CHAPTER 7

Related Disabilities: Autism Spectrum Disorders (ASD) and Attention Deficit Hyperactivity Disorder (ADHD)

They are able who think they are able.

—Virgil

LEARNING OBJECTIVES

After reading this chapter, you should be able to:

7.1 Discuss Autism Spectrum Disorder (ASD)

7.2 Discuss Attention Deficit Hyperactivity Disorder (ADHD)

7.3 List the characteristics of ADHD

7.4 List treatments for ADHD

7.5 Demonstrate methods of teaching for students with ADHD

STANDARDS Addressed in This Chapter:

CEC

CEC Initial Level Special Educator Preparation Standards as approved by the National Council for the Accreditation of Teacher Education

CEC Initial Preparation Standard 1: Learner Development and Individual Learning Differences

- 1.0—Beginning special education professionals understand how exceptionalities may interact with development and learning and use this knowledge to provide meaningful and challenging learning experiences for individuals with exceptionalities.
- 1.2—Beginning special education professionals use understanding of development and individual differences to respond to the needs of individuals with exceptionalities.

CEC Initial Preparation Standard 2: Learning Environments

- 2.2—Beginning special education professionals use motivational and instructional interventions to teach individuals with exceptionalities how to adapt to different environments.

CEC Initial Preparation Standard 3: Curricular Content Knowledge

- 3.3—Beginning special education professionals modify general and specialized curricula to make them accessible to individuals with exceptionalities.

CEC Initial Preparation Standard 4: Assessment

- 4.0—Beginning special education professionals use multiple methods of assessment and data-sources in making educational decisions.
- 4.3—Beginning special education professionals in collaboration with colleagues and families use multiple types of assessment information in making decisions about individuals with exceptionalities.
- 4.4—Beginning special education professionals engage individuals with exceptionalities to work toward quality learning and performance and provide feedback to guide them.

CEC Initial Preparation Standard 5: Instructional Planning and Strategies

- 5.0—Beginning special education professionals select, adapt, and use a repertoire of evidence-based instructional strategies to advance learning of individuals with exceptionalities.
- 5.1—Beginning special education professionals consider an individual's abilities, interests, learning environments, and cultural and linguistic factors in the selection, development, and adaptation of learning experiences for individuals with exceptionalities.
- 5.4—Beginning special education professionals use strategies to enhance language development and communication skills of individuals with exceptionalities.
- 5.5—Beginning special education professionals develop and implement a variety of education and transition plans for individuals with exceptionalities across a wide range of settings and different learning experiences in collaboration with individuals, families, and teams.

We devote this chapter to two related disabilities: Autism Spectrum Disorders (ASD) and Attention Deficit Hyperactivity Disorder (ADHD).

7.1 Autism Spectrum Disorder

autism spectrum disorder (ASD)
A range of disorders that are included within the category of autism, including autism and Asperger's syndrome.

Autism spectrum disorders (ASDs) consist of a group of developmental disabilities that are caused by problems with the brain. Scientists do not know yet exactly what causes this disability (Hunt & Marshall, 2012). The term **autism spectrum disorder (ASD)** includes several types of conditions with a wide range of symptoms, differences in when symptoms start, and different levels of severity, from very mild to severe. However, they share some similar symptoms, such as problems in social interaction. In its milder forms, only a few of the characteristics of autism are present or they are in a very mild form. In 2007, the Centers for Disease Control and Prevention (CDC) estimated a prevalence rate of 1 in 150. In 2009, the CDC found a significantly higher prevalence of autism spectrum disorders—1 in 110 children. In 2012, the CDC reported that 1 in 88 children in the United States is being diagnosed with autism—nearly a doubling of the prevalence since the CDC began tracking these numbers. Autism can now officially be declared an epidemic in the United States (Centers for Disease Control and Prevention, 2012). In 2013, The CDC reported that 1 in 50 children is being diagnosed with autism (Centers for Disease Control and Prevention, 2013).

Autism was first identified as a separate category of disability in the federal legislation, IDEA, in 1990. Before 1990, autism was included in the category of other health impaired (OHI) and prior to that in the category of emotional disturbance.

The American Psychiatric Association publishes a reference manual entitled the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5),* which provides criteria for the diagnosis of all mental disorders (2013). The *DSM-5* is widely used by medical specialists, psychologists, and others. Autism was identified in the *DSM-IV-TR,* but the category was changed in DSM-5 (2013) to autism spectrum disorder. That is, the original multicategorical diagnosis has been changed to a single diagnostic category (Stetka & Volkmar, 2012). (DSM-5 published in May 2013 by the American Psychiatric Association).

Diagnosing ASD can be difficult because there is no physical medical test, such as a blood test. ASD is typically diagnosed through the child's behavior and development. In addition, there is no medication that can cure autism spectrum disorders. Four times as many boys as girls are identified with ASD. It is recommended that treatment begin as early as possible, by age 3 (Eunice Kennedy Shriver National Institute of Child Health and Human Development, 2008; Centers for Disease Control and Prevention, 2009).

7.1a Types of Autism Spectrum Disorders

Autism Spectrum Disorders has been defined in the *DSM-5* (American Psychiatric Association, 2013) as the following:

A. Persistent deficits in social communication and social interaction across multiple contexts, as manifested b the following, currently or by history:
   1. Deficits in social-emotional reciprocity, ranging, for example from abnormal social approach and failure of normal back-and-fort conversation; to reduced sharing of interests, emotional, or affect; to failure to initiate or respond to social interaction.
   2. Deficits in nonverbal communicative behaviors used for social interaction, ranging, for example, from poorly integrated verbal and nonverbal communication; to abnormalities in eye contact and body language or deficits in understand and use of gestures; to a total lack of facial expressions and non-verbal communication.
   3. Deficits in developing, maintaining, and understanding relationships, ranging, for example, from difficulties adjusting behavior to suit various social contexts; to difficulties in sharing imaginative play or in making friends; to absence of interest in peers.

B. Restricted, repetitive patterns of behavior, interests, or activities as manifested by at least two of the following, currently or by history (these examples are illustrative, not exhaustive).
   1. Stereotyped or repetitive motor movements, use of objects, or speech.
   2. Insistence on sameness, inflexible adherence to routines, or ritualized patterns of verbal or nonverbal behavior.
   3. Highly restricted, fixated interests that are abnormal in intensity or focus.
   4. Hyper- or hypoactivity to sensory input or unusual interest in sensory aspects of the environment.

C. Symptoms must be present in the early developmental period but they may not become fully manifested until social demands exceed limited capacities, or may be masked by learned strategies in later life.

D. Symptoms cause clinically significant impairment in social, occupational, or other important areas of current functioning.
E. The disturbances are not better explained by intellectual disability or global developmental delay. An intellectual disability and autism spectrum disorder frequently co-occur.

Previously the DSM-IV provided for different diagnosis of autistic disorder, Asperger's disorder, or pervasive developmental disorder not otherwise specified. Now children who were previously diagnosed with those disorders are to be given the diagnosis of Autism Spectrum Disorder.

This is a significant change in the diagnosis.

Asperger's syndrome Qualitative impairment in social interactions, impulse control, and self-motivation. Included in the disability category of autism.

Asperger's Syndrome Virtually unknown as a specific condition until the 1990s, Asperger's syndrome is now recognized as a relatively common disability. Asperger's syndrome was first brought to the attention of the psychiatric community in 1944 by Hans Asperger (1944), a Viennese physician, who published an article describing the unusual social isolation of a group of children with whom he was working. However, Asperger's syndrome did not gain wide recognition until the disorder was included in the American Psychiatric Association's *DSM-IV* (American Psychiatric Association, 1994).

It is important to note that three previous autism diagnoses—autism, Asperger's, and Pervasive Developmental Disorders—have been replaced with the single diagnosis of autism spectrum disorders as per the DSM-5 released in May, 2013 (Moran, 2012 and American Psychiatric Association, 2013).

