performance'. The third type of comparison may be used to examine scores for a relative strength or weakness, which occurs if a composite or subtest score differs in relation to another score of the same type (e.g., scaled, standard). When a scaled or standard score is compared with another scaled or standard score, the phrases 'relative strength' and 'relative weakness' are used to describe statistically significant differences when comparing performance on one score in relation to another.

If the difference between two scores is statistically significant, it is listed in the report with a base rate to aid in interpretation. The statistical significance and base rate results provide different information. A statistically significant difference suggests that the result is reliable and would likely be observed again if the assessment were repeated (i.e., the difference is not due to measurement error). The base rate (BR) provides a basis for estimating how common or rare a particular score difference was among other children of similar ability in the WISC-V normative sample. For example, a base rate of <=5% is reported if the score for the the Processing Speed Index is 19.80 points lower than the mean primary index score (MIS). This appears on the report as PSI < MIS, BR = <=5%. This means that <=5% of children of similar ability level in the WISC-V normative sample obtained a difference of this magnitude or greater between those two scores. In many cases, a statistically significant difference may be accompanied by a base rate of greater than 15%, which indicates that the difference, while reliable and not due to measurement error, is relatively common among children. This result does not necessarily reduce the importance of the difference, but does indicate a difference that large or larger is relatively common.

It is possible for intellectual abilities to change over the course of childhood. Additionally, a child's scores on the WISC-V can be influenced by motivation, attention, interests, and opportunities for learning. All scores may be slightly higher or lower if Sample were tested again on a different day. It is therefore important to view these test scores as a snapshot of Sample's current level of intellectual functioning. When these scores are used as part of a comprehensive evaluation, they contribute to an understanding of his current strengths and any needs that can be addressed.

INTERPRETATION OF WISC-V A&NZ RESULTS

FSIQ

The FSIQ is derived from seven subtests and summarises ability across a diverse set of cognitive functions. This score is typically considered the most representative indicator of general intellectual functioning. Subtests are drawn from five areas of cognitive ability: verbal comprehension, visual spatial, fluid reasoning, working memory, and processing speed. Sample's FSIQ score is in the High Average range when compared to other children his age (FSIQ = 117, PR = 87, CI = 111-122). Although the WISC-V measures various aspects of ability, a child's scores on this test can also be influenced by many factors that are not captured in this report. When interpreting this report, consider additional sources of information that may not be reflected in the scores on this assessment. While the FSIQ provides a broad representation of cognitive ability, describing Sample's domain-specific performance allows for a more thorough understanding of his functioning in distinct areas. Some children perform at approximately the same level in all of these areas, but many others display areas of cognitive strengths and weaknesses.

Verbal Comprehension

The Verbal Comprehension Index (VCI) measured Sample's ability to access and apply acquired word knowledge. Specifically, this score reflects his ability to verbalise meaningful concepts, think about verbal information, and express himself using words. Overall, Sample's performance on the VCI was above average for his age (VCI = 118, PR = 88, High Average range, CI = 109-124). High scores in this area 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. His performance on verbal comprehension tasks was particularly strong when compared to his performance on tasks that involved using logic to solve problems (VCI > FRI, BR = 16.9%). His pattern of performance implies a strength in crystallised abilities relative to fluid reasoning abilities. Moreover, his performance on verbal comprehension tasks was stronger than his performance on tasks requiring him to work quickly and efficiently (VCI > PSI, BR = 5.6%). Sample's processing speed was a relative weakness when compared to verbal comprehension, but does not appear to be interfering with his capacity to perform complex verbal tasks.

With regard to individual subtests within the VCI, Similarities (SI) required Sample to describe a similarity between two words that represent a common object or concept and Vocabulary (VC) required him to name depicted objects and/or define words that were read aloud. He performed comparably across both subtests, suggesting that his abstract reasoning skills and word knowledge are similarly developed at this time (SI = 14; VC = 13). In addition to the two subtests that contribute to the VCI, two other verbal comprehension subtests were administered to gain a more detailed understanding of Sample's verbal comprehension abilities. For Information (IN), he answered questions about a broad range of general-knowledge topics. His performance was above average for his age, suggesting above average ability to acquire, remember, and retrieve knowledge about the world around him (IN = 12). On Comprehension (CO), a subtest requiring him to answer questions based on his understanding of general principles and social situations, Sample's performance was strong for his age. This suggests advanced understanding of practical knowledge and ability to verbalise meaningful concepts (CO = 15).

Visual Spatial

The Visual Spatial Index (VSI) measured Sample's ability to evaluate visual details and understand visual spatial relationships in order to construct geometric designs from a model. This skill requires visual spatial reasoning, integration and synthesis of part-whole relationships, attentiveness to visual detail, and visual-motor integration. In this area, Sample exhibited performance that was very advanced for his age (VSI = 122, PR = 93, Very High range, CI = 112-128). High scores in this area indicate a well-developed capacity to apply spatial reasoning and analyse visual details. Sample quickly and accurately put together geometric designs using a model. This reflects his ability to understand and apply visual-perceptual and visual spatial information. His performance in this area was particularly strong in relation to his performance on fluid reasoning tasks (VSI > FRI, BR = 7.9%). Because his visual spatial skills currently appear stronger than his fluid reasoning skills, he may work very easily with purely visual information, but have greater difficulty applying complex reasoning to visual stimuli. His visual spatial performance was also particularly strong when compared to his performance on tests of processing speed (VSI > PSI, BR = 1.1%). It appears that he can solve complex visual spatial problems, despite relative processing speed weaknesses.

