Introduction

High-functioning autism disorders are neurologically based conditions (Myles & Simpson, 1998) characterized by social skills deficits (Zager, Wehmeyer, & Simpson, 2012). Children and adolescents with high-functioning autism and similar disorders such as Asperger disorder typically possess normal cognitive and language abilities but struggle with a variety of social skills deficits in interactions with others (American Psychiatric Association, 2000, 2013). Social interaction deficits include difficulties reading subtle social cues, forming and maintaining age-appropriate adult and peer relationships, understanding nonverbal behavior, social reciprocity, and following fundamental social standards. These learners also tend to engage in stereotypic activities, including fixating on narrow areas of interest. It is not unusual for such youth to be described by others as socially stiff and uncoordinated, inflexible, and lacking in tact and empathy (Baron-Cohen, 1995; Simpson & Myles, 2011).

As these children become older, and especially during their adolescent years, social difficulties are often intensified by changes with puberty and complicated by teenage social norms and expectations. While these youth often improve their skills in basic communication, they frequently continue to struggle with social communication (Schall & McDonough, 2010). As a result, even when they actively try to engage with others, they often experience rejection and social isolation. These social challenges have a profound impact not only on the individual who is struggling, but also on teachers, peers in the classroom, parents, and the community.

WHY TEACH SOCIAL SKILLS?

Despite the challenges children and youth with high-functioning autism disorders face, there is strong reason to believe that, with appropriate education and support, they have the potential to lead effectively normal lives (Simpson & Myles, 2011). Indeed, many attend college and have successful careers (Harpur, Lawlor, & Fitzgerald, 2004).

Research and experience tell us that individuals with high-functioning autism disorders who receive training in social skills and who are provided support in doing so are better able to respond to social demands, interact with greater social ease, and become more resilient (Baker, 2004; Garcia Winner, 2008; Koegel, Kuriakose, Singh, & Koegel, 2012). Specifically, learning socially desirable skills has been shown to positively impact academic and school-related success, employment success, independent living, and overall quality of life (Chan et al., 2009; Cotugno, 2009; Stichter, O'Connor, Herzog, Lierheimer, & McGhee, 2012), while the failure to learn and use appropriate social skills is associated with more negative outcomes (Lee, Odom, & Loftin, 2007; Simpson, Ganz, & Mason, 2012).

Skillstreaming has been employed successfully with a wide range of individuals and in a wide range of settings. This volume extends the Skillstreaming approach to social skills instruction to address the specific social learning needs of this group of children and adolescents. The same skill-learning procedures as for other Skillstreaming programs—modeling, role play, feedback, and generalization—provide the foundation for instruction with this population. However, a

significant difference concerns the presumption that Skillstreaming instruction will be integrated into existing overall educational and therapeutic plans for these learners, and that, to the degree necessary, they will receive individualized skills instruction and one-to-one coaching from mental health providers, teachers, peers, and families.

HISTORICAL BACKGROUND

In 1943, Leo Kanner first identified what he called "early infantile autism" in 11 children in whom he observed high intelligence, a profound preference for being alone, and an obsessive insistence on the preservation of sameness. In 1944, Viennese physician Hans Asperger observed a group of children who displayed some typical autistic behaviors, such as self-stimulation and insistence on environmental sameness. In his description, he identified these individuals as socially odd, socially uninformed, and awkward, but with at least average intellectual ability and normal language development. Asperger contended that this newly identified disorder had a neurodevelopmental cause.

Through the 1960s, psychiatrists continued to view autism as a form of childhood schizophrenia. Also popular through the 1960s was the now-debunked idea that autism resulted from emotionally distant mothering. The 1970s brought understanding that autism stemmed from biological differences in brain development. Objective criteria for diagnosing autism followed in the 1980s, as did increased interest in Asperger disorder, when Wing (1981) brought the disorder to the attention of researchers and clinicians by translating Asperger's original work into English. Wing further clarified the disorder through extensive clinical descriptions and case examples.

Until recently, Asperger disorder and other high-functioning autism disorders were included as subcategories of pervasive developmental disorder in the two common diagnostic manuals used by mental health clinicians and others: the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM–IV; American Psychiatric Association, 2000) and the corresponding international classification system, the *International Statistical Classification of Diseases and Related Health Problems* (World Health Organization, 2007).

Although some have advocated approaching these two disorders as separate and distinct (e.g., Polirstok & Houghteling, 2006), over time the two conditions have been increasingly viewed as existing within a single classification. Today, autism, Asperger disorder, and other related disorders are commonly included on the continuum of autism-related disabilities known as the autism spectrum. The fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM–V; American Psychiatric Association, 2013) lists Asperger disorder as a component of the autism spectrum, no longer identifying it as a separate diagnosis.

