WECHSLER PRESCHOOL AND PRIMARY SCALE OF INTELLIGENCE, FOURTH EDITION (WPPSI-IV)

The WPPSI-IV is an individually administered clinical instrument for assessing the cognitive skills of children aged 2 years, 6 months through 7 years, 7 months. Subtest scores are reported as Scaled Scores with a Mean of 10 and Standard Deviation of 3. Scaled scores between 8 and 12 are considered Average. Composite scores are reported as Standard scores with a mean of 100 and standard deviation of 15. Standard scores between 90 and 110 are considered Average. STUDENT’s scores are summarized in the table below:

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Scaled Score** | **Standard Score** | **Description** |
| Information (Gc) | 1 | - | Extremely Below Average |
| Similarities (Gc) | 4 | - | Well Below Average |
| **Verbal Comprehension (Gc)** | - | 63 | Extremely Below Average |
| Matrix Reasoning (Gf) | 5 | - | Well Below Average |
| Picture Concepts | 4 | - | Well Below Average |
| **Fluid Reasoning (Gf)** | - | 72 | Well Below Average |
| Block Design (Gv) | 6 | - | Below Average |
| Picture Memory (Gsm) | 1 | - | Extremely Below Average |
| Bug Search (Gs) | 1 | - | Extremely Below Average |
| **FULL SCALE IQ (FSIQ)** | - | 58 | Extremely Below Average |
| **NONVERBAL INDEX (NVI)** | - | 67 | Extremely Below Average |

COMPREHENSION-KNOWLEDGE (Gc):

Comprehension-Knowledge, or crystallized intelligence, is the breadth and depth of a person’s acquired knowledge, the ability to communicate one’s knowledge (especially verbally), and the ability to reason using previously learned experiences or procedures. This cluster is comprised of the Information and Similarities subtests. On the Information subtest, STUDENT pointed to a picture out of a field of pictures to answer a question (e.g., which one is for taking a bath), was asked to point to body parts, and was asked to answer questions about a broad range of general-knowledge topics. This is a measure of the narrow ability General Information, which is a measure of the range of general knowledge. STUDENT performed in the Extremely Below Average range on this subtest. He correctly answered the first four questions involving pointing to a picture, but was not able to point to body parts when directed or answer any questions. On the Similarities subtest, STUDENT was presented with pictures and was required to select the response option that was from the same category as two other depicted objects. HE/SHE was then read two words that represented common objects or concepts and was required to describe how they were similar. This is a measure of the narrow ability Lexical Knowledge, which is the extent of vocabulary that can be understood in terms of correct word meanings. STUDENT performed in the Well Below Average range on this subtest. He was able to complete some of the picture questions, but was not able to complete any of the verbal items (e.g., “red and yellow are alike because they are both…”colors.” STUDENT’s overall Verbal Comprehension Index (VCI) score of 63 falls in the Extremely Below Average range.

VISUAL SPATIAL PROCESSING (Gv):

Visual Spatial Processing is the ability to perceive, analyze, synthesize, and think with visual patterns, including the ability to store and recall visual representations. On the Block Design subtest, STUDENT used one- or two-colored blocks to recreate a design from a picture or model within a specified time limit. This is a measure of the narrow ability Visualization, which is the ability to mentally manipulate objects or visual patterns to see how they would appear under altered conditions. STUDENT performed in the Well Below Average range on this measure. He was able to imitate the model made by the examiner using solid colored blocks only. There were times he would start playing with the blocks and required 1-2 verbal and gestural prompts to complete the task. He was not able to imitate after a picture or using the two-colored blocks.

FLUID REASONING (Gf):

The Fluid Reasoning cluster measures the broad ability to reason, form concepts, and solve problems using unfamiliar information or novel procedures. On the Matrix Reasoning subtest, STUDENT viewed an incomplete matrix and selected the response option from a field of choices that best completed the matrix. This is a measure of Induction/Inductive Reasoning, which is the ability to discover the underlying characteristics (e.g., rule, process, trend, class membership) that governs a problem or set of materials. STUDENT performed in the Below Average range on this task. He was able to identify the missing item to complete a matrix from a field of choices when the matrix consisted of all the same picture; however, he had more difficulty when there were two different types of pictures, or when the answer was not a direct match but required identifying a similarity between the item choices. On the Picture Concepts subtest, STUDENT viewed two rows of pictures and selected one picture from each row to form a group with a common characteristic. This is another measure of Inductive Reasoning. STUDENT performed in the Well Below Average range on this subtest as well. Overall, STUDENT obtained a standard score of 72 on the Fluid Reasoning Index, which falls in the Well Below Average range.

SHORT-TERM MEMORY (Gsm):

Short-Term Memory is the ability to hold information in immediate awareness and then use it or manipulate it to carry out a goal within a few seconds. On the Picture Memory subtest, STUDENT viewed a stimulus page of one or more pictures for a specified time and then selected pictures from options on a response page. This is a measure of the narrow ability Memory Span, which is the ability to attend to and immediately recall temporally ordered elements in the correct order after a single presentation. STUDENT performed in the Extremely Below Average range on this subtest. STUDENT would label the pictures on each page, but would not follow directions to pick the one seen on the previous page. STUDENT became very antsy during the administration of this subtest, got out of his seat frequently, and required frequent redirection back to task. Based on these observations, the results for this subtest may reflect STUDENT’s difficulty with understanding the verbal directions of the task or a difficulty with short-term memory tasks, or it may be a slight underrepresentation of his actual abilities in this area due to behavior and inattention.

PROCESSING SPEED (Gs):

Processing Speed is the ability to quickly perform both simple and complex cognitive tasks, particularly when measured under pressure to sustain control and concentration. On the Bug Search subtest, STUDENT marked the bug from a search group that matched a target bug within a specified time limit. This is a measure of Perceptual Speed, which is the ability to rapidly search for and compare known visual symbols or patterns presented side-by-side or separated in a vision field. STUDENT performed in the Extremely Below Average range on this subtest. During the demonstration task, he continually tried to take the ink blotter from the examiner and required frequent redirection to sit and watch. During the sample items, STUDENT correctly identified the correct bugs on most items, but a couple of times he tried to choose additional bugs as well. On the actual test items, STUDENT correctly answered 2 out of 16 items. He frequently tried to mark multiple bugs per line and appeared to be more interested in playing with the blotter than completing the task. Therefore, the results are likely an underestimation of his actual processing speed abilities. However, the score could also reflect a difficulty of understanding directions due to receptive language deficits or inattention.

FULL SCALE IQ (FSIQ):

The Full Scale IQ provides an aggregate measure of overall cognitive functioning. Given STUDENT’s performance on all subtests of the WPPSI-IV, STUDENT’s overall cognitive functioning falls in the Extremely Below Average range, which is more than 2 standard deviations below the mean.

NONVERBAL INDEX

Given that STUDENT demonstrates delays in his language development, the Nonverbal Index was calculated to determine his overall ability level when the verbal language loading of some subtests is removed. The Nonverbal Index is composed of the Block Design, Matrix Reasoning, Bug Search, Picture Memory, and Picture Concepts subtests. Therefore, the Information and Similarities subtests were not considered in this measure. Therefore, the Nonverbal Index considers his ability level without considering those subtests that require more language development and skills. Overall, STUDENT obtained a standard score of 67 on the Nonverbal Index, which falls within the Extremely Below Average range. This suggests that even when the consideration of possible language delays are considered, STUDENT is still performing in the Extremely Below Average range in his overall level of cognitive functioning.