Individuals with Asperger's syndrome often have severe difficulty in social interactions. Asperger's syndrome is characterized by a reluctance to accept change; an inflexibility of thought; and an all-absorbing, narrow area of interest. Children with Asperger's syndrome are usually extremely good at rote memory skills (e.g., repeating facts, figures, dates, times) and many excel in mathematics and science. There is a range of severity of symptoms within the syndrome; the very mildly affected child often goes undiagnosed, and many others may just appear odd or eccentric (Baker & Welkowitz, 2005). Children with Asperger's syndrome lack an understanding of the rules of social behavior, such as eye contact, proximity to others, gesture, and posture. They often display emotional vulnerability and stress, and, as a result, problems of poor self-esteem, poor self-concept, and depression are common. In individuals with Asperger's syndrome, characteristics of difficulty with social competence can include (Baker & Welkowitz, 2005):

- Frequent misunderstanding of the social communication of others
- Lack of empathy or seeing the perspective of others
- Poor play skills
- Frequent conflicts with others
- The target of teasing or bullying

Usually, children with Asperger's syndrome receive instruction in the general education classroom, but they often have academic difficulties because of their poor organizational skills, poor problem-solving skills, and poor motor skills that interfere with their academic achievement. To succeed in the general education classroom, children with Asperger's syndrome need the support of special educators and related services personnel familiar with this diagnosis. They need help in developing social skills, in academic planning and programming and in support for their sensory issues. Direct instruction of social skills

STUDENT STORIES 7.1

Temple Grandin

Temple Grandin, Ph.D., is one of the most accomplished and well-known adults with autism, possibly with Asperger's syndrome. She has written widely about living with autism and the many challenges and hardships she has faced. She also describes how she learned to live with her problems and succeed in the "neurotypical" world. Temple Grandin became an associate professor at Colorado State College in animal husbandry and in livestock handling. Her book *Animals in Translation* (2005) is a best seller. She speaks around the world on both autism and cattle handling.

Temple Grandin describes in detail the difficulty she has with sound sensitivity and with overstimulating sound sensations. She relies on visual thinking and images. She explains that her reaction to being touched was like a wild horse, flinching and pulling away. She believes that the reaction of an autistic child and a wild horse are similar. According to Grandin, the process of taming a wild animal has many similarities to an autistic child's reaction to touch (Grandin, 2008). For more information about Temple Grandin, go to the website at *http://www.autism.org/temple/visual.html*.

REFLECTIVE QUESTION

1. Why does Temple Grandin think that children with autism spectrum disorder and wild horses are similar?

is critical. With suitable support and instruction, most children with AS can be successful in school. Many students with AS are able to attend college and enjoy a variety of successful careers (Goldstein, Naglieri, & Ozonoff, 2008; Baker & Welkowitz, 2005; Myles, Cook, Miller, Rinner, & Robins, 2000).

Student Stories 7.1 relates the story of Temple Grandin, a very successful person with Autism Spectrum Disorders.

Often students with ASD have an intense interest in a specific topic and they acquire a broad knowledge about that subject. For example, one student with ASD had acquired a broad knowledge of Chicago restaurants. If given a location in the city or suburbs, he could tell you the name of a restaurant, its location, type of cuisine, and the price range for that restaurant. He used his knowledge to make a Microsoft Access directory of Chicago restaurants. Another student's expertise was in geography. Classmates could count on him knowing the capital of any country or the major rivers in the states.

Every student with ASD is different and no one intervention will be effective with every student (Goldstein, et al., 2008; Safran, 2002; Baker & Welkowitz, 2005). Teaching Tips 7.1, "Supporting Students with Autism Spectrum Disorders," offers some ways to work with students with ASD in the school environment. Figure 7.1 gives an example of the Social Story.

A helpful website for Asperger's syndrome is OASIS, Online Asperger Syndrome Information and Support, at *http://www.AspergersSyndrome.org*.

Helpful websites for Asperger's syndrome include

- Online Asperger's Syndrome Information and Support (OASIS), http://aspergersyndrome.org. This website has general information about Asperger's syndrome.
- Asperger's Syndrome Coalition of the United States, *http://www.asperger.org*.
- The Online Resource and Community for Those With Asperger's Syndrome, *http://www.wrongplanet.net*. This website is for young adults with Asperger's syndrome, who often refer to themselves as "Aspies."

TEACHING TIPS 7.1

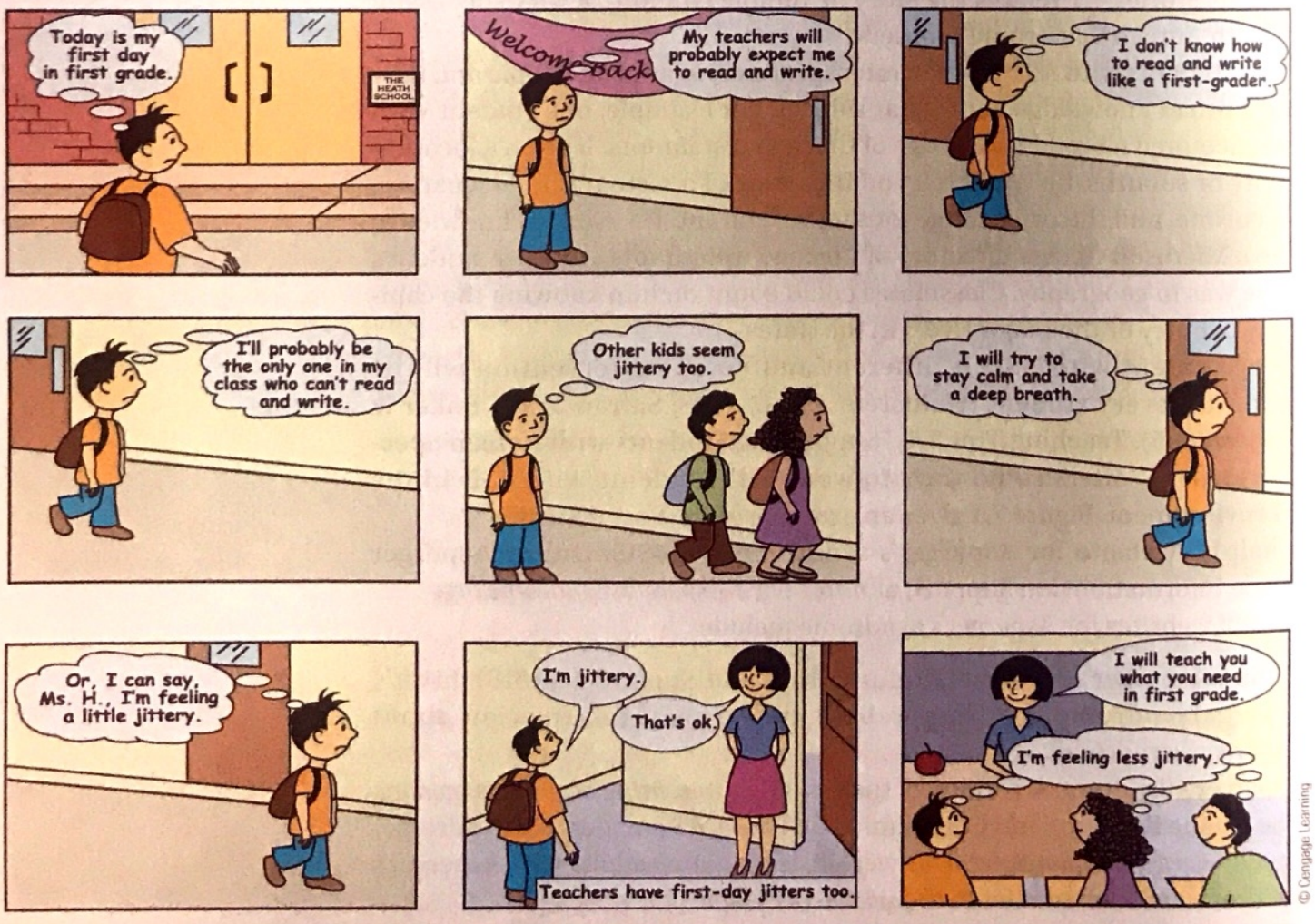
Supporting Students With Asperger's Syndrome

- **Use Social Stories.** A strategy for increasing social knowledge is the use of social stories. (See the website of The Gray Center for Social Learning and Understanding at *http://www.thegraycenter.org*.) These stories are often about problematic social situations, and they offer a way for students to discuss the "how and what" of social situations. A companion strategy is "comic strip situations." Students discuss a comic strip that implies a social situation. See Figure 7.1 for an example of a social story comic strip, entitled Jitters, used with a young child with Asperger's.
- **Provide Direct Instruction in the "What" and "How" of Social Relationships.** Direct instruction can be used to teach specific reactions to social situations. For example, Barbara can be taught three polite refusals when she does not want help, such as "No thank you," *or* "I am fine right now, thanks."
- **Circle of Friends.** In the "Circle of Friends" strategy, an adult facilitates interactions between the child with Asperger's syndrome and classmates. The teacher might talk about the characteristics of Asperger's syndrome (with parental permission). The peers then participate in ways to include the child in a social group of children.
- **Sensory Integration.** Sensory integration refers to the processes that the nervous system uses to integrate sensory information. In schools, the occupational therapist is the related professional who can work with classroom teachers to help students with sensory integration dysfunction. (For additional information about sensory integration, see Chapter 8, "Young Children With Disabilities.")

