Woodcock Johnson IV

WJ Perspectives

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Use of the *Woodcock-Johnson* IV for Dyslexia Evaluations

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When used together, the three ***Woodcock-Johnson*® IV** (***WJ* IV™**; Schrank, McGrew, & Mather, 2014) batteries (**Tests of Cognitive Abilities** [***WJ* IV COG**], **Tests of Oral Language** [***WJ* IV OL**], and **Tests of Achievement** [***WJ* IV ACH**]) are particularly useful for the assessment of dyslexia (Proctor, Mather, & Stephens, 2015), the most common type of learning disability.

Depending upon your state policies or school district practices, dyslexia may be referred to as specific reading disability, a specific learning disability in basic reading skills or reading fluency, or a specific learning disorder with an impairment in reading (American Psychiatric Association, 2013). The International Dyslexia Association's definition describes dyslexia as a specific learning disability that is neurological in origin, characterized by difficulties with accurate and/or fluent word recognition and poor spelling and decoding abilities, and is a result of a deficit in the phonological component of language (IDA, 2002). Tests and clusters from all three ***WJ* IV** batteries can be used to assess several key indicators and well-researched correlates of dyslexia.

***The* WJ *IV ACH Phoneme-Grapheme Knowledge* cluster measures the reader's established connections between the phonemes (speech sounds) and the graphemes (printed letters that represent these speech sounds) which is the initial impediment for most individuals with dyslexia.**

Primary and Secondary Reading and Writing Areas

An evaluation for dyslexia typically begins with the assessment of basic reading skills, reading fluency, and spelling; the primary achievement areas affected by dyslexia. One particularly useful measure of basic phonic skills is the ***WJ* IV ACH Phoneme-Grapheme Knowledge** cluster, which includes two measures of nonsense word reading and spelling. This cluster is particularly relevant to dyslexia evaluations, as it measures the reader's established connections between the phonemes (speech sounds) and the graphemes (printed letters that represent these speech sounds), which is the initial impediment for most individuals with dyslexia. The evaluation may also include secondary achievement areas, such as reading comprehension and written expression, as the development of these abilities can also be affected by dyslexia.

Possible Underlying Cognitive Abilities

The reading and spelling difficulties of students with dyslexia often stem from weaknesses in underlying cognitive and linguistic abilities, such as weaknesses in phonological awareness, orthographic awareness, memory, rapid naming, and processing and perceptual speed.

The* WJ *IV OL provides measures of Phonetic Coding and Speed of Lexical Access that are useful in assessing the language correlates of dyslexia.

Phonological awareness. Learning to read and spell depends on the ability to perceive and order the individual phonemes in the words of printed language. The two most important phonological awareness clusters for dyslexia are the ***WJ* IV COG Auditory Processing** cluster and the ***WJ* IV OL Phonetic Coding** cluster. The **Auditory Processing** cluster requires the student to detect and process speech sounds in several ways. The ***WJ* IV OL Phonetic Coding** cluster includes the Segmentation and Sound Blending tests. Segmentation is a foundational skill for spelling and blending is a foundational skill for learning phonics.

Orthographic awareness. Orthographic awareness is an understanding of the writing system of a language, including all of the printed symbols (letters, letter patterns, numbers, and punctuation) that are used to represent a spoken language. Several ***WJ* IV** tests have particular relevance for the assessment of orthographic awareness, including the ***WJ* IV COG Letter-Pattern Matching** and **Number-Pattern Matching** tests and the ***WJ* IV ACH Letter-Word Identification**, **Word Attack**, **Spelling**, and **Spelling of Sounds** tests.

Memory. Memory, the ability to store and retrieve information, is often a weakness for individuals with dyslexia. A number of ***WJ* IV COG** and ***WJ* IV OL** tests provide pertinent information regarding both memory span and working memory.

Rapid naming. Rapid naming has been shown to be related to the development of reading fluency (Wolf, 2007). The ***WJ* IV OL Rapid Picture Naming** test measures rapid naming and with the **Retrieval Fluency** test forms the **Speed of Lexical Access** cluster.

