



Nonverbal Learning Disorders

Nonverbal Learning Disabilities (NVLD) is a neurological condition often distinguished by a significant difference between higher verbal skills and weaker motor, visual-spatial and social skills. Differing from language-based disabilities, kids with NVLD have trouble understanding communication that is not verbal, such as body language, tone of voice and facial expressions.

Etiology:

NVLD is believed to be caused by a deficit in the right cerebral hemisphere of the brain, where nonverbal processing occurs. The nonverbal processing area of the brain does not provide automatic feedback that tells the individual how to react in a certain situation.

Symptoms

Though most of the symptoms in individuals with NVLD include poor social skills, it is important to know that difficulties in reading comprehension and/or physical coordination may also occur. Some symptoms and signs to keep in mind are:

- Trouble recognizing nonverbal cues (facial expression, body language)
- Poor psychomotor coordination (bumps into objects, clumsy)
- Challenges using fine motor skills (writing, tying shoes)
- Verbally labels everything to comprehend circumstances, spatial orientation, directional concepts and coordination
- Difficulty following multi-step instructions
- Asks too many questions; repetitive and inappropriately interrupts
- Pays attention to details but misses the bigger picture

Overlapping symptoms such as underdeveloped social skills, impulsive behavior, or trouble focusing on certain tasks, means that NVLD is often mistaken for ADHD, especially in children. There is also a lot of overlap in the symptoms of autism and NVLD and studies suggest that up to 80 percent of kids with autism also have NVLD.

Prevalence

It is difficult to know an exact number of kids who have NVLD since it is not exactly clear of what this category of learning disabilities includes. Estimates show that around 1 in 100 of kids in the U.S have NVLD. There is an equal chance of diagnosis between boys and girls.



Areas of difficulty in NVLD	
Visual and spatial awareness	Individuals with NVLD have trouble understanding visual imagery and evaluating visual-spatial information. This means they have trouble grasping the relationships between things they see and having a clear sense of where they are.
Higher-Order Comprehension	Higher-order comprehension is the ability to identify the main idea in something, the details that support the main idea, and the relationships among them. This affects the ability to comprehend reading and write or tell a story effectively.
Social Communication	Individuals with NVLD have trouble reading emotion in facial cues and body language, so they often don't know what's going on in social interactions.
Math Concepts	Individuals with NVLD struggle to solve more advanced mathematical problems that are based on recognizing concepts and patterns. If a problem they've seen before is approached differently or modified, they have trouble recognizing it.
Executive Functions	Executive functions are a set of skills we use to organize our thinking, plan and carry out actions, and figure out how to solve problems. Individuals with NVLD have weaknesses in executive functions such as struggling to break down a project into or conceiving steps that need to be taken to get something done.

Twice Exceptionality (2e) and NVLD

“Twice Exceptional” is a term used to refer to individuals with one or more disabilities presenting alongside one or more exceptional strengths. Some characteristics of gifted learners overlap with characteristics of children with NVLD as they have large vocabularies, outstanding memory and auditory retention, strong attention to detail, remarkable rote learning and average-to-superior intelligence.

Physiology:

A study done on individuals with NVLD, compared to individuals with other disorders and no disorder, have a significantly smaller splenium, a part of the corpus callosum, which connect and facilitates communication between the left and right sides of the brain. (Tumolo, 2013)



Treatments/ Services Available:

There is no single recommended treatment plan for individuals with NVLD, but as with any other learning disorder, individuals are best helped through intervention and support. Treatment approaches vary with the type and degree of severity of symptoms displayed by each patient. Some recommended treatment plans are:

- Social skills groups to teach kids how to handle social situations (greeting a friend, joining a conversation, and recognizing and responding to teasing)
- Parent behavioral training with a psychologist, to help parents learn how to collaborate with teachers and teach parents how to help kids with social skills in different situations
- Occupational therapy to build tolerance for outside experiences, improve coordination and enhance fine motor skills.
- Cognitive Behavioral Therapy to help deal with anxiety and other mental health issues.
- Cognitive Training to address any underlying weaknesses in cognitive skills contributing to symptoms, including Executive Functions. This can help address issues with shifting/flexibility, pattern recognition, and organizing one's thoughts.

NVLD and COGx

COGx programs do not directly target all the core issues of NVLD. However, learners with NVLD may struggle with cognitive flexibility and other Executive Functions, which COGx programs directly target in an individualized way. Many students with NVLD also have unrelated learning struggles. In this case, COGx programs can be designed with the unique needs of NVLD learners in mind. For example, many students with NVLD struggle with receiving feedback, which is a critical component of learning and can drastically affect a student's attitude towards learning. COGx sessions can be customized to ensure exercises and feedback are given in a way that allows the learner to understand, internalize, and feel supported.



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