Professional Resource Download

FIGURE **7.1**

"Jitters" A Social Story Comic Strip



7.1b Nonverbal Learning Disorders: A Related Condition

nonverbal learning disorders (NVLD)
Poor skills in nonacademic areas of learning, such as poor social skills

The condition of nonverbal learning disorders (NVLD) is capturing the attention of many psychologists, physicians, and researchers. Children with NVLD may function well in academic areas but have problems in the social sphere. The condition of NVLD is not identified within the special education law (IDEA-2004); however, NVLD is recognized as a disorder in the field of neuropsychology. NLVD is believed to have a neurodevelopmental basis that involves a dysfunction in the brain's right hemisphere.

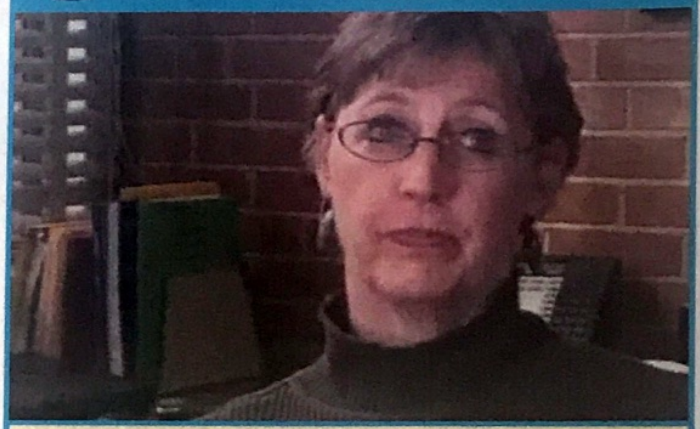
Children with NVLD have difficulty understanding the subtle cues that are inherent in nonverbal communication and that play such an important role in social interaction. For example, these children cannot read facial expressions to discern if a person is sad, happy, or angry. They may not know how to initiate friendships or recognize the idea of personal space. These social cues are normally grasped intuitively through observation and living, but children with NVLD need to be taught these social skills through direct and explicit instruction (Rourke, 1995; Thompson, 1997; Boyle and Scanlon, 2010).

One mother described her daughter's NVLD as a serious difficulty in visual-spatial imagery, noting that her daughter could not find her way to a friend's house nor was she able to visualize where her classroom was at school. She had to remember words and verbal labels to keep from getting lost (Martin, 2004).

Students with NVLD often have a high verbal intelligence, they tend to be early talkers, and they are highly verbal. Because they do well in reading and decoding in the primary years, their nonverbal learning problems are frequently missed. Children with NVLD often have poor visual-spatial abilities, poor nonverbal problem-solving abilities, and low arithmetic skills. Problems with NVLD become more evident in the later elementary school years, during adolescence, and in the adult years (Dimitrovsky et al., 1998; Rourke, 1995; Thompson, 1997).

People with NVLD often have difficulty adapting to new situations. Despite their high verbal intelligence and high scores on receptive and expressive language measures, they inaccurately read nonverbal signals and cues, and they lack the social ability to comprehend nonverbal communication cues. If they do not perceive subtle cues in the environment, they do not know when something has gone far enough, and they cannot interpret the facial expressions of others. Normally, these social cues are intuitively grasped through observation; however, individuals with NVLD need to be taught these social skills through direct and explicit

TeachSource Video Case Activity



Watch the TeachSource Video Case entitled "Including Students With High-Incidence Disabilities: Strategies for Success." The teacher, Martha Cleveland, discusses the needs of students with high-incidence disabilities, such as attention deficit hyperactivity disorder, nonverbal learning disorders, and Asperger's syndrome. She points out that special strategies are required to accommodate the learning needs of these students in the elementary classroom. Discuss these questions after you view the video.

QUESTIONS

1. How can graphic organizers help students to organize their thoughts?
2. How can computer technology be used to help children develop graphic organizers?
3. The video mentions that these children have problems with executive functions. What are executive functions?

instruction (Dimitrovsky et al., 1998; Thompson, 1997; Tsatsanis, Furst, & Rourke, 1997).

Adults with NVLD often have serious difficulty in the workplace. Their problems include poor self-concept, mental health problems, difficulty in social relationships, and terse or curt response styles. Transitions are difficult because these individuals like routine and find it difficult to take on new responsibilities and assignments. Unable to reflect on the nature and seriousness of their own problems, they tend to attribute their failures, as well as their successes, to others, instead of to themselves. Their coping mechanisms are often misinterpreted as *emotional* or *motivational* problems (Price, 1997; Rourke, 1995; Thompson, 1997; Tsatsanis et al., 1997). A useful website for NVLD is LD Online, *http://www.nldline.com*.

Did You Get It?

Autism spectrum disorder diagnosis rates have been increasing sharply in the U.S. in recent years to the most current prevalence rate of 1 case per every 50 children. The Centers for Disease Control and Prevention (CDC) now considers these disorders

a. epidemic.
b. pandemic.
c. widespread.
d. catastrophic.

7.2 Attention Deficit Hyperactivity Disorder (ADHD)

Attention deficit hyperactivity disorder (ADHD) is a common cooccurring condition for children with learning disabilities. (The terms *cooccurring, coexisting,* and *comorbidity* are used to indicate that a condition occurs along with another condition.) Research indicates that between 25% and 40% of the children with learning disabilities have cooccurring ADHD and that between 30% and 65% of the children with ADHD have cooccurring learning disabilities (Goldstein, 2007; Centers for Disease Control and Prevention, 2005; Silver, 2006; Fletcher et al., 2000). (See the website of Children and Adults With Attention Deficit Hyperactivity Disorder at *http://www.chadd.org*.)

attention deficit hyperactivity disorder (ADHD)
Difficulty in concentrating and staying on a task. Accompanied by hyperactivity. The condition of ADHD is identified and defined by the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders*, Fifth Edition.

attention deficit disorder (ADD)
Difficulty in concentrating and staying on a task. It may or may not be accompanied by hyperactivity. Used by the U.S. Department of Education.

Attention deficit hyperactivity disorder (ADHD) is a condition of the brain that makes it difficult for children to control their behavior in school and social settings. It is one of the most common chronic conditions of childhood and affects between 4% and 12% of all school-age children. About three times more boys than girls are diagnosed with ADHD (American Academy of Pediatrics, 2001).

Two different terms are used to refer to this condition: (1) attention deficit hyperactivity disorder (ADHD) is the terminology in the *DSM-5*, which is used by physicians and psychologists (American Psychiatric Association, 2013) and (2) attention deficit disorder (ADD), which is used by the U.S. Department of Education and many schools. Both terms refer to the same disorder.

We will use the term *ADHD* because it is being used more frequently in the literature. With increasing frequency, physicians and psychologists are identifying children with ADHD.

There are several active support groups that can provide additional information to parents of children with ADHD and to the professionals who work with them:

- CHADD, Children and Adults With Attention Deficit Disorder: *http://www.chadd.org*
- National Resource Center on ADHD, A Program of CHADD: *http://www.help4adhd.org*
- ADDA, Attention Deficit Disorder Association: *http://www.add.org*
- AD-IN, Attention Deficit Information Network, Inc.: *http://www.addinfonetwork.com*

Did You Get It?