The *WJ* IV COG Letter-Pattern Matching test can be particularly informative in a dyslexia evaluation because individuals with dyslexia often show deficits on tasks that require the rapid detection of letter position.

Processing and perceptual speed. The **Letter-Pattern Matching** test may be particularly informative in a dyslexia evaluation because individuals with dyslexia often show deficits on tasks that require the rapid detection of letter position (Schrank, Decker, & Garruto, in press).

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Ability to Learn Independent of Reading

One of the hallmarks of dyslexia is that the primary and secondary characteristics of dyslexia and the related cognitive ability weaknesses are unexpected in relation to other abilities. A student's ability to learn—independent of any reading disability—can be determined by comparing a student's cognitive, language, and achievement strengths to his or her reading and spelling weaknesses. For students with dyslexia, possible areas of strength include: general intelligence, reasoning and knowledge (**Gf-Gc Composite**), oral language, mathematics, and academic knowledge.

General Intelligence. The ***WJ* IV COG** includes the cluster of **General Intellectual Ability** (**GIA**) which consists of the seven core tests, each measuring a different **Cattell-Horn-Carroll** (**CHC**) ability. Many individuals with dyslexia will have strengths in **Gc**, **Gf**, and/or **Gv** but weaknesses in one or more of these **CHC** abilities: **Gwm**, **Gs**, **Ga**, and **Glr**. Typically, the more areas of weakness, the greater difficulty the student will have in learning to read and spell.

Gf-Gc Composite. The ***WJ* IV COG Gf-Gc Composite** consists of four tests that combine two measures of **Fluid Reasoning** (**Gf**) and two measures of **Knowledge** (**Gc**) cluster. The **Gf-Gc Composite** may be particularly important for learning disability evaluations (Schrank, McGrew, & Mather, 2015), including an evaluation for dyslexia.

Oral Language. For many students with dyslexia, oral language abilities are higher than basic reading and spelling skills. Several of the ***WJ* IV** language tests are similar in format to the reading tests, but the student listens and speaks, rather than reading.

Mathematics. Because the ***WJ* IV ACH** mathematics tests do not require any reading, some students with dyslexia will have higher scores on mathematics tests than on reading and spelling measures.

Academic Knowledge. The ***WJ* IV ACH Academic Knowledge** (**Gc**) measures content area knowledge with tests that do not require reading.

Use of the Variation and Comparison Procedures

The ***WJ* IV** includes several variation and comparison procedures. For dyslexia evaluations, the three most relevant comparison procedures are the ***WJ* IV COG Gf-Gc Composite/Other Ability Comparison Procedure**; the ***WJ* IV OL Broad Oral Language/ Achievement Discrepancy Procedure**; and use of the ***WJ* IV ACH Academic Knowledge** cluster when compared to the ***WJ* IV ACH Basic Reading Skills**, **Phoneme-Grapheme Knowledge**, **Reading Fluency**, and **Reading Rate** clusters. Students with dyslexia often have higher scores on measures of oral language, knowledge, and reasoning, and thus will often show discrepancies between these abilities and their present performance levels in basic reading skills, reading rate, and spelling. Within the ***WJ* IV ACH**, a student's **Academic Skills** (basic academic skills), **Academic Fluency** (timed measures), and **Academic Applications** (problem solving and reasoning) can be compared. Many individuals with dyslexia will have higher scores on the **Academic Applications** cluster than on the **Academic Skills** or **Fluency** clusters.

Comprehensive Assessment for Dyslexia

The HMH® Assessment Bulletin Number 6, Use of the ***Woodcock-Johnson* IV** for the Assessment of Dyslexia (Proctor, Mather, & Stephens, 2015) provides greater details about how to use the ***WJ* IV** as a component of dyslexia evaluations. This bulletin also provides a profile that may be used to enter various scores that are relevant to this type of evaluation. In addition to test results to make an accurate diagnosis, the evaluation team would also consider other forms of data such as family and school history, parent information, self and teacher reports, indicators of social and emotional status, socioeconomic status, and current classroom performance.

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