The VSI is derived from two subtests. During Block Design (BD), Sample viewed a model and/or picture and used two-coloured blocks to re-create the design. Visual Puzzles (VP) required him to view a completed puzzle and select three response options that together would reconstruct the puzzle. He performed comparably across both subtests, suggesting that his visual-spatial reasoning ability is equally well developed, whether solving problems that involve a motor response and reuse the same stimulus repeatedly while receiving concrete visual feedback about accuracy, or solving problems with unique stimuli that must be solved mentally and do not involve feedback about accuracy (BD = 14; VP = 14).

Fluid Reasoning

The Fluid Reasoning Index (FRI) measured Sample's ability to detect the underlying conceptual relationship among visual objects and use reasoning to identify and apply rules. Identification and application of conceptual relationships in the FRI requires inductive and quantitative reasoning, broad visual intelligence, simultaneous processing, and abstract thinking. Overall, Sample's performance on the FRI was typical for his age (FRI = 103, PR = 58, Average range, CI = 96-110). His current performance evidenced difficulty with fluid reasoning tasks in relation to his performance on language-based and visual spatial tasks (FRI < VCI, BR = 16.9%; FRI < VSI, BR = 7.9%). This pattern of strengths and weaknesses suggests that he may currently experience relative difficulty applying logical reasoning skills to visual information, but he may have relatively strong ability to verbalise meaningful concepts. His crystallised abilities are a strength compared to his fluid reasoning abilities.

The FRI is derived from two subtests: Matrix Reasoning (MR) and Figure Weights (FW). Matrix Reasoning required Sample to view an incomplete matrix or series and select the response option that completed the matrix or series. On Figure Weights, he viewed a scale with a missing weight(s) and identified the response option that would keep the scale balanced. He performed comparably across both subtests, suggesting that his perceptual organisation and quantitative reasoning skills are similarly developed at this time (MR = 10; FW = 11). In addition to the two subtests that contribute to the FRI, two additional fluid reasoning subtests were administered to gain a more detailed understanding of Sample's fluid reasoning skills. For Picture Concepts (PC), he was asked to view two or three rows of pictures and select one picture from each row to form a group with a common characteristic. His performance was high average for his age, suggesting above average categorical reasoning skills (PC = 13). On Arithmetic (AR), a timed subtest requiring him to mentally solve math problems, Sample's performance was similar to other children his age. This suggests age-appropriate numerical reasoning and applied computational ability (AR = 11).

Working Memory

The Working Memory Index (WMI) measured Sample's ability to register, maintain, and manipulate visual and auditory information in conscious awareness, which requires attention and concentration, as well as visual and auditory discrimination. Sample exhibited diverse performance on the WMI, but his overall performance was somewhat advanced for his age (WMI = 112, PR = 79, High Average range, CI = 105-118). High WMI scores reflect a well-developed ability to identify visual and auditory information, maintain it in temporary storage, and resequence it for use in problem solving. Sample easily recalled and sequenced series of pictures and lists of numbers. His performance on these tasks was a relative strength when compared to his performance on processing speed tasks (WMI > PSI, BR = 10.1%). Sample's much better performance on working memory tasks over those measuring processing speed implies that his ability to identify and register information in short-term memory is a strength, relative to his speed of decision-making using this information.

Within the WMI, Picture Span (PS) required Sample to memorise one or more pictures presented on a stimulus page and then identify the correct pictures (in sequential order, if possible) from options on a response page. On Digit Span (DS), he listened to sequences of numbers read aloud and recalled them in the same order, reverse order, and ascending order. Sample showed uneven performance on these tasks. The discrepancy between Sample's scores on the Digit Span and Picture Span subtests is clinically meaningful. These subtests differ in the specific abilities involved, and consideration of the difference between the two scores informs interpretation of the WMI. Recalling and sequencing strings of numbers was a strength for Sample during this evaluation (DS = 16; DS > MSS-P, BR = <=5%). However, he showed greater difficulty when asked to remember series of rapidly-presented pictures (PS = 8; PS < MSS-P, BR = <=5%; PS < DS, BR = 1.1%). This pattern of strengths and weaknesses suggests that Sample best employs working memory when information is presented in an auditory versus visual format. Further, he performs better when a free recall paradigm is used, rather than a recognition paradigm. He might attend more easily to information during interactive tasks, or when information is supplemented by spatial cues. It is also possible that he experienced a lapse in attention or motivation during administration, because material may not be repeated or re-exposed for these tasks. The Digit Span Forward (DSf) scaled process score is derived from the total raw score for the Digit Span Forward task. On this task, Sample was required to repeat numbers verbatim, with the number of digits in each sequence increasing as the task progressed. This task required working memory when the number of digits exceeded his ability to repeat the digits without the aid of rehearsal. This task represents basic capacity in the phonological loop. His performance on DSf was extremely strong compared to other children his age (DSf = 19). On the Digit Span Forward task, Sample's Longest Digit Span Forward score was recorded (LDSf = 6). This raw score reflects the maximum span length recalled on DSf and offers unique information about performance on this task. Examine the consistency of recall across trials or items with the same number of digits, to determine if Sample exhibited variable performance. When performance is variable, this score may provide further insight regarding his performance. The Digit Span Backward (DSb) scaled process score is derived from the total raw score for the Digit Span Backward task. This task invoked working memory because Sample was required to repeat the digits in a reverse sequence than was originally presented, requiring him to mentally manipulate the information before responding. His performance on DSb was typical compared to other children his age (DSb = 9). The Digit Span Sequencing (DSs) scaled process score is derived from the total raw score for the Digit Span Sequencing task. This task required Sample to sequence digits according to value, invoking quantitative knowledge in addition to working memory. The increased demands for mental manipulation of information on the Digit Span Sequencing task places additional demands on working memory, as well as attention. His performance on DSs was typical compared to other children his age (DSs = 10).