Attention deficit hyperactivity disorder (ADHD) is rooted in _____, which makes it difficult or impossible for children to concentrate in various settings and situations.

a. the brain
b. the entire central nervous system
c. unknown cause
d. the circulatory system

7.3 Characteristics of ADHD

ADHD is a chronic neurological condition characterized by (1) inattention, (2) impulsiveness, and (3) hyperactivity. Inattention refers to the child's inability to concentrate on a task. Impulsiveness is the tendency to respond quickly without thinking through the consequences of an action. Hyperactivity refers to behavior that is described as a constant, driving motor activity in which a child races from one endeavor or interest to another. Many individuals with ADHD show problems in each of these areas, but some will have only one or two of these behaviors (Silver, 2006; Elison, 2006).

inattention
Not concentrating on a task

impulsiveness
A characteristic of attention deficit disorder, in which the child reacts quickly without careful thought

hyperactivity
A condition characterized by uncontrollable, haphazard, and poorly organized motor behavior. In young children, excessive gross-motor activity makes them appear to be on the go, and they have difficulty sitting still. Older children may be extremely restless or fidgety, may talk too much in class, or may constantly fight with friends, siblings, and classmates.

Children with ADHD have difficulty staying on task, focusing attention, and completing their work. Roughly one-half of all children with ADHD have a cooccurring learning disability. They are easily distracted, rushing from one idea or interest to another, and they may produce work that is sloppy and carelessly executed. They give the impression that they are not listening or have not heard what they have been told. Children with ADHD have attention problems, impulsive behavior, and problems with hyperactivity. They often display symptoms of age-inappropriate behavior (Barkley, 2005; Accardo et al., 2000; Haber, 2000; Lerner, Lowenthal, & Lerner, 1995; Rappley, 2004; Silver, 2004, 2006). Children with ADHD are known to turn off some peers during their first contact because of their difficulty in joining other children in a social interaction (Hund and Landau, 2012). In addition, students with ADHD often have deficits in academic achievement (Scheffler, et al., 2009). An example of a young child with ADHD is presented in Student Stories 7.2.

STUDENT STORIES 7.2

Ryan, a Child With ADHD

Ryan's parents have come to dread the phone calls from his teacher. He is only 6 years old, but he is already viewed as a discipline problem. When Ryan was 3, his nursery school teacher informed his parents that Ryan's pushy behavior interfered with the play of his classmates. The nursery school teacher described him as an undisciplined child. At age 4, his preschool teacher said that the other children complained about Ryan's aggressive behavior. At age 5, his kindergarten teacher described him as a wild boy who ran about the room knocking toys off the shelf and interrupting other children. His classmates did not want to play with him because he was so aggressive.

Now Ryan's first-grade teacher compares him to a tornado. When Ryan enters a room, he changes the tone from a peaceful and quiet class to total pandemonium. Ryan's distraught parents are reluctant to take him anywhere because of his sudden tantrums. He has never been invited to a birthday party and has no playmates. Ryan's parents finally sought help from a pediatric neurologist, who diagnosed Ryan as having ADHD.

REFLECTIVE QUESTION

1. What were some of the characteristics of Ryan's behavior?

7.3a Symptoms of ADHD

For a diagnosis of ADHD, symptoms must meet the following three criteria (American Psychiatric Association, 2013):

1. **Severity.** The symptoms must be more frequent and severe than are typical of other children at similar developmental levels.
2. **Early onset.** At least some of the symptoms must have appeared before the child reaches age 12.
3. **Duration.** The child's symptoms must have persisted for at least 6 months prior to the diagnosis.

7.3b Symptoms of ADHD at Different Ages

Symptoms of ADHD change at different stages of life. Young children, elementary-age children, adolescents, and adults tend to exhibit different sets of behaviors.

- **Young children** with ADHD exhibit excessive gross-motor activity, such as running or climbing. They are described as being "on the go," "running like a motor," and "having difficulty sitting still." They may be unable to sit still for more than a few minutes at a time before beginning to wriggle excessively. It is the *quality* of the motor behavior that distinguishes this disorder from ordinary over-activity because hyperactivity tends to be haphazard and poorly organized. For example, 4-year-old Jerry, who has ADHD, grabs a toy from another child, and he hits the child if the toy is not given to him.
- **Elementary-age children** with ADHD may be extremely restless and fidgety. They are likely to talk too much in class and may constantly fight with friends, siblings, and classmates. For example, 8-year-old Sarah always blurts out the answer without raising her hand or waiting to be recognized.
- For **adolescents** with ADHD, hyperactivity may diminish, but other symptoms may appear, such as behavioral problems, low self-esteem, in-attentiveness, or even depression. For example, 13-year-old Lorraine has such low self-esteem that she believes even her imaginary friend is too busy to talk to her.

- **Adults** with ADHD often have organizational problems, social relationship difficulties, and job problems. For example, 27-year-old Joshua cannot keep a job because he does not follow through in completing job assignments.

ADHD affects children in all environments and in all ethnic and language groups, disrupting the child's home life, education, behavior, and social life. At home, children with ADHD have difficulty accommodating home routines and parental expectations. They may resist going to bed, refuse to eat, or break toys during play. At school, they have trouble completing their class work, often missing valuable information because of their attention problems. They speak aloud out of turn and find themselves in trouble for their behavior. Their social interactions may be undermined by their impulsivity, hyperactivity, and inattention, which hamper their ability to make and keep friends (Lavoie, 2006). In terms of gender, more boys than girls are diagnosed with ADHD. However, research suggests that the prevalence rate is equal for boys and girls, but boys are more likely to be identified. This gender difference may due to the fact that boys are more likely to engage in aggressive behavior (Shaywitz, Fletcher, & Shaywitz, 1995).

7.3c Assessment

An assessment is a necessary step before decisions can be made about eligibility for services and treatment. The diagnosis of ADHD is usually based on the observation of behaviors. The criteria for these behaviors are described in the *DSM-5* (American Psychiatric Association, 2013). Mayes and colleagues (2012) found that core ADHD symptoms are part of autism spectrum disorder and a thorough evaluation is critical to determine the nature of the student's disability. Those authors recommend that children who are being evaluated for ADHD should be screened for autism spectrum disorders (Mayes et al., 2012).

7.3d Types of ADHD

The American Psychiatric Association's DSM-5 uses the term Attention-Deficit/Hyperactivity Disorder and defines it as follows:

A. Persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development, as characterized by (1) Inattention and/or (2) Hyperactivity and impulsivity.

For inattention, six (or more) of the following symptoms have persisted for at least 6 months to a degree that is not consistent with developmental level and negatively impacts directly on social and academic/occupational activities. For individuals 17 and older at least five symptoms are required:

a. Often fails to give close attention to details or makes careless mistakes in schoolwork, at work, or during other activities.
b. Often as difficulty sustaining attention in tasks or play activities.
c. Often does not seem to listen when spoken to directly.
d. Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace.
e. Often has difficulty organizing tasks and activities.

f. Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort.
g. Often loses things necessary for tasks or activities.
h. Is often easily distracted by extraneous stimuli.
i. Is often forgetful in daily activities.

For Hyperactivity and impulsivity, there are six or more of the following symptoms that have persisted for at least 6 months and are inconsistent with developmental level and negatively impact social and academic/occupational activities. For those 17 and older at least five symptoms are required:

a. Often fidgets with or taps hands or feet or squirms in seat.
b. Often leaves seat in situations when remaining seated is expected.
c. Often runs about or climbs in situations where it is inappropriate. In adolescents or adults, may be limited to feeling restless.
d. Often unable to play or engage in leisure activities quietly.
e. Is often "on the go" acting as if "driven by a motor."
f. Often talks excessively.
g. Often blurts out an answer before a question that has been completed.
h. Often has difficulty waiting his or her turn.
i. Often interrupts or intrudes on others.

Additional criteria specify that several inattentive or hyperactive-impulsive symptoms were present prior to age 12 years, are present in two or more settings, and there is clear evidence that the symptoms interfere with, or duce the quality of, social, academic or occupational functioning. The symptoms also do not occur exclusively during the course of schizophrenia or another psychotic disorder and are not explained by another mental disorder.

