Students with **autism spectrum disorder (ASD)** experience difficulty with communication, social skills, and repetitive behavior (Goldstein, Naglieri, Rzepa, & Williams, 2012). These students often struggle with changes to their routines or environment. They may have unusual sensory responses, such as sensitivity to loud noises, picky eating, or a dislike of getting dressed or grooming (Tomcheck & Dunn, 2007). Many students with ASD have difficulty making eye contact, recognizing faces, and understanding emotions (Kirchner, Hatri, Heekeren, & Dziobek, 2011). Over half of students with ASD exhibit average to above-average intelligence (Whitby, Travers, & Harnik, 2009).

ASD is another term for **pervasive developmental disorder (PDD)**. A student with PDD exhibits delays in communication and social skills, and these delays are often first recognizable during the developmental period from ages 2 to 4. Several disorders have been included in ASD, including autistic disorder (i.e., autism), Asperger's disorder, pervasive developmental disorder not otherwise specified (PDD-NOS), Rett's disorder, and childhood disintegrative disorder (CDD). The next section of this chapter describes these in detail; the recent changes to the names of the disorders and how they are categorized will also be outlined.

Students with ASD are often described as **high-functioning** or **low-functioning**. High-functioning students with ASD exhibit the hallmark characteristics of ASD, but these characteristics do not prohibit the student from participating in regular activities. Students are typically verbal, and their ASD is less severe than low-functioning students. Low-functioning students with ASD often have below-average intellectual functioning, and they exhibit severe difficulties due to ASD. Many low-functioning students may be nonverbal.

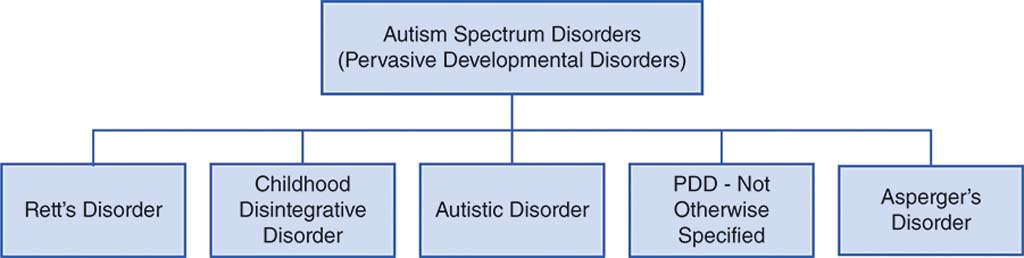
**Defining ASD**

The *Diagnostic and Statistical Manual (DSM)* defines disorders and disabilities to help professionals diagnose their patients. The fifth version, DSM-5, published in 2013 by the American Psychiatric Association, places the diagnostic labels of autistic disorder, Asperger's disorder, PDD-NOS, and CDD under the umbrella term ASD. Individuals with ASD are categorized into levels—Level 1, Level 2, or Level 3—based on their challenges with communication, social skills, and repetitive behaviors. Because this categorization system is new and the old labels will still be used for a while, this discussion begins with a description of the older labels for these disorders so you can understand some of the differences between those and the newly described levels of ASD.

Figure 9.1 shows the categories under the previous edition of the DSM-IV, which you will probably encounter for several years to come. Note that in the past, Rett's disorder was classified under ASD; however, it is now not mentioned in conjunction with ASD. In DSM-5, Rett's is considered a separate disorder from ASD (although some students with Rett's will still qualify for services if their behavioral characteristics indicate an autism diagnosis, as well).

**Figure 9.1: ASD Under DSM-IV**

Under the DSM-IV, five disorders fall under the umbrella category of ASD. The disorders are listed from the more severe (on the left) to the less severe (on the right). Many in the ASD community describe students with ASD on a spectrum like the one here, sometimes adding the descriptors "low-functioning" or "high-functioning." The proposed three levels of the DSM-5 will describe low-functioning as "Level 3," high-functioning as "Level 1," and a middle range as "Level 2."



Adapted from the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision, (Copyright 2000). American Psychiatric Association.

**Autistic disorder**, also called **autism**, is a category that describes students who have severe difficulty with communication and social skills. Most individuals with autism avoid eye contact and have difficulty recognizing faces and reading emotions. They often have below-average intellectual skills, which may appear similar to an intellectual disability. Some students have limited or nonexistent verbal skills.

Students with autism may be preoccupied with one or two topics (Willis, 2012). They may also exhibit rituals or behavioral routines (e.g., placing toys in order) that border on compulsive. Most students with autism display repetitive, stereotypic behaviors, such as hand flapping or finger popping (Willis, 2012). Many have or will develop seizures during their lifetime.



Andy Cross/Contributor/Denver Post/Denver Post via Getty Images

In the DSM-5, Rett's disorder is not associated with ASD. While the characteristics of Rett's disorder are similar to ASD, researchers believe that it is a neurological disorder that does not classify for inclusion in a psychological manual.