It is important to note that this diagnostic reclassification is somewhat controversial among those who feel that Asperger disorder is in fact a separate entity. However, as is consistent with the most current conceptual understanding and usage, Asperger disorder, high-functioning autism, and related disorders are referred to throughout this book as *high-functioning autism disorders.*

POPULATION CHARACTERISTICS

Each child and adolescent with a high-functioning autism disorder is unique, with highly variable intellectual, cognitive, language, behavioral, adaptive behavior, and social abilities (Heflin & Alaimo, 2007; Thompson, 2007). However, learners with high-functioning autism disorders do tend to express their differences across the following main areas.

Social Skills

By definition, children and youth with high-functioning autism disorders demonstrate social excesses and deficits that frequently persist into adulthood. These youth are typically socially motivated and are interested in interacting with others. Their interactions, however, tend to be unskilled, and often these individuals struggle in carrying on age-expected social interactions, including participating in organized group activities and appropriate play. These deficits appear to be more a func-

tion of a lack of understanding of social customs and poor skill in participating in social interactions than a lack of interest in or fear of social contact. Learners with these disorders, for example, may appear ill-mannered or odd because they do not take turns in play and conversations or fail to understand a peer's social cues. These individuals, whether school-age or adult, are often easy targets for bullying and teasing (Simpson & Myles, 2011). Often by the time they are adults, these children and youth have become unwilling to engage socially with others, perhaps due to social rejection and other negative responses to their attempts to connect with others.

Some individuals in this group may be socially gregarious and socially active; others may withdraw from social interaction. Still others are often able to participate in routine social interactions (e.g., join and participate in an assigned cooperative group in a classroom) yet find it difficult to engage in extended contact and unstructured social interactions or form close friendships based on shared interests. Wherever they fall on the social continuum, they are typically perceived as socially stiff, emotionally blunted, self-centered, rigid, and lacking in social understanding. In spite of their frequent lack of social awareness, many of these individuals are aware of their social differences, and as a result may suffer from feelings of poor self-worth.

Emotional and Behavioral Characteristics

It is common for those with high-functioning autism disorders to experience emotional vulnerability and high levels of anxiety and stress, and to communicate these feelings through inappropriate or aberrant behaviors. A variety of stressors impact emotions and behaviors, including changes in routines and schedules, being unexpectedly thrust into unfamiliar social surroundings with unknown people, pressure to perform within a set time or within a performance standard, and feeling a loss of control or inability to predict what may happen (e.g., in unstructured or new situations). In other words, when persons with these disorders experience behavior problems it is most likely due to social ineptness, obsessive interests, high stress, or anxiety. Furthermore, these feelings and problems are likely to reduce their motivation for further social interaction and contact.

As these individuals get older, they are also likely to develop additional social and mental health problems, such as depression (Attwood, 2007; Barnhill, 2001; Tantam, 2000) and increased distress and anxiety in social situations (Cesaroni & Garber, 1991; Ghaziuddin, Weidmer-Mikhail, & Ghaziuddin, 1998). Other conditions that commonly co-occur with high-functioning autism disorders include obsessive-compulsive disorder, bipolar disorder, anxiety, affective disorders, attention-deficit/hyperactivity disorder, and psychosis (American Psychiatric Association, 2013; Bregman & Higdon, 2012; Volkmar & Klin, 2000). Such comorbid conditions may further complicate social performance.

Language and Communication Characteristics

Unlike children and youth with classic forms of autism, those with high-functioning autism disorders typically do not display clinically significant language delays (American Psychiatric Association, 2013; Thompson, 2007), and, in general, they acquire and use words and phrases within generally expected developmental norms. Their communication, however, may be described as "odd in its use" (Frith, 1991, p. 3). While there is some disagreement among professionals related to language delays and deficits (American Psychiatric Association, 2013; Mesibov, Shea, & Adams, 2001; Wetherby & Prizant, 2000), there is little argument that these children and youth manifest a variety of abnormal communication characteristics, particularly in their pragmatic, social, and conversational language skills (e.g., one-sided monologues). For example, a child may repeat the same phrase over and over; talk with exaggerated inflections or in a monotone; discuss at length a single topic that is of little interest to others; or have difficulty sustaining conversation unless it

focuses on a particular, narrowly defined topic of their interest. The adult-like, pedantic speaking style of some children and adolescents may further lessen their appeal to their peers.

Nonverbal communication deficits such as standing closer to another person than is customarily accepted, making unusual gestures or movements while talking, intensely staring at another person for long periods, maintaining abnormal body posture, failing to make eye contact or displaying an inexpressive face, failing to use or interpret conventional gestures and facial expressions, and paraverbal deficits (abnormal voice quality, monotonic voice) further impact the social acceptance of these individuals.