Sample's performance on Digit Span provides information about his storage capacity versus his mental manipulation ability with regards to simple memory tasks as compared to more complex memory tasks. His pattern of performance suggests that he has sufficient memory capacity but has not yet mastered the skills of mental reversal and mental sequencing, may have been confused by the additional requirements to reverse digits or sequence digits in the task, or has difficulty with mental manipulation on the more complex Digit Span tasks. It is also possible that Sample has difficulty when there are increased demands on working memory. In addition to the two subtests that contribute to the WMI, Letter-Number Sequencing (LN) was administered to gain a more detailed understanding of Sample's working memory proficiency. On this subtest, he was read sequences of numbers and letters, and was then asked to recall the numbers in ascending order and then the letters in alphabetical order. His performance was similar to other children his age, suggesting age-appropriate sequential processing, mental manipulation, and attention (LN = 9).

Processing Speed

The Processing Speed Index (PSI) measured Sample's speed and accuracy of visual identification, decision making, and decision implementation. Performance on the PSI is related to visual scanning, visual discrimination, short-term visual memory, visuomotor coordination, and concentration. The PSI assessed his ability to rapidly identify, register, and implement decisions about visual stimuli. His overall processing speed performance was slightly low for his age and was an area of relative weakness compared to his overall ability (PSI = 89, PR = 23, Low Average range, CI = 81-100; PSI < MIS, BR = <=5%). Low PSI scores may occur for many reasons including visual discrimination problems, distractibility, slowed decision making, motor difficulties, or generally slow cognitive speed. His performance on processing speed tasks was weaker than his performance on language-based tasks and visual spatial tasks (PSI < VCI, BR = 5.6%; PSI < VSI, BR = 1.1%). Additionally, his performance on processing speed tasks was a weakness relative to his performance on tasks requiring him to mentally manipulate information (PSI < WMI, BR = 10.1%).

The PSI is derived from two timed subtests. Symbol Search (SS) required Sample to scan a group of symbols and indicate if the target symbol was present. On Coding (CD), he used a key to copy symbols that corresponded with simple geometric shapes. Performance across these tasks was similar, suggesting that Sample's associative memory, graphomotor speed, and visual scanning ability are similarly developed (SS = 8; CD = 8). In addition to the subtests that contribute to the PSI, Sample was administered Cancellation (CA), another processing speed subtest, to gain a more detailed understanding of his processing speed ability. On this timed subtest, he scanned two arrangements of objects (one random, one structured) and marked target objects. Cancellation measures speed, scanning ability, and visual discrimination. His performance was typical compared to other children his age (CA = 9). Children with superior reasoning ability sometimes tend to perform less well, though still adequately, on processing speed tasks.

ANCILLARY INDEX SCORES

In addition to the index scores described above, Sample was administered subtests contributing to several ancillary index scores. Ancillary index scores do not replace the FSIQ and primary index scores, but are meant to provide additional information about Sample's cognitive profile.

Quantitative Reasoning

Figure Weights and Arithmetic comprise the Quantitative Reasoning Index (QRI), which measures quantitative reasoning skills. Quantitative reasoning is closely related to general intelligence and can indicate a child's capacity to perform mental math operations and comprehend abstract relationships. Sample's overall index score was similar to other children his age (QRI = 106, PR = 66, Average range, CI = 99-112). Assessment of Sample's performance on the QRI may help to predict his reading and math achievement scores, creative potential, standardised test performance, and future academic success.

Auditory Working Memory

The Auditory Working Memory Index (AWMI) is derived from the sum of scaled scores for the Digit Span and Letter-Number Sequencing subtests. These subtests required Sample to listen to numbers and letters presented verbally, then recall or sequence them aloud. This index score measured his ability to register, maintain, and manipulate verbally presented information. His overall auditory working memory performance was above average for his age (AWMI = 113, PR = 81, High Average range, CI = 106-119). High scores in this area indicate a well-developed ability to temporarily store, rehearse, and manipulate verbally presented information using the phonological loop. Sample exhibited inconsistent performance across the two subtests that contribute to the AWMI. During Digit Span (DS), he excelled when listening to strings of numbers and then repeating them forward, backward, and in sequence (DS = 16); however, his performance on Letter-Number Sequencing (LN) was weaker, with performance that was similar to other children his age (LN = 9). This pattern of performance may suggest that Sample has difficulty with immediate registration of letters, has not yet mastered his alphabet skills, or has difficulty dual-tasking information in working memory.

Nonverbal

The Nonverbal Index (NVI) is derived from six subtests that do not require verbal responses. This index score can provide a measure of general intellectual functioning that minimises expressive language demands for children with special circumstances or clinical needs. Subtests that contribute to the NVI are drawn from four of the five primary cognitive domains (i.e., Visual Spatial, Fluid Reasoning, Working Memory, and Processing Speed). Sample's performance on the NVI fell in the Average range when compared to other children his age (NVI = 106, PR = 66, CI = 100-111). Assessment of Sample's performance on the NVI may help to estimate his overall nonverbal cognitive ability.

