



Autism Spectrum Disorders (ASD): The Basics Overview

Autism is a pervasive developmental disorder that is defined by impaired development in social interactions, verbal and nonverbal communication, and unusual, repetitive, or distinctly limited activities or obsessive interests. It is a neurobiological disorder that affects how a person thinks, communicates, and interacts with others. The range of expression of these areas depends on the individual's underlying characteristics. Autism is referred to as autism spectrum disorder (ASD) since the differences can range in impact from classic autism to high-functioning autism (HFA) and Asperger Syndrome.

Currently the Centers for Disease Control and Prevention (CDC) reports that autism affects 1 in 110 births, and it is more prevalent in males. Reports indicate that 1.5 million Americans have some form of autism. Although autism characteristics are generally apparent by 36 months of age, the average age at diagnosis is 4.5 to 5.5 years. The cognitive skills of individuals on the spectrum range from below-average to above-average intelligence. Approximately, 41% have an intelligence quotient (IQ) of 70 or below.

When a child is diagnosed by a neuropsychologist or identified as eligible for special education services by the school, it means that there is a delay in certain areas of development. *The Diagnostic and Statistical Manual (DSM-IV-TR)* is the book, or reference, used to define those areas. Typically for autism, the delays are in social skills, communication, and what are called restricted patterns of behavior. Dr. Ruth Aspy and Dr. Barry Grossman, in their book, *The Ziggurat Model*, tried to give more information on ASD by adding some categories or domains to better explain the challenges individuals with ASD experience. They identify eight domains associated with ASD. The first three are deficits or differences in the areas of social and communication skills and restricted patterns of behavior. These are present regardless of the level of functioning, although they may be expressed differently by each individual. The remaining five domains that may be affected include sensory, cognitive, and motor along with emotional vulnerability, and medical or biological differences. These areas are not necessary for the diagnosis, but are often present.

Social differences are the hallmark of autism, and they are expressed differently in each individual. Some have difficulty recognizing the feelings and thoughts of others, known as mind blindness, which can make socializing difficult. Some use poor eye contact or fail to orient to others; others have difficulty maintaining personal space. Some individuals have a difficult time joining in an activity, such as a kickball game or a board game. In addition, simply waiting for something to happen (class to begin, standing in line at the checkout) may prove to be difficult for those on the spectrum.

Communication differences also have great impact on individuals with autism. They may have a difficult time understanding nonverbal communication, such as body language and facial expressions. Some are nonverbal or



have minimal verbal skills; others communicate primarily through echolalia (the echoing of another person's utterances); still others communicate verbally, but struggle with pragmatic aspects of language.

Repetitive and restricted patterns of interests and activities can include repetitive behaviors such as rocking, finger flicking and clapping, having a distinct preference for certain objects, topics, or interests, or having a strong need for sameness and order. Individuals with autism can have difficulty with transitions. Unpredictable events can present a serious challenge and cause anxiety and behavioral outbursts.

Differences in sensory responses can result in serious challenges for persons on the spectrum. An individual with sensory differences can be over-responsive or under-responsive to incoming sensations, and may react in unexpected ways as he or she processes sensory input. Reactions include the following: difficulty with sounds, unusual responses to light or color, under- or over-responsiveness to pain, distinct preferences for tastes, textures, brands or even colors of food, preferences for certain smells or strong sensitivity to smells, even different responses to temperature than normal. One person with ASD may seek deep pressure and literally crash into you for a strong hug. Another may react unfavorably to even a light touch on the shoulder. Often children on the spectrum hum or make a noise repeatedly to help regulate their sensory system.

As autism is a spectrum disorder, **cognitive differences** also fall on a spectrum. Individuals with ASD may be identified as gifted, typical, or as having delayed intelligence, but even with higher functioning identifications, they may learn differently from their neurotypical peers. They are likely to show unevenness in cognitive abilities. Many show strength in remembering facts, lists, and details. Abstract thinking may be a challenge.

Executive dysfunction is common to individuals with ASD, and is shown in challenges with processing information, planning, initiating and completing tasks, and problem solving.

Motor differences are also common to those on the spectrum. They may have weak handwriting skills from having difficulty holding writing utensils properly or being unable to press hard enough to form the letters. This can result in refusal to write. They may also show balance difficulties and can appear clumsy.

Individuals with autism can be **emotionally vulnerable, highly anxious, and easily upset** as a result of their challenges. Not only are they less able to understand others' verbal and nonverbal expressions; they may also have a hard time understanding and managing their own emotions.

Last, but very important, are the **medical and biological differences** experienced by some individuals on the autism spectrum. These can include mood instability, eating and digestive issues, sleep challenges, attention difficulties, and other neurological disorders.



REFERENCES

Buron, K. D., & Wolfberg, P. (2008). *Learners on the autism spectrum: Preparing highly qualified educators*. Shawnee Mission, KS: Autism Asperger Publishing Company.

Aspy, R. & Grossman, B. (2008). *The ziggurat model: A framework for designing comprehensive interventions for individuals with high-functioning autism and asperger syndrome*. Shawnee Mission, KS: Autism Asperger Publishing Company.

Resources

Autism Internet Modules: Restricted Patterns of Behavior, Interests, and Activities
www.autisminternetmodules.org

Autism Internet Modules: Sensory Differences
www.autisminternetmodules.org

OCALI Lending Library
www.ocali.org

Autism Society of Ohio
www.autism-society.org

Ohio Center for Autism and Low Incidence
www.ocali.org