While a child with a high-functioning autism disorder may develop language commensurate with his or her nondisabled peers, other language and communication challenges exist that further complicate both social and academic learning. For example, learners may have difficulty comprehending theoretical, conceptual, and abstract ideas; understanding and correctly using figures of speech such as metaphors, parables, and idioms; and grasping the meaning and intent of rhetorical and metaphorical questions (Shore, 2003). Because these conventions and language styles are commonly used by teachers and occur in school texts, these deficits may have a negative effect on students' academic success. Inappropriate behaviors, anxiety, or avoidance may also be responses in reaction to the lack of understanding and confusion in both academic and social situations.

Cognitive Characteristics

As previously noted, a defining characteristic of high-functioning autism disorders is average or above-average intellectual capacity (American Psychiatric Association, 2013; World Health Organization, 2007). Several researchers have reported that these individuals display an uneven cognitive profile on measures of intelligence and cognition, including the widely used Wechsler intelligence scales (Wechsler, 1989, 1991). For example, significantly higher scores on performance items (and thus Performance IQ scores) when compared with verbal performance and Verbal IQ scores have been noted (Ehlers et al., 1997; Lincoln, Courchesne, Kilman, Elmasian, & Allen, 1988). More specifically, the individuals assessed obtained their lowest scores on the Comprehension subtest, which assesses understanding of social mores and interpersonal situations and is related to one's social judgment, common sense, and grasp of social conventionality.

Several theories have been proposed to explain the uneven cognitive performance. One theory suggests that individuals with high-functioning autism disorders have a theory of mind deficit (Baron-Cohen, Golan, Wheelwright, & Hill, 2004; Baron-Cohen et al., 1985). "Theory of mind" refers to an individual's ability to think about and use information related to one's own and others' intentions, beliefs, and mental states. A theory of mind deficit may also help explain the weaknesses in perspective taking and empathy characteristic of individuals with these disorders.

Academic and Learning Characteristics

While the vast majority of these learners have average intellectual abilities, they often experience difficulties in academic performance (Zager & Dreyfus, 2012). Specific difficulties include communication deficits, in combination with obsessive and narrowly defined interests; concrete, inflexible, and literal thinking styles; poor problem-solving ability; weak organizational skills; and difficulty in discriminating relevant from irrelevant information. As a result, some children and youth with these disorders are diagnosed with learning disabilities (Attwood, 2007; Frith, 1991; Siegel et al., 1996). These learners also have a tendency to resist academic subjects that don't align with their special interests, further impacting their academic success.

Students with high-functioning autism disorders may demonstrate notable capability to comprehend factual material (Church, Alisanski, & Amanullah, 2000), yet this strength does not always translate into high academic achievement. For example, Griswold, Barnhill, Myles, Hagi-

wara, and Simpson (2002) reported that academic achievement scores in their sample of youth diagnosed with Asperger disorder and high-functioning autism ranged from significantly below average to significantly above average. Relative strengths were found in oral expression and reading recognition; relative weaknesses were identified in listening comprehension and written language. Low mathematics scores were also found, especially in using math skills to solve application problems. Students who participated in the study also had significant difficulties in the areas of critical thinking and problem solving.

Finally, these learners also frequently have difficulty applying and generalizing previously learned knowledge and skills to new situations and problems. Thus, even when they have mastered specific subject matter such as math facts and principles, they frequently have difficulty using what they have learned to solve problems.

Sensory Characteristics

Kanner (1943) and Asperger (1944) both observed that children with autism and those with Asperger disorder were prone to unusual responses to sensory stimuli. These reactions have been validated by researchers (Dunn, 2008) as well as regularly confirmed by countless teachers and parents who watch, sometimes with anguish, as students struggle to deal with loud and unpredictable sounds, unanticipated touch from others, and so forth. Some children have an obsessive insistence on wearing a particular type of clothing (e.g., comfortable sweatpants), prefer certain foods or food textures, or engage in self-stimulatory responses such as repeatedly spinning objects, especially when they experience stress, fatigue, or sensory overload (Myles, Cook, Miller, Rinner, & Robbins, 2000). Such behavioral excesses impact both their ability and willingness to participate in planned school, family, and community activities.