General Ability

Sample was administered the five subtests comprising the General Ability Index (GAI), an ancillary index score that provides an estimate of general intelligence that is less impacted by working memory and processing speed, relative to the FSIQ. The GAI consists of subtests from the verbal comprehension, visual spatial, and fluid reasoning domains. Overall, this index score was somewhat advanced for his age (GAI = 116, PR = 86, High Average range, CI = 109-121). High GAI scores indicate well-developed abstract, conceptual, visual-perceptual and spatial reasoning, as well as verbal problem solving. The GAI does not replace the FSIQ as the best estimate of overall ability. It should be interpreted along with the FSIQ and all of the primary index scores. Sample's FSIQ and GAI scores were not significantly different, indicating that reducing the impact of working memory and processing speed resulted in little or no difference on his overall performance.

Cognitive Proficiency

Sample was also administered subtests that contribute to the Cognitive Proficiency Index (CPI). These four subtests are drawn from the working memory and processing speed domains. His index score suggests that he demonstrates average efficiency when processing cognitive information in the service of learning, problem solving, and higher-order reasoning (CPI = 100, PR = 50, Average range, CI = 93-107). The CPI is most informative when interpreted as part of a comprehensive evaluation, together with its counterpart, the GAI. The practitioner may consider evaluating the GAI-CPI pairwise comparison, as this may provide additional interpretive information regarding the possible impact of cognitive processing on his ability. Sample's performance on subtests contributing to the GAI was significantly stronger than his overall level of cognitive proficiency (GAI > CPI, BR = 18.6%). The significant difference between his GAI and CPI scores suggests that higher-order cognitive abilities may be a strength compared to abilities that facilitate cognitive processing efficiency. This result indicates that the effects of cognitive proficiency, as measured by working memory and processing speed, may have led to a higher general ability score. Thus, any cognitive efficiency limitations may not have reduced his general reasoning ability.

Relative weaknesses in mental control and speed of visual scanning may sometimes create challenges as Sample engages in more complex cognitive processes, such as learning new material or applying logical thinking skills.

SUMMARY

Sample is a 7-year-old boy. The WISC-V was used to assess Sample's performance across five areas of cognitive ability. When interpreting his scores, it is important to view the results as a snapshot of his current intellectual functioning. As measured by the WISC-V, his overall FSIQ score fell in the High Average range when compared to other children his age (FSIQ = 117). On the PSI, he worked somewhat slowly on the processing speed tasks, which was one of his weakest performance areas during this assessment (PSI = 89). Processing speed was an area of personal weakness when compared to his verbal reasoning (VCI = 118), visual spatial (VSI = 122), and working memory (WMI = 112) skills. Sample's verbal comprehension skills were somewhat advanced for his age (VCI = 118), and were a relative strength compared to his performance on fluid reasoning (FRI = 103) tasks. Performance on visual spatial tasks was very advanced for his age (VSI = 122), and was a relative strength compared to his fluid reasoning (FRI = 103) skills. Ancillary index scores revealed additional information about Sample's cognitive abilities using unique subtest groupings to better interpret clinical needs. His capacity to perform mental math operations and understand quantitative relationships, as measured by the Quantitative Reasoning Index (QRI), fell in the Average range (QRI = 106). The Auditory Working Memory Index (AWMI) measured his ability to register, maintain, and manipulate information that was presented orally. His index score was High Average for his age (AWMI = 113). On the Nonverbal Index (NVI), a measure of general intellectual ability that minimises expressive language demands, his performance was Average for his age (NVI = 106). He scored in the High Average range on the General Ability Index (GAI), which provides an estimate of general intellectual ability that is less reliant on working memory and processing speed relative to the FSIQ (GAI = 116). Performance on the Cognitive Proficiency Index (CPI), which captures the efficiency with which he processes information, was comparatively low, falling in the Average range (CPI = 100). Potential areas for intervention are described in the following section.

RECOMMENDATIONS

Recommendations for Verbal Comprehension Skills

Sample's overall performance on the VCI fell in the High Average range and was an area of strength when compared to his other cognitive skills. Verbal skills are an important component of academic success because classroom instruction involves listening comprehension, verbal reasoning, and oral communication. It is therefore important to continue to build Sample's verbal skills by providing ongoing enrichment opportunities. Strategies to build verbal skills include shared reading activities, such as dialogic reading. This strategy allows adults to ask the child specific questions that encourage interest, comprehension, and critical thinking. Vocabulary can be enriched by exposing Sample to novel situations and encouraging him to ask the names of unknown objects. Adults can keep a list of words that Sample learns and periodically review it with him. Researching and exploring new concepts can help him to further expand his vocabulary. Adults may also wish to encourage Sample to engage in elaborative conversation by creating an open, positive environment for communication. Further, adults may wish to give him positive feedback when he participates in conversation. Positive feedback can include reciprocal conversation, asking Sample to elaborate on his thoughts, and complimenting his contributions to the conversation.

Sample's verbal performance was particularly strong when compared to his fluid reasoning performance. This suggests that he has a relative strength in explaining concepts aloud, but may have more difficulty applying logical thinking to visual information. It may be beneficial for Sample to talk himself through problems rather than attempting to solve them in his head. For example, when Sample must choose the missing piece in a visual pattern, it may be helpful if he learns how to solve the problem verbally, by saying aloud, 'Red goes with blue up here, so red goes with blue down here.'