Students with **Asperger's disorder** typically have average to above-average intelligence. They exhibit typical characteristics of autism (i.e., lack of eye contact, not responding to the calling of their name) when they are toddlers and in preschool, but they gain social and communication skills as they age (Willis, 2012). Students with Asperger's, however, still continue to exhibit some atypical communication and social skills throughout life. One of the hallmarks of Asperger's is an exceptional or obsessive interest in one area. For example, a student may have an unusual fascination with trains or outer space. Students typically have difficulty with social skills, and they can be clumsy and uncoordinated. Many people describe Asperger's as a high-functioning version of autism.

**Pervasive developmental disorder not otherwise specified (PDD-NOS)** falls between Asperger's and autistic disorder in severity and is typically diagnosed later than either one. Students exhibit characteristics of autistic disorder (e.g., atypical communication and social skills), but they do not qualify as autistic because they do not exhibit repetitive behaviors as severe as students with autistic disorder (Willis, 2012). Because PDD-NOS is a gray area, professionals use this catch-all category to categorize students who do not qualify under Asperger's disorder or autistic disorder (Chlebowski, Green, Barton, & Fein, 2010). **Rett's disorder** is a very rare degenerative syndrome that affects girls exclusively (Willis, 2012). They usually exhibit typical development until 6–18 months of age. At that time, communication and social skills decrease, and the girls have problems with coordination. Many experience seizures. Therapy can help them recover some of their communication and motor skills.

**Childhood disintegrative disorder (CDD)**, or Heller's syndrome, is very uncommon (Willis, 2012). Like girls with Rett's, children with CDD develop normally at first. When they are 2–4 years old, their communication and social skills decrease, as does intellectual functioning. Students become severely impaired, and therapy cannot help them recover. CDD develops more often in boys than in girls.

**ASD and IDEA**

Autism became an IDEA disability category with the reauthorization of IDEA in 1990. IDEA 2004 defines autism as a developmental disability in which a child has problems communicating, verbally and nonverbally, to a degree that affects academic performance. It states that these communicative and social difficulties usually arise before the age of 3 years, and are often accompanied by repetitive movements or behaviors, resistance to change, and atypical responses to sensory experiences. The IDEA definition specifically excludes those children whose performance in school is hindered primarily by an emotional disorder, though it does allow for an autism diagnosis to be made in children older than 3 years.

Thus, the IDEA 2004 definition uses the term *autism* to describe the full spectrum of autism disorders, which the DSM-IV and DSM-5 (and this chapter) refer to as *ASD*. It remains to be seen to what degree girls with Rett's disorder will be eligible for IDEA 2004 services, and how their disability will be categorized, once the DSM-5 becomes the predominant diagnostic guideline.

**Prevalence of ASD**

Approximately 1% of school-age students are diagnosed with ASD; approximately 45% of those have autistic disorder, 45% have PDD-NOS, and 10% have Asperger's disorder. CDD and Rett's are extremely rare (Autism and Developmental Disabilities Monitoring Network, 2012). Boys are identified about five times more often than girls, but identification of ASD occurs equally in all racial and socioeconomic groups (Goldstein et al., 2012). Currently, about 1 in every 54 boys is diagnosed with ASD; for girls, it is 1 in 252 (Autism and Developmental Disabilities Monitoring Network, 2012).

The rate of students identified with ASD has increased over the last few decades (Kopetz & Endowed, 2012). One reason is that with the reauthorization of IDEA in 1990, autism gained its own disability category. Before then, many students with ASD were categorized as having an intellectual disability (ID). Medical and school professionals, as well as parents and guardians, are also more aware of ASD and may be better equipped to refer students for evaluation. Assessments have also been refined to better identify students with ASD.

**From My Perspective: Working With Students With ASD**



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Hi! I'm Lauren, and working with students with autism is the most exciting, creative, rewarding, and thought-provoking job I've ever had. Every day is different, yet I try to keep things the same so there is consistency and routine. I have quickly learned that it's important to be able to consider the ways in which a child's sensory, cognitive, behavior, communication, and social needs interact simultaneously. And so begins the dance.

The dance requires careful planning and always being one step ahead. At first, your timing may be off or you feel clumsy and slow. Soon, you get into the routine and you know the steps. The music might change, but you change along with it. The secret to dancing is to let go and have fun. Through repetitions and modeling, students start to develop meaningful communication. With reinforcement and shaping, their behavior improves. Through structured teaching and opportunities to interact with their peers, they begin to recognize others and make social connections. Your ability to dance has a meaningful and lasting impact on your students, as well as their families and the community.

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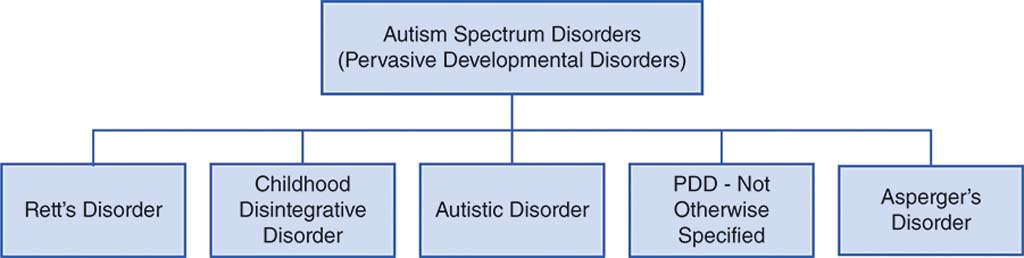
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