Physical and Motor Skills

Wing (1981) observed that children with high-functioning autism have a tendency to have poor motor coordination and balance problems. These observations have been confirmed by others (Attwood, 2007; Dunn, 2008; Smith, 2000; Smith & Bryson, 1994). Thus, many children and adolescents with these disorders are clumsy and uncoordinated, making it difficult for them to participate successfully in games that call for good motor skills. These problems significantly affect their ability to interact in social situations and may contribute to poor self-esteem and lack of acceptance from others. Fine motor skill problems have implications for a variety of school activities, such as handwriting and art (Todd & Reid, 2007).

NEW SKILLS AND SKILL GROUPINGS

Existing Skillstreaming curricula have been used successfully with a variety of children and youth, including individuals with Asperger disorder and high-functioning autism (Lopata et al., 2006, 2008; Tse et al., 2007). Why, then, are new skills presented to guide work with learners with high-functioning autism? In brief, youth with these disorders respond best when complex social behaviors are separated into small amounts of information. For example, when teaching how to deal effectively with anxiety, a youth must first recognize anxiety, decide what has created this emotion, and then plan to deal with it. It is more effective for these youth, then, to learn three discrete skills: Recognizing Anxiety (Skill 34), Deciding What Causes Your Anxiety (Skill 35), and, finally, Dealing with Anxiety (Skill 36).

In addition, the skills included in this curriculum have been designed to relate directly to the needs of learners with high-functioning autism. Specifically, skills are organized according to the following six groups: Relationship Skills (Beginning and Advanced), Social Comprehension, Self-Regulation, Problem Solving, Understanding Emotions, and School-Related Skills. Table 1 lists the 80 skills in these categories; the rationale for teaching the skills in these groupings is next discussed.

Figure 1: Sample Homework Report 1

Skill 30: Showing Interest in Others

Name Sammi Date 11/18

SKILL STEPS

1. Look at the person or group.
2. Describe what the person or the group is doing.
3. Decide what to do next.

FILL IN NOW

With whom will I try this? Kids in my class

When? Recess

SUPPORTS

☑ Coaching with *(name)* Ms. Crawford

☐ With supportive peer *(name)* _____

☑ Other *(specify)* Choices for Step 3 listed on cue card

☐ None

FILL IN AFTER YOU PRACTICE THE SKILL

What happened? I watched. I got closer. I said hello. They asked if I wanted to play. I said yes.

How did I do? *(circle the number)*

4	3	(2)	1
Really good!	Pretty good.	So-So.	I need to try again.

Why did I circle this? I said it but didn't play with them. I will try again.

Figure 2: Sample Homework Report 2

Skill 36: Dealing with Anxiety

Name Sebastian Date 3/1

SKILL STEPS

1. Think of your choices.
2. Make a plan.
3. Say, "I can follow my plan."
4. Follow your plan.

When did I practice?	How did I do? *(circle the number)* Really Good!	Pretty good.	So-So.	I need to try again.
1. School assembly	4	3	2	(1)
2. Subsitute teacher	4	3	(2)	1
3. Noisy classroom	4	(3)	2	1

SUPPORTS

	Practice Situation *(circle)*		
With prompting	(1)	2	3
With coaching	1	(2)	3
With supportive peer	1	2	(3)
Other support *(specify)* Video modeling	1	(2)	3
_____			
None	1	2	3

Skill 1: Listening Without Interrupting

SKILL STEPS

1. **Look at the person.**

   Explain and demonstrate what looking at the person means (i.e., looking at the person's face, looking away briefly, then looking at the person again). Explain the difference between appropriate eye gaze and staring.

2. **Carefully listen.**

   Encourage the learner to think about what is being said. The learner may want to say to himself or herself, "I know I can listen."

3. **Nod your head.**

   Discuss both verbal (e.g., "Yes," "I see") and nonverbal messages that show someone is listening.

SUGGESTED MODELING SITUATIONS

School: Your teacher is presenting a lesson.

Home: A brother or sister is telling about an incident at school; your parent is telling you about her day.

Peer group: A friend is talking about his weekend.

Community: The coach is explaining what you will do at practice.

COMMENTS

This skill is also useful for a variety of other skills. Through modeling, role-play, and coaching, point out the verbal and nonverbal behaviors that show someone is listening. This skill focuses only on the nonverbal behaviors of the learner.

Skill 1: Listening Without Interrupting

Name_____Date_____

SKILL STEPS

1. Look at the person.
2. Carefully listen.
3. Nod your head.

FILL IN NOW

With whom will I try this? _____

When? _____

_____

SUPPORTS

☐ Coaching with *(name)* _____

☐ With supportive peer *(name)* _____

☐ Other *(specify)* _____

☐ None

FILL IN AFTER YOU PRACTICE THE SKILL

What happened? _____

_____

How did I do? *(circle the number)*

4	3	2	1
Really good!	Pretty good.	So-So.	I need to try again.

Why did I circle this? _____

_____