Recommendations for Visual Spatial Skills

Sample's visual spatial skills fell in the Very High range and were an area of personal strength. Visual spatial ability involves skills such as understanding things by looking at them and picturing how details fit together to create a bigger picture. These skills are important to academic success because they may help the child understand how individual parts are related to complex 'whole'. They may also assist in the acquisition of early reading skills. As such, it is important to support Sample's visual spatial strengths by providing activities that reinforce these skills. For example, he can be encouraged to engage in visual spatial tasks that he enjoys, such as putting together puzzles, creating maps, drawing, or playing with construction-type toys. Activities that allow him to build creative structures might be especially enjoyable. Many educational digital games are available that may also enrich his visual spatial abilities. When new information is presented in the classroom, Sample may benefit if visual aids supplement verbally presented content. For example, he will learn best if teachers present lessons using the chalkboard, overhead projector, and/or computer screen. Providing opportunities for visually-based learning may help Sample understand and remember new ideas. As strategies are used to augment Sample's learning, it is important that they are monitored for effectiveness and are modified according to his needs.

Visual spatial performance emerged as a particular strength when compared to fluid reasoning performance. Children with this pattern of functioning may show relatively strong accuracy when identifying important patterns and details in visual information, but they may have relative difficulty understanding how to use that information in complex problem solving. It may be helpful to build on Sample's visual spatial strengths by teaching him to put visual spatial information into words, so that he can think about it in multiple ways. For example, when putting together pieces of a puzzle, he can be taught to verbalise what he is doing, e.g., 'The top curve goes with the top curve' and 'The yellow line goes with the yellow line.' When identifying the missing pieces of visual patterns, he could be taught to verbalise what he sees, such as 'Big circle, little circle, big circle. The little circle must come next.' These simple strategies may help him utilise his visual spatial skills to complete more complex tasks.

Recommendations for Fluid Reasoning Skills

Sample exhibited Average performance on the FRI. While fluid reasoning skills were average compared to others his age, they were a relative weakness compared to other areas of cognitive functioning. Children who have relative difficulty with fluid reasoning tasks may have difficulty solving problems, applying logical reasoning, and understanding complicated concepts. Sample may benefit from structure and practise when approaching tasks that are challenging to him. With regard to specific fluid reasoning interventions, he can be asked to identify patterns or to look at a series and identify what comes next. Encourage him to think of multiple ways to group objects and then explain his rationale to adults. Performing age-appropriate science experiments may also be helpful in building logical thinking skills. For example, adults can help him form a hypothesis and then perform a simple experiment, using measurement techniques to determine whether or not his hypothesis was correct. Asking questions about stories can further build fluid reasoning skills. For example, when reading a book or watching a movie, Sample can be asked to identify the main idea of the story. Further, he could be encouraged to answer open-ended questions such as, 'What do you think would happen if...' and then think logically about his responses. Reinforcing his ideas with positive feedback may encourage him to grow in this area.

Recommendations for Working Memory Skills

Sample's working memory scores fell in the High Average range and were a strength relative to other cognitive skills. Working memory skills can help the child ignore distraction and exert mental control. They are an important component of academic success because they help children efficiently process information in the service of learning. It is important to continue to build this area of strength. Digital interventions may be helpful in strengthening both verbal and visual spatial working memory skills. Other strategies that may be useful in increasing working memory include teaching Sample to chunk information into categories and connect new information to concepts that he already knows. It is important to reinforce Sample's progress during these interventions. Goals should be small and measurable, and should steadily increase in complexity as his skills continue to grow.

Recommendations for Processing Speed

Overall, Sample's processing speed scores are an area of relative weakness, indicating that this is a potential area for intervention. Children with relatively low processing speed may work more slowly than same-age peers, which can make it difficult for them to keep up with classroom activities. It is important to identify the factors contributing to Sample's performance in this area; while some children simply work at a slow pace, others are slowed down by perfectionism, problems with visual processing, inattention, or fine-motor coordination difficulties. In addition to interventions aimed at these underlying areas, processing speed skills may be improved through practise. Interventions can focus on building Sample's speed on simple timed tasks. For example, he can play card-sorting games in which he quickly sorts cards according to increasingly complex rules. Fluency in academic skills can also be increased through similar practise. Speeded flash card drills, such as those that ask the student to quickly solve simple math problems, may help develop automaticity that can free up cognitive resources in the service of more complex academic tasks. Digital interventions may also be helpful in building his speed on simple tasks. During the initial stages of these interventions, Sample can be rewarded for working quickly rather than accurately, as perfectionism can sometimes interfere with speed. As his performance improves, both accuracy and speed can be rewarded.

Thank you for the opportunity to assess Sample. Please contact me with any questions you have about these results.

This report is only valid if signed by a qualified professional:

Sample Examiner

Date

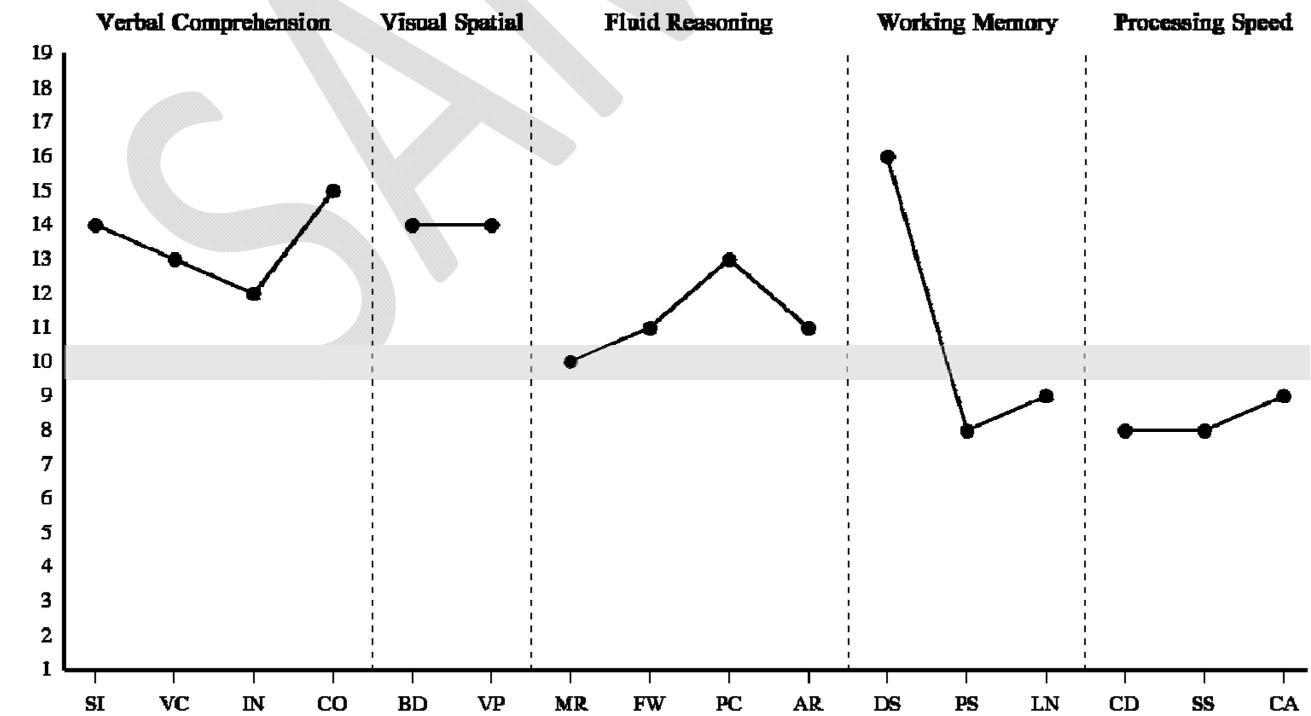
PRIMARY SUMMARY

Subtest Score Summary

Scale	Subtest Name		Total Raw Score	Scaled Score	Percentile Rank	Age Equivalent	*SEM*
Verbal Comprehension	**Similarities**	SI	25	14	91	10:2	1.27
	Vocabulary	VC	21	13	84	8:6	1.24
	(Information)	IN	15	12	75	8:2	1.20
	(Comprehension)	CO	19	15	95	10:6	1.47
Visual Spatial	**Block Design**	BD	30	14	91	10:2	1.37
	Visual Puzzles	VP	16	14	91	9:6	0.99
Fluid Reasoning	**Matrix Reasoning**	MR	14	10	50	7:2	0.99
	Figure Weights	FW	17	11	63	8:2	0.52
	(Picture Concepts)	PC	13	13	84	9:2	1.24
	(Arithmetic)	AR	14	11	63	7:6	1.08
Working Memory	**Digit Span**	DS	30	16	98	13:6	1.04
	Picture Span	PS	18	8	25	6:2	0.85
	(Letter-Number Seq.)	LN	11	9	37	6:6	1.16
Processing Speed	**Coding**	CD	26	8	25	6:2	1.24
	Symbol Search	SS	19	8	25	<6:2	1.53
	(Cancellation)	CA	43	9	37	6:10	1.41

Subtests used to derive the FSIQ are bolded. Secondary subtests are in parentheses.

Subtest Scaled Score Profile



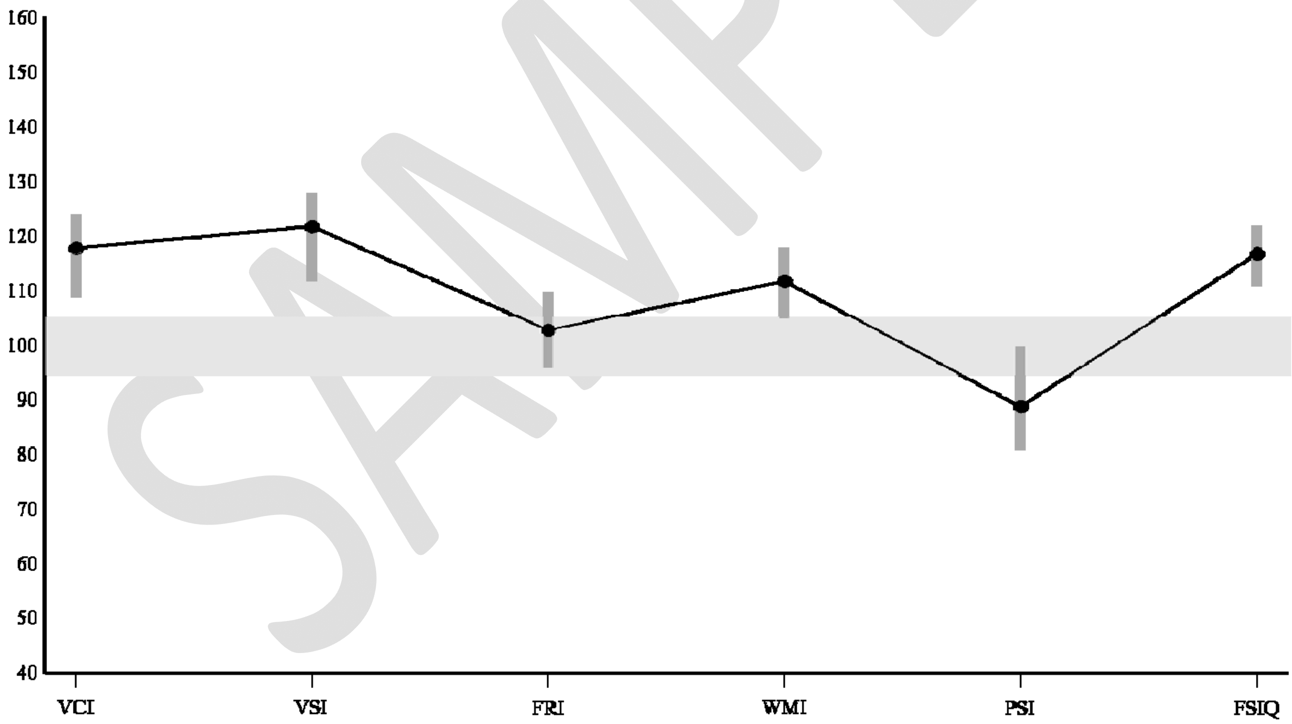
PRIMARY SUMMARY (CONTINUED)

