

Research on the wechsler intelligence scale for children



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Dr. David Weschler, a clinical psychologist, was the founder of the Weschler intelligence scales. The purpose of his test was to measure the intelligence in adults. It was published in 1939, the time Wechsler decided to construct the WBIS based on an observation he made that intelligence tests for adults were of great similarity of tests for children and had little face validity for other age groups. By 1939, three scales had already been developed in order to accurately measure intellectual functioning in children and adults.

Wechsler has also created an intelligence scale concerning adults only by the name Wechsler Adult Intelligence Scale-III (WAIS-III). Also, Wechsler designed for children between the ages of 6 to 16 another intelligence scale, called the Wechsler Intelligence scale for children-IV (WISC-IV), while in the meantime he had already generated an intelligence scale for pre-school children between the ages 4 and 6. 1/2 yearls old called the Weschler Preschool and Primary Scale of intelligence-III (WPPSI-III).

For Wechler, intelligence was the ability an individual has in order to adapt and in the case he needs, to solve any problems that concern him in the environment. Weschler measured intelligence in terms of performance rather than capacity. By that said, Wheschler meant that his scales were not created in order to measure a person's quantity of intelligence, rather than it was focused on the intellectual performance of the subject. The factor that determines that Weschler Intelligent Scales are a performance variable, is, that it is not important how intelligent a person is, rather, how well and how able he is to adapt to the environment. What is of significant importance though, is how well an individual uses his intelligence. Furthermore, because intellectual capacity cannot be seen nor its existence concretely verified, it

cannot be reliably measured. In the other hand, performance is measurable and it should be of critical importance to the test.

Wechler has tried to support this position but other intelligence researchers have taken essentially the same position in regards of the nature of intelligence. Most of the intelligence tests, such as the Stanford – Binet and the Guilford Intelligence Scales are focusing on measuring performance. In the other hand, intelligence tests such as Wischler and Binet, are focusing mainly on intellectual performance of the subject as a multidimensional construct. This means that, rather than conceptualizing intelligence as a single characteristic, the tests contain numerous scales assessing qualitatively different types of intellectual functioning.

Concerning the reliability of the WISC-IV, strict guidelines ensure that the test will be valid and reliable. Reliability refers to the consistency of a measure over time and across the content of the test, such as the item responses. In order to say that the test is accurate and reliable, it will have to retrieve the same or similar results everytime the subject is tested. An example is that, when the test is taken by an individual to measure his intelligence, two of the same form of test should be giving similar results when administered to the person. Thus, it is very difficult to reckon reliability accurately but there are several ways in order to get the closest results possible. The test will be considered accurate and consistent enough if it describes the child's intellectual performance and adaptation in day to day life. The subtest reliability coefficients for internal consistency ranged from 0.79 to 0.90 with a median of 0.86. These coefficients showed substantial improvement from those of WISC-III subtests. The index scores reliability <https://assignbuster.com/research-on-the-wechsler-intelligence-scale-for-children/>

coefficient ranged from 0.88 PSI to 0.97 FS with a median of 0.92. These are identical to or slightly higher than WISC-III corresponding scales.

A very important reason where these tests are administered to children is in order to test his learning needs or to test the child's learning potentials so that they can be placed in certain programs which usually are positive ones (for gifted children). Not only WISC-IV provides as accurate IQ scores as possible, but, also gives sufficient and crucial information on clinical insights into the cognitive functioning of the child. Also, it integrates current conceptualizations and recent research to provide the most essential information about a child's strengths and weaknesses. WISC-IV is representing significant advances in the understanding of the child's cognitive abilities. WISC-IV test is taking between 65 to 80 minutes to complete and it contains 10 core subtests and 5 additional subtests. They are later summed in four indexes and one full scale IQ which has a range between 40 which is the lowest to 160 points which is considered to be the highest. The subtests are used in order to gather information on the subject's abilities. Concerning the age range which this test involves, it is between 6 years until 16 years and 11 months. There may be a difference in the individual's scores when he has taken the WISC-III and the WISC-IV by a mean of 5 point drop in FSIQ.

