Working with School-Aged Children

Children with autism spectrum disorders (ASDs) face new challenges in primary and middle schools. Expectations change based on increased psychological and physical maturity. Additional challenges come because there are new expectations for independent, self-directed learning and new transitions within, and often between, schools with increasing changes in teachers and program. Fortunately, more and more children with ASDs are doing well in school, and gains in social learning often occur. A range of options is available to students, going from fully included, mainstream academic settings, to programs that provide both mainstream experiences and special education services, to fully segregated learning environments. Many of the same issues and program considerations relevant to younger children (chapter 7) continue to apply, although there usually will be more emphasis on academics. The paths children follow in their learning and development will, of course, differ. There are some generalizations that can, however, be made.

In the preschool years, earlier diagnosis and intervention are associated with progressively better outcomes if we look at the entire group of children with ASDs. That being said, by first grade there will start to be major divergences, with some children having made substantial progress and others continuing to have significant challenges. We still do not know why some children seem to do better than others, even in what appear to be rather similar and appropriate programs. By around age 6, we can have a much better sense of the child's ability to communicate and his verbal abilities. Around this time, tests of intelligence begin, for both the general population and those students with ASDs, to become more predictive of later performance. Starting around this time, the psychologist can use intelligence (IQ) tests that tap more and different kinds of skills to more precisely identify areas of strength and weakness. In contrast to the preschool years, social isolation and oddity can contribute to isolation and more obvious differences from typically developing students in school. Factors contributing to this include problems in play and making friends, unusual patterns of interest and

behavior, and unusual language and communication patterns. Repetitive behaviors and interests may become more striking and also serve to make the child with an ASD stand out, particularly in less structured situations. Paradoxically, some of the places where typically developing children have the greatest enjoyment of "down time" (e.g., recess, physical education, cafeteria) can be some of the most stressful for the child with an ASD.

In this chapter, we focus on some of the challenges, opportunities, and issues that children and their parents and teachers face in the primary school years (roughly ages 6 to 12). In the next chapter, we'll move to another set of challenges as children enter adolescence.

Development and Behavior

Social Skills and Social Style

As discussed in chapters 1 and 2, we know more about various factors that contribute to social problems, including unusual processing of social stimuli in the brain and unusual patterns of looking and gaze in viewing social scenes. Data from our research using eye-tracking methods (see page X) suggests that a considerable amount of information is lost simply as a result of where the child looks. Other investigators have noted that the multiple cues, as are usually present in social interaction, also are a source of difficulty (Pierce, & Schreibman, 1998).

Social difficulties do, however, persist, and often the child's style of social interaction becomes more apparent. Wing and colleagues (Wing & Gould, 1979) have described three general styles of social interaction in children with ASDs. These styles have some implications for intervention. They can also change over time.

Children with the *aloof* social style tend to be those usually thought of as having the most "classic" form of autism. Typically, they are largely oblivious to social interaction. They don't seek out others and may actively avoid social contact. The child may become distressed when intruded upon. Individuals with this style tend, on balance, to have greater degrees of cognitive/learning difficulty. Levels of communication ability tend to be low. Often, there is little interest in peer or peer-play activities. It may be difficult to get their attention—often physical prompts and cues are needed given their lack of interest in the social world. Behavioral problems can be striking, but it may also be difficult to relate the behavioral problems to obvious precipitants. These children present more behavioral challenges and often require the most intensive behavioral and educational support.

Children with what Wing has termed the **passive social style** tend to be just that. They passively accept social interaction but don't seek it and aren't particularly upset if it isn't there for them. In contrast to the aloof group, those with the

passive style will accept it but don't have the typical child's marked interest in seeking social contact. They may have trouble in responding to social cues, often relying on rigid and one-sided or idiosyncratic responses. Play patterns are often more sophisticated than those in the aloof group but still tend to be somewhat rigid and perseverative.

These children tend to have fewer problem behaviors and lower levels of motor sterotypies. They can be approached by other children, but their difficulty in responding appropriately and in initiating often lead to isolation from peers unless special provisions for inclusion are made. Often, children with this style started with a more aloof one but became more tolerant of social interaction over time and with intervention.