Composite Score Summary

Composite		Sum of Scaled Scores	Composite Score	Percentile Rank	95% Confidence Interval	Qualitative Description	*SEM*
Verbal Comprehension	VCI	27	118	88	109-124	High Average	4.74
Visual Spatial	VSI	28	122	93	112-128	Very High	4.97
Fluid Reasoning	FRI	21	103	58	96-110	Average	3.00
Working Memory	WMI	24	112	79	105-118	High Average	3.67
Processing Speed	PSI	16	89	23	81-100	Low Average	5.61
Full Scale IQ	FSIQ	86	117	87	111-122	High Average	3.00

Confidence intervals are calculated using the Standard Error of Estimation.

Composite Score Profile



Note. Vertical bars represent the Confidence Intervals.

PRIMARY ANALYSIS

Index Level Strengths and Weaknesses

Index	Score	Comparison Score	Difference	Critical Value	Strength or Weakness	Base Rate
VCI	118	108.8	9.2	12.94		<=25%
VSI	122	108.8	13.2	13.42		<=15%
FRI	103	108.8	-5.8	9.50		<=25%
WMI	112	108.8	3.2	10.76		>25%
PSI	89	108.8	-19.8	14.80	W	<=5%

Comparison score mean derived from the five index scores (MIS).
Statistical significance (critical values) at the .01 level.
Base rates are reported by ability level.

Index Level Pairwise Difference Comparisons

Index Comparison	Score 1	Score 2	Difference	Critical Value	Significant Difference	Base Rate
VCI - VSI	118	122	-4	17.72	N	43.8%
VCI - FRI	118	103	15	14.47	Y	16.9%
VCI - WMI	118	112	6	15.47	N	42.7%
VCI - PSI	118	89	29	18.95	Y	5.6%
VSI - FRI	122	103	19	14.98	Y	7.9%
VSI - WMI	122	112	10	15.94	N	27.0%
VSI - PSI	122	89	33	19.34	Y	1.1%
FRI - WMI	103	112	-9	12.23	N	23.6%
FRI - PSI	103	89	14	16.41	N	32.6%
WMI - PSI	112	89	23	17.30	Y	10.1%

Statistical significance (critical values) at the .01 level.
Base rates are reported by ability level.

PRIMARY ANALYSIS (CONTINUED)

Subtest Level Strengths and Weaknesses

Subtest	Score	Comparison Score	Difference	Critical Value	Strength or Weakness	Base Rate
SI	14	11.6	2.4	3.92		<=10%
VC	13	11.6	1.4	3.84		<=25%
BD	14	11.6	2.4	4.20		<=15%
VP	14	11.6	2.4	3.14		<=15%
MR	10	11.6	-1.6	3.14		<=25%
FW	11	11.6	-0.6	1.93		>25%
DS	16	11.6	4.4	3.28	S	<=5%
PS	8	11.6	-3.6	2.77	W	<=5%
CD	8	11.6	-3.6	3.84		<=10%
SS	8	11.6	-3.6	4.66		<=10%

Comparison score mean derived from the ten primary subtest scores (MSS-P).
Statistical significance (critical values) at the .01 level.

Subtest Level Pairwise Difference Comparisons

Subtest Comparison	Score 1	Score 2	Difference	Critical Value	Significant Difference	Base Rate
SI - VC	14	13	1	3.96	N	37.8%
BD - VP	14	14	0	4.11	N	
MR - FW	10	11	-1	3.48	N	44.1%
DS - PS	16	8	8	3.46	Y	1.1%
CD - SS	8	8	0	5.08	N	