Also included in the diagnosis of Attention-Deficit/Hyperactivity Disorder is

A. Other Specified Attention-Deficit/Hyperactivity Disorder which applies to the presentation in which symptoms characteristic of attention-deficit/hyperactivity disorder that cause clinically significant distress or impairment in social, occupational or other important areas of functioning predominate but do not meet the full criteria for attention-deficit/hyperactivity disorder or any of the disorders in the neurodevelopmental disorders diagnostic class.
B. Unspecified Attention Deficit/Hyperactivity Disorder which applies to presentations in which symptoms characteristic of attention-deficit/hyperactivity disorder that cause clinically significant distress or impairment in social/occupational, or other important areas of functioning predominate but do not meet the full criteria for attention-deficit/hyperactivity disorder or any of the disorders in the neurodevelopmental disorders diagnostic class. This category is used in situations in which the clinician chooses not to specify the reason that the criteria are not met. Table 7.1 explains the criteria for ADHD in DSM-5.

7.3e Rating Scales

rating scales
A ranking of student behavior as judged by a parent, teacher, or other informant.

Rating scales are frequently used assessment measures for students with ADHD and are based on reports of behavior observed by teachers and parents (Barkley, 2005). Table 7.2 shows the most frequently used rating scales.

TABLE 7.1

Criteria for Subtypes of Attention Deficit/Hyperactivity Disorder as per the DSM-5 (American Psychiatric Association, 2013).

Inattention

a. Often fails to give close attention to details or makes careless mistakes in schoolwork, at work, or during other activities.
b. Often as difficulty sustaining attention in tasks or play activities.
c. Often does not seem to listen when spoken to directly.
d. Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace.
e. Often has difficulty organizing tasks and activities.
f. Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort.
g. Often loses things necessary for tasks or activities.
h. Is often easily distracted by extraneous stimuli.
i. Is often forgetful in daily activities.

Hyperactivity and Impulsivity

a. Often fidgets with or taps hands or feet or squirms in seat.
b. Often leaves seat in situations when remaining seated is expected.
c. Often runs about or climbs in situations where it is inappropriate. In adolescents or adults, may be limited to feeling restless.
d. Often unable to play or engage in leisure activities quietly.
e. Is often "on the go" acting as if "driven by a motor."
f. Often talks excessively.
h. Often has difficulty waiting his or her turn.
e. Is often "on the go" acting as if "driven by a motor."
i. Often interrupts or intrudes on others.

Also included in the diagnosis of Attention-Deficit/Hyperactivity Disorder is

a. Other Specified Attention-Deficit/Hyperactivity Disorder.
b. Unspecified Attention Deficit/Hyperactivity Disorder.

Source: American Psychiatric Association, 2013. *Diagnostic and Statistical Manual-5*. Washington, D.C. American Psychiatric Publishing.

TABLE 7.2

Rating Scales for Assessing ADHD

Rating Scale	Publisher
Attention Deficit Disorder Evaluation Scale	Hawthorne Educational Services
Behavior Assessment System for Children (BASC)	American Guidance Services
Child Behavior Checklist for Ages 2–3	University of Vermont, Department of Psychiatry
Child Behavior Checklist for Ages 4–16	University of Vermont, Department of Psychiatry
Conners Rating Scales	Multi-Health Services

FIGURE **7.2**
Rating Scale of Student Behavior

	POOR 1	2	3	4	GOOD 5	
AUDITORY COMPREHENSION						
1. Ability to follow oral directions						1
2. Comprehension of class discussion						2
3. Ability to retain auditory information						3
4. Comprehension of word meaning						4
SPOKEN LANGUAGE						
5. Complete and accurate expression						5
6. Vocabulary ability						6
7. Ability to recall words						7
8. Ability to relate experience						8
9. Ability to formulate ideas						9
ORIENTATION						
10. Promptness						10
11. Spatial orientation						11
12. Judgment of relationships						12
13. Learning directions						13
BEHAVIOR						
14. Cooperation						14
15. Attention						15
16. Ability to organize						16
17. Ability to cope with new situations						17
18. Social acceptance						18
19. Acceptance of responsibility						19
20. Completion of assignments						20
21. Tactfulness						21
MOTOR						
22. General coordination						22
23. Balance						23
24. Ability to manipulate						24

We provide one rating scale that can be used by teachers in Figure 7.2. It is a 24-point rating scale designed to help teachers identify pupils with learning disabilities in their classes. Teachers rate the 24 behaviors, from auditory comprehension to motor skills, on a 5-point scale (with 1 indicating poor behavior; 5, good behavior; and 3, average behavior). The highest possible score is 120 (5×24). In one study, the mean score of the children classified as normal was 81, and the score of the children identified as having learning disabilities was 61 (Myklebust & Boshes, 1969).

7.3f Eligibility of Children With ADHD for Special Services

The condition of ADHD is not identified as a separate category of disability in the Individuals With Disabilities Education Improvement Act of 2004 (IDEA-2004). However, Table 7.3 lists several significant laws that were passed by the U.S. Department of Education allowing children with ADHD to be eligible for special education services under the existing categories of disabilities.

7.3g Implications of the Law for Children With ADHD

The following laws provide legal protections for students with ADHD:

Special Education Services Children with ADHD may be eligible for special education services under the category of "other health impaired" in IDEA-2004. The law describes "other health impaired," when applied to children with ADHD, as heightened alertness to environmental stimuli that results in limited

TABLE 7.3

Laws Clarifying Policies for the Eligibility of Children with ADHD for Special Education Services

1991	Clarification of Policy to Address the Needs of Children With Attention Deficit Disorders Within General and/or Special Education
1999	The Regulations for Individuals With Disabilities Education Act of 1997 (IDEA-1997)
2004	The Individuals With Disabilities Education Improvement Act of 2004

alertness with respect to the educational environment (U.S. Department of Education, 1999).

A child with ADHD may also be eligible for special education services under other existing categories of special education, in addition to other health impaired, such as the categories of learning disabilities or emotional disturbance.

Section 504 Services A child with ADHD may be eligible for services under the legislation of Section 504 of the Rehabilitation Act of 1973, even if that child is not eligible for special education services. Section 504 mandates that any agency receiving federal funds provide reasonable accommodations for people with disabilities.

According to Section 504, if the child is found to have "a physical or mental impairment that substantially limits a major life activity," such as learning, the school must make an individualized determination of the child's educational needs, and reasonable accommodations must be provided within the general education classroom (Section 504 of the Rehabilitation Act).

7.3h Increase in the Number of Children Identified With ADHD

ADHD is estimated to affect 9.5% of the school-age population (Centers for Disease Control and Prevention, 2010). In IDEA (2004), the condition of ADHD is included in the category of *other health impaired* (OHI). The number of children identified under the category of other health impaired has increased substantially since ADHD was included in this category. Since the issuance of the 1991 Clarification of Policy to address the needs of children with ADHD and the clarification within the Regulations for Individuals With Disabilities Education Act of 1997, more children with ADHD are being identified. The number of students identified in the category of other health impaired increased from 53,165 in 1991 to 489,806 in the year 2008, as shown in Figure 7.3. The increase in children in the other health impaired category is mostly due to the inclusion of children with ADHD.

7.3i Educational Settings for Students With ADHD

Most students with ADHD are in general education classes as indicated in Table 7.4 About 83% of students in the category of other health impairments (OHI) are in general education classes at least part of the time. Students in the category OHI are served in the following educational settings (U.S. Department of Education, 2012) as indicated in Table 7.4.

FIGURE **7.3**
Increase in "Other Health Impaired" Category

Source: From the United States Department of Education. 1991–2008. To assure the free, appropriate public education of all Children with Disabilities. Annual Reports to Congress on the Implementation of the Individuals with Disabilities Act. Washington, DC: U.S. Government Printing Office.