The final group that Wing and colleagues described is what they termed the **active but odd** group. Often, these tend to be the most cognitively able children—with autism, Asperger's, or pervasive developmental disorder not otherwise specified (PDD-NOS)—who actively seek other children but do so in rather eccentric, one-sided ways. Language levels tend to be highest in this group. Even when good verbal abilities are present, language/communication may be one-sided and rather eccentric, for example, coming up to other children and beginning a discussion of the child's topic of special interest. These children may be well known to teachers because of their repetitive questioning, literal adherence to rules, narrow interests, and social eccentricities. Although strongly motivated to relate to others, the lack of empathy and ability to put themselves in the other person's place can lead to major difficulties with peers. The child may say something literally true but very inappropriate. There may be, particularly as time goes on, an awareness of being different and feelings of depression and distress as a result. Behavioral difficulties tend to be associated with predictable stressful events (e.g., novelty), although the general level of behavior problems in this group is somewhat less. The unusual social style can lead to peer rejection and sometimes bullying (discussed subsequently in this chapter).

Emotional Development

From very early in life, typically developing children learn to understand and express feelings. The strong social and communicative context for this experience is undoubtedly an essential part of learning to recognize one's own emotions as well as those of others. This process of self–other observation parallels other changes in the child's understanding. By the time typically developing children enter first grade, they are highly experienced in reflecting on their own feelings and those of others. Children are easily aware of what makes them, or other people, happy, anxious, or sad and use these feelings and observations to help regulate their behavior.

Children on the autism spectrum seem to have rather different experiences of emotional and affective development (Hobson, 2005). These problems are not necessarily unique to autism; for example, children with learning problems or Down syndrome may also have difficulties in this area. As a practical matter, parents and teachers frequently observe unusual emotional responses. This may take the form of highly idiosyncratic responses of pleasure or displeasure in response to what otherwise seem trivial events. However, the child might have minimal reaction to what most of us would see as a major life event. When more cognitively able people with autism write about their experience of emotions, they often report feelings of anxiety, fear, and frustration (see the box on page XXX). Children may say things (often things that are quite true) that are very hurtful of other people's feelings with little appreciation of this.

ANXIETY AND AUTISM

I was living in a world of daydreaming and fear revolving about myself. I had no care about human feelings or other people. I was afraid of everything! I was terrified to go in the water swimming (and of) loud noises; in the dark I had severe, repetitive nightmares and occasionally hearing electronic noises with nightmares. I would wake up so terrified and disoriented I wasn't able to find my way out of the room for a few minutes. It felt like I was being dragged to Hell. I was afraid of simple things such as going into the shower, getting my nails clipped, soap in my eyes, rides in the carnival. . . .

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A number of studies have now shown that children with ASDs have trouble in recognizing the feelings of other people (Hobson, 2005). There are also differences in the ways they show feelings; for example, expressions may be very idiosyncratic. It is likely that the constellation of social difficulties and communication problems, often coupled with some degree of cognitive processing problem, account for these difficulties. As we mentioned in chapter 2, differences in basic things like how the brain processes social information may also have an impact; for example, differences in face processing may speak to a reduction in the importance of the face as a source of information. The fast pace and multimodal nature of usual social interaction pose further challenges. Some programs have been developed to train emotional recognition and improve responding, although it is not always clear how readily the results translate into real-world settings.

Play

As with other skills, an expected sequence of play usually emerges in the typically developing child, going from simple object manipulation to increasingly complex imaginative play, so that by the time children enter school they are capable of very sophisticated and elaborate pretend play and engaging in games with others. Play activities help children learn and foster a range of skills such as self-regulation, language, and memory. Given their multiple areas of challenge, it is not surprising that children with ASDs come into primary school settings without these skills. As younger children, they are less interested in play, particularly social play, and their play may consistent of repetitive action rather than more dramatic imagination. By school age, many children with ASDs will have acquired at least some play skills. These can be supported and expanded upon in school programs.

Various techniques have been used to enhance play skills. These include both teacher-directed and peer-focused efforts (we'll talk more about the use of peers shortly). Behavioral reinforcement techniques can be used to increase interactive play, for example, by reinforcing interaction and a wider range and use of play materials. For some children, more basic skills, such as joint attention or basic language skills, need to be taught. Modeling play can be effective. For some students, providing scripts is helpful. Using the child's specific motivations (e.g., toys that are of greatest interest to the child) may help. Peers can be highly effective as play teachers, particularly if peers are given some structure and guidance (Carter, Cushing, & Kennedy, 2009).