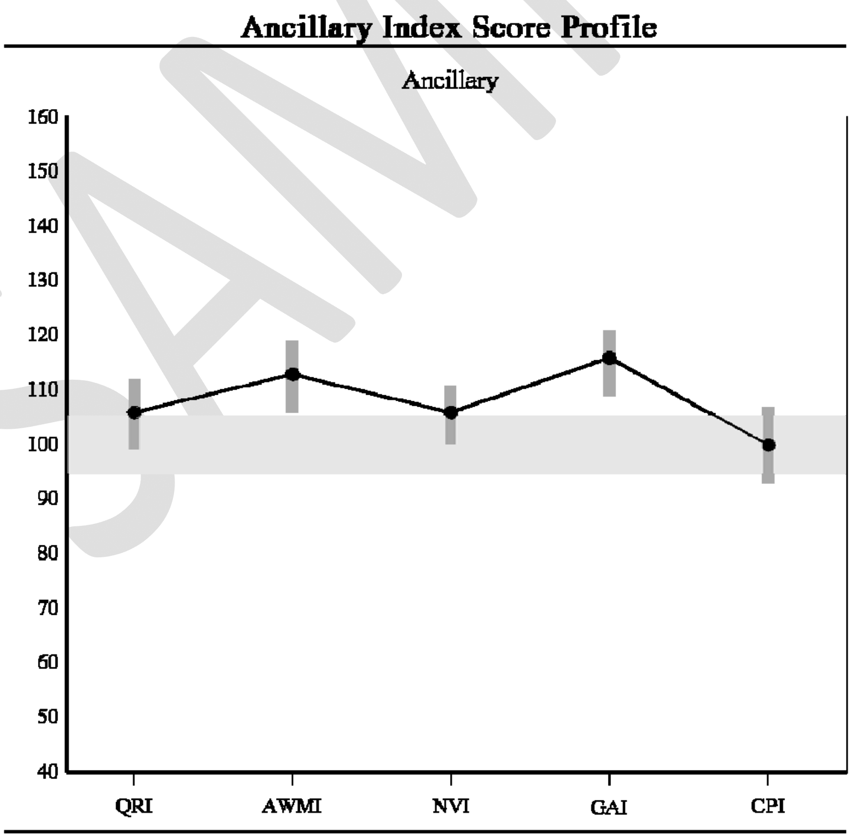
Statistical significance (critical values) at the .01 level.

ANCILLARY SUMMARY

Index Score Summary

Composite		Sum of Scaled/ Standard Scores	Index Score	Percentile Rank	Confidence Interval	Qualitative Description	*SEM*
Ancillary							
Quantitative Reasoning	QRI	22	106	66	99-112	Average	3.35
Auditory Working Memory	AWMI	25	113	81	106-119	High Average	4.50
Nonverbal	NVI	65	106	66	100-111	Average	3.00
General Ability	GAI	62	116	86	109-121	High Average	3.35
Cognitive Proficiency	CPI	40	100	50	93-107	Average	4.24

Ancillary index scores are reported using standard scores.
A 95% confidence level is reported for ancillary index scores.



Note. Vertical bars represent the Confidence Intervals.

ANCILLARY ANALYSIS

Index Level Pairwise Difference Comparisons

Index Comparison	Score 1	Score 2	Difference	Critical Value	Significant Difference	Base Rate
Ancillary						
GAI - FSIQ	116	117	-1	4.71	N	44.2%
GAI - CPI	116	100	16	13.94	Y	18.6%
WMI - AWMI	112	113	-1	7.36	N	39.3%

Statistical significance (critical values) at the .01 level.
For comparisons between GAI and other index scores, base rates are reported by GAI ability level. For remaining comparisons, base rates are reported by FSIQ ability level.

Subtest Level Pairwise Difference Comparisons

Subtest Comparison	Score 1	Score 2	Difference	Critical Value	Significant Difference	Base Rate
Ancillary						
FW - AR	11	11	0	3.18	N	
DS - LN	16	9	7	3.36	Y	0.9%

Statistical significance (critical values) at the .01 level.
Base rates are reported by overall sample.

PROCESS ANALYSIS

Total Raw Score to Scaled Score Conversion

Process Score		Raw Score	Scaled Score
Block Design No Time Bonus	BDn	-	-
Block Design Partial Score	BDp	-	-
Digit Span Forward	DSf	18	19
Digit Span Backward	DSb	6	9
Digit Span Sequencing	DSs	6	10
Cancellation Random	CAr	20	9
Cancellation Structured	CAs	23	9

Process Level Pairwise Difference Comparisons (Scaled Scores)

Process Score Comparison	Score 1	Score 2	Difference	Critical Value	Significant Difference	Base Rate
BD - BDn	-	-	-	-	-	-
BD - BDp	-	-	-	-	-	-
DSf - DSb	19	9	10	4.67	Y	0.2%
DSf - DSs	19	10	9	4.53	Y	0.2%
DSb - DSs	9	10	-1	4.42	N	42.0%
LN - DSs	9	10	-1	3.90	N	44.3%
CAr - CAs	9	9	0	4.73	N	

Statistical significance (critical values) at the .01 level.

PROCESS ANALYSIS (CONTINUED)

Total Raw Score to Base Rate Conversion

Process Score		Raw Score	Base Rate
Longest Digit Span Forward	LDSf	6	19.2%
Longest Digit Span Backward	LDSb	-	-
Longest Digit Span Sequence	LDSs	-	-
Longest Picture Span Stimulus	LPSs	-	-
Longest Picture Span Response	LPSr	-	-
Longest Letter-Number Sequence	LLNs	-	-
Block Design Dimension Errors	BDde	-	-
Block Design Rotation Errors	BDre	-	-
Coding Rotation Errors	CDre	-	-
Symbol Search Set Errors	SSse	-	-
Symbol Search Rotation Errors	SSre	-	-

Base rates are reported by age group.

Process Level Pairwise Difference Comparisons (Raw Scores)

Process Score Comparison	Raw Score 1	Raw Score 2	Difference	Base Rate
LDSf - LDSb	-	-	-	-
LDSf - LDSs	-	-	-	-
LDSb - LDSs	-	-	-	-

End of Report