The main four indexes of the WISC-IV and their measurements are the following: The verbal comprehension index which tests involve similarities, vocabulary and comprehension of the child. It assesses the child's ability to listen to a question and pay attention to all the information given from both formal and informal education, reason from an answer, and then be able to

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speak their minds out loud. This will test how the child copes with new and unexpected situations as well as the time it will need to process certain information rather than taking a decision right away. Following the verbal comprehension index is the perceptual reasoning index which measures the non – verbal and fluid reasoning. The tests involve picture concepts, matrix reasoning and block designs. In this test, the visual – motor and the visual – spatial skills are assessed, how able are the children to examine a problem and later on being able to organize their thoughts and find any solutions to the problem which will later test it. The working memory index measures the working memory and it consists of digit spans and letter-number sequencing. The ability to memorize new information, concentration, time held in their short term memory and the ability of being able to manipulate that information to produce a result are being assessed. This is very important in learning and achievement as well as higher order thinking which makes it crucial in their ability to work effectively with new ideas as they are presented in their classrooms. Finally, the processing speed index measures the speed of the information processed and the tests include coding and symbol search. Attention focus, quickly scan, discrimination between and sequentially order visual information are being assessed. Persistence and planning ability are required, but is sensitive to motivation, difficulty working under a time pressure and motor coordination too. Cultural factors do not play a significant role and do not affect it. There is a relation to working memory in that increased processing speed and it may decrease the amount of information a child must have kept in his working memory. On the other hand though, lower processing speed may damage the effectiveness of

working memory by requesting from the child to be able to keep more information to the working memory that is able to at a specific time.

One of the manual reports strong correlations between WISC-IV metrics and comparable metrics from the WISC-III WPPSI-III, WAIS-III, Wechsler Abbreviated Scale of Intelligence (WASI; Wechsler, 1999), WIAT-II, Children's Memory Scale (CMS; Cohen, 1997) Gifted Youth Version (Bar-On & Parker, 2000), and the Adaptive Behavior Assessment System-Second Edition (ABAS-II; Harrison & Oakland, 2003). Evidence of construct validity was also established using matched samples of clinical and non-clinical children.

WISC-IV consists of several subtests which are the following: Word Reasoning – which measures reasoning with verbal material, in which the child will have to identify the concept given successive clues. This will effectively test the child's ability to understand what words really mean rather than identifying them as simple letters. Another subtest is the Matrix Reasoning which measures fluid reasoning. This tests the child's ability of understanding nonverbal concepts such as shapes, designs and/or visuospatial patterns and identifying missing or incorrect aspects of those concepts and complete or correct them successfully. Letter-Number Sequencing – The child is given a mixed series of numbers and letters and has to rearrange them in such a way that numbers come first, from lowest to highest; then letters are next, in alphabetical order. The child also receives full credit if she/he organizes letters followed by numbers, if the letters and numbers are correctly ordered. This test is used in order to measure working memory. Cancellation – Measures processing speed using random and structured animal target forms. Next subtest will be the Arithmetic which is consisted of arithmetic

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problems similar to those encountered in elementary math courses.

Problems are administered orally and must be solved without paper and pencil. In addition to math knowledge, test measures concentration and systematic problem-solving ability. Coding-Digit Symbol: Common shapes (Ages 6-7) or numbers 1 – 7 (ages 8 and older) are paired with symbols on a key presented to child. Child has 120 seconds to go through a grid of 90 numbers/shapes and place the correct symbol below each one. Measures visual-motor speed and complexity and motor coordination. Similarities: Items requiring child to describe how two given things are alike. Score on each item varies according to the degree to which the response describes a general property primarily pertinent to both items in the pair. Measures the child's skill in comparative reasoning. Block Design: Included in the test are nine red and white square blocks and a spiral booklet of cards showing different color designs that can be made with the blocks. The child must arrange the blocks to match the design formed by examiner or shown on cards. In addition to being scored for accuracy, each item is scored for speed as well. Measures spatial problem-solving and manipulative abilities, and fluid intelligence. Information: Items on a variety of information adults have presumably had opportunities to acquire in our culture. No specialized or academic information included; however, some of the items cover quite sophisticated information.

Comprehension: Items that require child to explain what should be done in certain circumstances, the meaning of proverbs, why certain societal practices are followed, and so forth. The test measures practical judgment, common sense, and the ability to understand and adapt to social customs.

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Measures concrete, functional, and abstract concept formation. Digit Span:

Two parts, Digits forward and digits backwards. Child required to repeat 3 – 9 digits forward and 2 -9 digits backwards. Measures short-term memory, attention, and concentration.

Vocabulary: Words of increasing difficulty are presented orally and visually.

Child required to define the words. Measures verbal knowledge and concept formation.

Picture Completion: Several pictures, each having a part missing. Child must identify the missing part. Measures ability to observe details and recognize specific features of the environment. Symbol Search: The child is presented with several rows of items. On the right of the row, there are one or two symbols. On the left of the row are several symbols. The child must determine, as quickly as she/he can, if the symbol on the right also appears among the symbols to the left. This test is another measure of speed and accuracy with which the child processes nonverbal information.