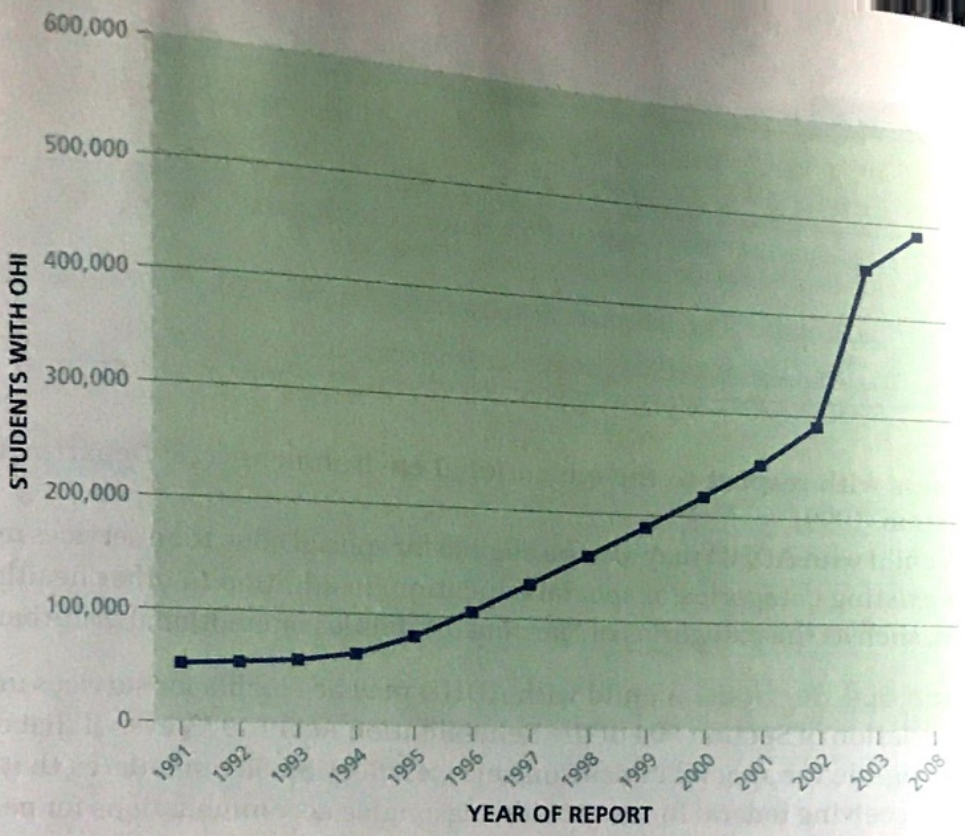


TABLE 7.4

Educational Environments for Students With Other Health Impairments, Ages 6–21

General Education Class (outside regular class less than 21%)	54%
Resource Room (outside regular class 21–60%)	29%
Separate Class (outside regular class more than 60%)	14%
Other Environments	3%

Source: U.S. Department of Education. (2012). To assure the free appropriate public education of all children with disabilities. Thirtieth Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act. Washington, DC: U.S. Government Printing Office.

7.3j Response-to-Intervention and Eligibility of Students With ADHD

In Chapter 2, "Assessment and the IEP Process," we describe the new procedure called response-to-intervention (RTI). Under IDEA-2004 and the Regulations for IDEA-2004 (2006) schools may use the procedure of RTI to determine the eligibility of students with ADHD for special education. RTI is a procedure for providing interventions to all students who are at-risk for school failure (Hallahan et al., 2007; Zirkel, 2007; Learning Disabilities Association of America, 2006).

Schools may use the RTI procedure with students whose behavior suggests ADHD in the process of determining eligibility for special education. In the RTI procedure, a child with suspected ADHD would receive intervention within general education in various tiers of intervention. Students who do not respond positively would be eligible for an evaluation. (See Chapter 2, "Assessment and the IEP Process," for additional information about RTI.)

Did You Get It?

You can use the acronym SED to remember the diagnostic criteria for ADHD/ADD. "S" refers to severity, "E" to early onset, and "D" to

a. duration.
b. disruptiveness.
c. deficit.
d. direction.

7.4 Treatments for ADHD

7.4a American Academy of Pediatrics Guidelines for Treatment

The American Academy of Pediatrics (2001) established the following guidelines for pediatricians for the treatment of children with ADHD.

- Primary care clinicians should establish a treatment program that recognizes ADHD as a chronic condition.
- The treating clinician, parents, and child, in collaboration with school personnel, should specify appropriate target outcomes to guide management.
- The clinician should recommend stimulant medication and/or behavior therapy as appropriate to improve target outcomes for children with ADHD.
- When the selected management for a child with ADHD has not met target outcomes, clinicians should evaluate the original diagnosis, use all appropriate treatments, and adhere to the treatment plan and presence of coexisting conditions.
- The clinician should provide a systematic follow-up for the child with ADHD. Monitoring should be directed to target outcomes and adverse effects, with information gathered from parents, teachers, and the child.

Several different kinds of treatments are prescribed for children with ADHD.

7.4b Multimodal Treatment

A multimodal treatment plan combines several approaches for treating children with ADHD. Multimodal instruction includes (1) effective educational instruction, (2) behavior management strategies, (3) family and child counseling, (4) home management, and (5) medication. A student's improvement is greatest when all components of the treatment are present and are working in conjunction with each other (Silver, 2006; Accardo et al., 2002).

multimodal treatment plan
Combines several approaches to treating children with ADD/ADHD, which refers both to attention deficit disorders and attention deficit hyperactivity disorder

7.4c Medication

Medication is prescribed for many children with ADHD to improve their attention and to control their hyperactive behavior. In fact, medication is prescribed in 56% of all cases of ADHD (Scheffler et al., 2009). The ideal medication should control hyperactivity, increase attention span, and reduce impulsive and aggressive behavior without inducing side effects, such as insomnia, loss of appetite,

TABLE 7.5

Psychostimulant Medications Used for Treatment of ADHD

Brand Name	Generic Name	Duration of Action
Ritalin	Methylphenidate	short (3–5 hours)
Dexedrine	Dextroamphetamine	short (3–5 hours)
Adderall	Combination of dextroamphetamine and amphetamine	long (8 hours)
Concerta	Contains a type of Ritalin	long (8 hours)
Focalin	Generic	short (4 hours)
Vyvanse	Lisdexamfetamine	long (8 hours)

drowsiness, or other serious toxic effects. Finding the ideal medication for a child is not an easy task, and it requires close cooperation among physicians, school personnel, and family members (Silver, 2006; Accardo & Blondis, 2000; Powers, 2000).

psychostimulant medications
Medications, including Ritalin, that are initially prescribed for a child with attention deficit disorder

Psychostimulant Medications Psychostimulant medications are the most widely used type of medication prescribed for ADHD and are very effective for most children. About 75% to 85% of individuals with ADHD improve with the use of psychostimulants. Psychostimulant medications include Ritalin, Dexedrine, Adderall, Concerta, and Vyvanse (Silver, 2006; Accardo & Blondis, 2000; Rappley, 2004). Table 7.5 provides more details about these psychostimulant medications.

The usefulness of psychostimulants in reducing hyperactivity was first reported more than 50 years ago when children taking the psychostimulant Benzedrine showed longer attention spans and an improved ability to concentrate, with a corresponding decrease in hyperactivity and oppositional behavior (Bradley, 1937).

neurotransmitters
The chemicals that transmit messages from one cell to another across the synapse (a microscopic space between nerve cells)

Research on ADHD suggests that psychostimulant medications affect the brain of children with ADHD by increasing the arousal or alertness of the central nervous system (Hervey et al., 2006; Accardo & Blondis, 2000; Barkley, 2005). It is thought that these individuals do not produce sufficient neurotransmitters—chemicals within the brain that transmit messages from one cell to another across a gap, or synapse—and that the psychostimulants work by stimulating the production of the chemical neurotransmitters needed to send information from the brain stem to the parts of the brain that deal with attention. The psychostimulant medications appear to lengthen the children's attention spans, control impulsivity, decrease distractibility and motor activity, and improve visual-motor integration (Barkley, 2005; Powers, 2000; Rappley, 2004). The psychostimulant medications most frequently prescribed for ADHD are Ritalin, Dexedrine, Concerta, Adderall, and Vyvanse. The duration of effect for Ritalin, Dexedrine, and Focalin is short, 3 to 5 hours. Consequently, unless a second dose is taken during the school day, the effects of a morning dose of either of these medications will wear off during the course of the day. The psychostimulants Adderall, Concerta, and Vyvanse are taken in one daily dosage, and the effects are long lasting, 8 or more hours.

The side effects of stimulant medications include insomnia and loss of appetite, but these effects are usually transient and diminish as tolerance develops (Barkley, 2005). For a few children, a more serious side effect of Ritalin is that it can trigger tics or Tourette's syndrome. If one of these side effects occurs, the medication must be changed.

A *rebound effect* sometimes occurs with children on psychostimulants. The child's behavior can significantly deteriorate in the late afternoon or evening after a daytime dose of the stimulant. This wearing off of the medication can cause the child to temporarily exhibit more impulsivity, distractibility, and hyperactivity than was previously observed (Barkley, 2005). If this occurs, additional low doses may be needed in the late afternoon.

Strattera A medication that is not a psychostimulant for the treatment of ADHD is Strattera. Because Strattera is not a psychostimulant medication, it is not subject to the same restrictions as other medications used for most other treatment of ADHD. Strattera only needs to be given once daily (Silver, 2006; Kratochvil et al., 2002; Rosenthal, 2003).

Other Medications As noted, about 75% to 85% of children with ADHD show general improvement with psychostimulant medications. For those who do not improve, other medications are used. These include Wellbutrin, Catapres, Tenex, and Strattera (Silver, 2006).

The use of psychostimulants for ADHD is associated with rapid improvement in attentiveness, hyperactivity, impulsivity, scholastic performance, handwriting skills, family life, and socialization based on objective tests and subjective evaluations by parents, teachers, and clinicians. In addition, psychostimulant medication appears to help children with ADHD improve their self-esteem and self-image, and it enables children with ADHD to express feelings of greater control over themselves and their lives (Silver, 2006; Powers, 2000).

7.4d Neurochemistry of Psychostimulant Medications

In this section, we look at the neurochemistry of psychostimulant medications, which are often prescribed for children with ADHD. Individuals with ADHD do not release enough of the needed chemicals to send information from the brain stem to other parts of the brain. A deficiency in the production of the neurotransmitters *dopamine* and *norepinephrine* results in decreased stimulation and a consequent dysfunction of the neural circuits underlying attention.

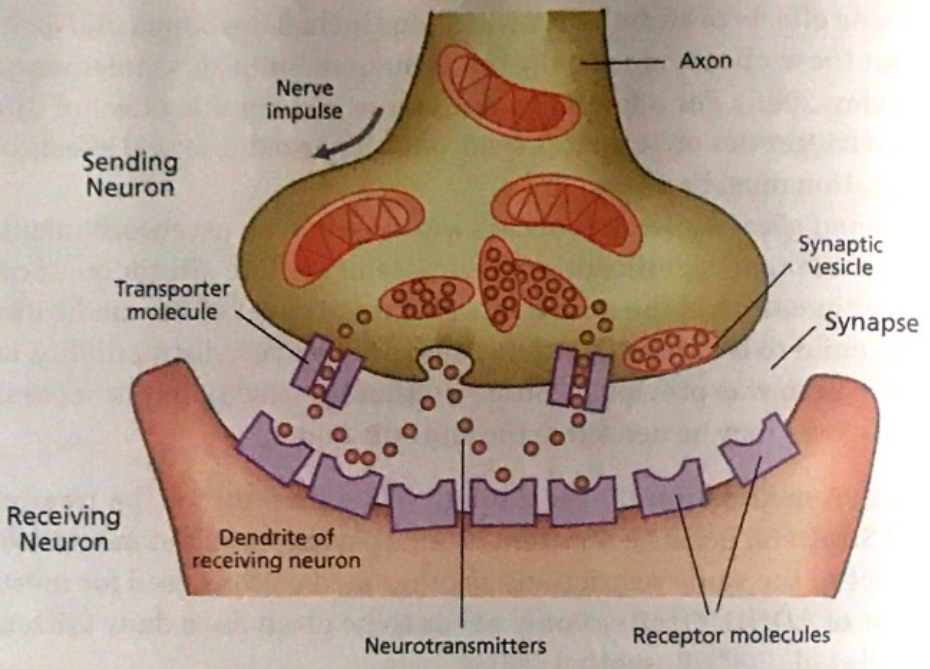
The brain is a complex information network made up of millions of nerve cells called neurons. Information moves through the brain as nerve impulses that are transmitted from cell to cell by neurotransmitters. An impulse travels along the cell body from a sending neuron to a receiving neuron. A small space, called a *synapse,* is between the sending neuron and the receiving neuron. The impulse causes the sending cell to release chemicals—or neurotransmitters—from tiny sacs located at the synapse between the sending cell and the receiving cell. A diagram of the neurotransmitter system is shown in Figure 7.4.

neurons
Nerves within the brain

Individuals with ADHD have an insufficiency in the neurotransmitter activity within the brain stem. The psychostimulant medications increase the production of the chemicals, leading to a decrease in the behaviors associated with

FIGURE **7.4**
The Neurotransmitter System

Source: Adapted from *The Dana sourcebook of brain science: Resources for secondary and postsecondary teachers and students*, 2003. New York: Dana Press, p. 138.



ADHD, such as inattention, impulsivity, and hyperactivity. Thus, medication, through its action on the neurotransmitters, improves the child's attention, motivation, motor responses, activity level, restlessness, and responsibility (Silver, 2006; Lerner et al., 1995; Powers, 2000; Rappley, 2004).

Did You Get It?

Which treatment is not usually included in multimodal plans for the effective treatment of ADHD?

a. medication
b. individual and family counseling
c. psychotherapy
d. behavior management skills and techniques

7.5 Methods for Teaching Students With ADHD

To accommodate students with ADHD, it is necessary to consider the three primary traits of ADHD: (1) inattention, (2) impulsivity, and (3) hyperactivity. Because most students with ADHD are in a general education classroom setting, it is important for both the special education teacher and the general education classroom teacher to be familiar with these methods (Silver, 2006; Barkley, 2005; Lerner, Lowenthal, & Lerner, 1995).

7.5a Increasing Attention

Inattention is a major symptom of individuals with ADHD. The student may be attending, but attending to the wrong stimuli. For example, the student may be attending to what is going on outside, to noises in the classroom, or even to his or her own thoughts. There are several distinct but interrelated phases of attention.

1. **Coming to attention.** The first phase, coming to attention, requires students to be alert, steady, and motivated for the lesson.
2. **Focusing attention.** The next phase, focusing attention, requires vigilance and the energy to examine problems carefully and to develop an interest in the problems to be solved. Students with ADHD must learn to focus their attention, to slow down, to become more deliberate and reflective, and to monitor their responses before answering.
3. **Sustaining attention.** The third phase, sustaining attention, requires that students concentrate for an extended period of time. The ability to focus and attend to a task for a prolonged period is essential for the students to receive the necessary information and to complete certain academic activities. To learn many academic skills, such as reading, students must work hard and keep attending over many days, weeks, or even months. Teaching Tips 7.2, "Increasing Attention," describes some methods for helping students increase attention.

TEACHING TIPS 7.2

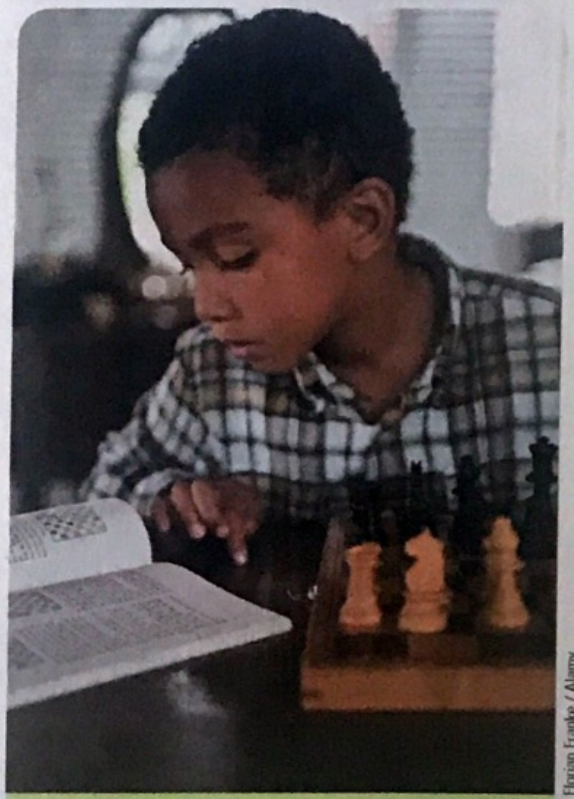
Increasing Attention

- Place the student near the front of the room.
- Place the student away from noisy or distracting locations, such as windows and hallways.
- Place the student away from students with behavior problems. Place the student with well-behaved students.
- Keep the routines simple and direct.
- Alert the student by using key words and phrases, such as "this is important."
- Use visual aids; write out key points.
- Increase the novelty of the task.

Professional Resource Download

7.5b Managing Impulsivity

Impulsive students act out physically and/or verbally. Often, they will shout out answers without raising their hands or waiting for recognition. Particularly challenging for impulsive students are transition times, when class activities shift from unstructured activities to structured activities. After a stimulating activity, such as recess or a physical education period, impulsive students have difficulty settling down. Teaching Tips 7.3, "Managing Impulsivity," offers suggestions for managing impulsivity.



Young boy reading Chess Book.

Florian Franke / Alamy

7.5c Reducing Hyperactivity

Students who are hyperactive present challenges for classroom teachers. These students cannot sit in their seats for prolonged periods; they may get up to sharpen their pencils 12 times during each class. They need to move frequently within the classroom and be active. They will probably respond to an increase in hands-on activities and opportunities for movement while engaging in a nonactive activity such as a lecture. As an example, they may increase their attention by being able to doodle on a piece of paper or being able to squeeze a fidget toy. Such students may simply pace back and forth because they cannot sit quietly. One student with ADHD reported that she retained information that she needed to memorize much better when she was able to write her notes on small index cards, and that she would go home and pace back and forth as she read and reread the information on the index cards. Teaching Tips 7.3, "Managing Hyperactivity," provides methods for managing hyperactivity in the classroom.

TEACHING TIPS 7.3

Managing Impulsivity

- **Adapt the curriculum.** Small changes in the curriculum can be helpful. Students with ADHD need a stimulating, active curriculum that will hold their attention and motivate them to complete the activity at hand.
- **Help students learn to wait.** Give the student some substitute verbal or motor responses to use while waiting. Instruct the student about how to continue on easier parts of tasks, or how to do a substitute task, while awaiting the teacher's help.
- **Help students manage time.** Give short assignments and tasks and reduce the amount of work involved. Alternate activities that are done while sitting with those that involve standing and moving about.

Professional Resource Download

Including Students in GENERAL EDUCATION 7.1

Students With ADHD

Limit Distractions

- Seat student near the teacher
- Seat student away from noisy places
- Seat student with well-behaved students and away from students with problem behaviors
- Keep routines simple and direct

Increase Attention

- Shorten the task—break it into smaller parts
- Shorten homework assignments
- Use distributed practice (i.e., many shorter sessions)
- Make tasks more interesting (e.g., work with partners, interest centers, groups)
- Increase the novelty of the task

Improve Organization

- Provide clear classroom rules and teacher expectations
- Establish routines for placing objects in the room
- Provide a list of materials for each task
- Check that student has homework before leaving school; use assignment books
- Use a different colored folder for each subject

Improve Listening Skills

- Keep instructions simple and short
- Have students repeat instructions aloud, then to themselves
- Alert students by using key phrases, such as "this is important" or "listen carefully"
- Use visual aids, charts, pictures, graphics, transparencies; write key points on chalkboard

Help Students Manage Time

- Set up a specific routine and adhere to it
- Make lists to help students organize tasks
- Use behavior contracts that specify the time allotted for activities

Provide Opportunities for Moving

- Permit students to move in class (e.g., sharpen pencils, get papers, get materials)
- Alternate activities (e.g., standing, sitting, moving)
- Allow students to work while standing or while leaning on their desks
- Have work centers in the classroom
- Use computers (e.g., allow children to go to computers during work time)

Professional Resource Download

I Have a Kid Who...

TONY, a Student With ADHD

Tony is a student with attention deficit hyperactivity disorder (ADHD) with impulsivity and hyperactivity. He currently attends a fifth-grade general education class. Tony is trying to work on a computer program that does not seem to be working. Tony tells his teacher that the computer program was installed incorrectly, but his teacher tells him that it is working and he should get back to work. Tony feels himself getting extremely frustrated and agitated, and his foot is tapping louder and faster. He feels that he must get out of the classroom before he explodes. He asks his teacher, "Can I go to the bathroom?" His teacher says, "No, Tony. Get back to work." Tony gets out of his seat and starts pacing around the classroom, muttering to himself. The voice of the teacher and the laughter of the other students in the class is deafening. He feels he must block it out. Tony starts banging his head against the wall. The teacher asks someone to go get the principal, quickly.

QUESTIONS

1. Should the teacher anticipate this kind of problem in a student with ADHD with hyperactivity and impulsivity?
2. Should the teacher have allowed Tony to leave the classroom?
3. Do you think this was the best educational setting for Tony?

7.5d Accommodations for the General Education Classroom

Teachers must make accommodations in the general education classroom to adjust for the behaviors of students with ADHD. Including Students in General Education 7.1, "Students With ADHD," lists some of the target behaviors, along with accommodations that can be made to achieve those behaviors for students with ADHD.

Many of the characteristics of Asperger's syndrome appear to be similar to NVLD. However, Roman (1998) claims they are different disorders. AS is part of the autism spectrum, but NVLD is not recognized in IDEA-2004 or in the *DSM-IV-TR*. NVLD is recognized in the field of neuropsychology. Some parents report that their child has had both diagnostic labels, and diagnosis appears to some extent to reflect the orientation of the examiner.

Did You Get It?

Verbal prompts in the form of _____ are effectively used to inform the child with ADHD/ADD that a particular fact, concept, or subject is of primary importance.

a. key words and phrases
b. raising ones voice several decibels
c. mnemonics
d. animation of verbal pitch and tone

Chapter Summary

- Autism spectrum disorders include a group of conditions, including classic autism disorder, pervasive developmental disorder-not otherwise specified, and Asperger's syndrome. The prevalence of autism spectrum disorders is increasing.
- Children with NVLD often have poor visual-spatial abilities, poor nonverbal problem-solving abilities, and low arithmetic skills.
- Attention deficit hyperactivity disorder and learning disabilities are common cooccurring conditions.
- The term *attention deficit hyperactivity disorder (ADHD)* is defined by the American Psychiatric Association and used by physicians and psychologists.
- The characteristics of ADHD change with age. Young children, elementary-age children, adolescents, and adults all display different characteristics of ADHD.
- For a diagnosis of ADHD, symptoms must meet the criteria of (1) severity, (2) early onset, and (3) duration.
- The *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Revised (DSM-5)* describes three types of ADHD: (1) Attention-Deficit/Hyperactivity Disorder, (2) Other Specified Attention-Deficit/Hyperactivity Disorder, and (3) Unspecified Attention-Deficit/Hyperactivity Disorder.
- Laws that make children with ADHD eligible for special education services are (1) the 1991 Clarification of Policy to Address the Needs of Children With Attention Deficit Disorders Within General and/or Special Education, (2) 1999 Regulations for IDEA-1997, and (3) the Individuals With Disabilities Education Improvement Act of 2004.
- The number of children identified with ADHD is increasing.
- Medication is an important part of the treatment of children with ADHD. Psychostimulant medications are widely used and are effective medications for ADHD. There are also other medications and alternative therapies used for children with ADHD.
- Teaching methods for students with ADHD are used by special education teachers and general education teachers. These teaching methods include strategies of (1) increasing attention, (2) managing impulsivity, and (3) reducing hyperactivity.

Questions for Discussion and Reflection

1. Many children today are diagnosed with ADHD. Describe the characteristics of children with ADHD at different developmental stages.
2. What are some of the settings for serving children with ADHD in the schools? What is the educational setting for most students with ADHD?
3. Many children with ADHD receive medication as part of their treatment. Discuss the kinds of medication that children with ADHD receive.
4. Describe two related neurodevelopmental conditions.

Key Terms

Asperger's syndrome (AS) (p. 192)
attention deficit disorder (ADD) (p. 196)
attention deficit hyperactivity disorder (ADHD) (p. 196)
autism spectrum disorder (ASD) (p. 190)
hyperactivity (p. 197)
impulsiveness (p. 197)
inattention (p. 197)
multimodal treatment plan (p. 205)
neurons (p. 207)
neurotransmitters (p. 206)
nonverbal learning disorders (NVLD) (p. 195)
psychostimulant medications (p. 206)
rating scales (p. 200)