Language and Communication

Problems in communication are universal for children with ASDs. In the past, as many as 50% of children with strictly diagnosed autism were largely nonverbal at the time they entered school; with earlier detection and intervention, that number has now apparently been significantly reduced—maybe to 30%. As with other areas, the range of levels of function is broad. Some students may come into first grade with minimal language. Others—those with Asperger's—may have amazing vocabularies but still have problems with communication. Minimally verbal students may have problems with some of the basic social aspects of communication, for example, joint attention or understanding simple gestures. It is clear that having at least some language by the time of school entry is a significant indicator of better prognosis. That being said, even in students with minimal language, further gains are possible and desirable. In general, improved language levels will strongly relate to better social skills, fewer behavior problems, and ultimately more personal independence and self-sufficiency.

Verbal children may have language that is unusual in various ways. These include a number of different problems, including echolalia, pronoun reversals, unusual speech intonation and volume (what speech pathologists call *register*), and problems in social language use. **Echolalia**, the repetition of speech, is seen in typically developing very young children. It is common for verbal individuals with ASDs but is not always seen. It can be immediate (repeating something just heard/said) or remote (something said days, weeks, or months ago—including on TV or radio). Early on in the history of autism, echolalia was viewed as something bad and something to be eliminated. Several different lines of work have changed this view. As noted, normally developing infants echo, and many different, adaptive functions of echoing have been identified, for example, in trying to keep a conversation going or to remember something. Echolalia is also viewed now as one manifestation of a more general problem in learning, with a tendency for many children with ASDs to learn language in whole chunks rather than in terms of single words. As children with ASDs learn more complex language, echolalia tends to decrease. An intermediate step in this process occurs when the child starts to transform some part of the echoed speech (termed *mitigated echolalia*).

Problems with pronoun use were first noted by Kanner in his original description of autism. Errors in use of personal pronouns (particularly I/you **pronoun reversal**) have long been described as characteristic of verbal children with ASDs. Among typically developing children, pronoun use becomes reasonably well established by age 2 to 3. Pronouns are complicated because the nature of the pronoun changes depending on context (e.g., if I have a red pen, it is *my* red pen, but if I give it to Mary, it is *her* red pen). The tendency to echo also may contribute to pronoun problems; for example, if the child repeats the last pronoun heard, it will often be incorrect. Pronoun problems may be more frequent in autism than in Asperger's. When pronoun problems occur, they can be a source of confusion—sometimes because the child's language otherwise seems well organized.

Problems with **prosody** and **register** (speech volume) are also frequent in more able, verbal children with ASDs. Prosody, the musical aspect of speech, may be quite impaired, so the child talks in a robot-like or monotonic voice. Prosody helps in conversation by indicating, among other things, areas of special importance and emphasis. In ASDs, there may be some inflection of speech, but the inflection pattern may not correspond to ordinary use (e.g., atypical words are inflected). Problems in register mean that in contrast to most of us, who use hundreds of different voice volumes, the child with an ASD has only one—often loud. Prosody has been the focus of relatively little study, but there is limited research available, for example, the work of our colleague Rhea Paul (2005).

Difficulties in the social use of language, termed **pragmatics**, are areas of great difficulty to more able students with ASDs. These problems include difficulties with carrying on a conversation, for example, only wanting to talk about one thing and not allowing the conversational partner a turn. Some of the difficulties may reflect the social problem of putting oneself in the other person's place (e.g., in starting a conversation in the middle as opposed to the beginning). A particular area of difficulty results from the subtle combinations of language features, such as discrepancies between word use and tone, as in sarcasm. Humor, irony, ambiguous language, and figurative language may pose great obstacles to communication. Myles, Trautman, and Schelvan (2004) provide a very helpful list of figurative speech phrases and idioms that can be explicitly taught. Seemingly simple tasks that involve politeness may be a problem. For example, a man with autism who once worked for one of us doing copying was left a paper with a yellow note on top asking him if he could make three copies; the paper was returned with the word *yes* written on the note—but no copies.

A final area of challenge can be in the ability of the child to develop the ability to tell stories and narratives. Typically, a story will have a beginning, middle, and end. There are some basic—culturally determined—rules (e.g., about characters, plot, feeling, etc.). Generative narratives can be an area of challenge for the child with ASD. If you find a book with pictures (but no words) and ask the child with an ASD to tell the story, he or she may focus on only one element and not get the "big picture." The significance of difficulties in this area relates, among other things, to the importance of people being able to generate their own internal narratives, for example, to recall the events of the day and plan and organize their lives. These difficulties can be seen in older and more able children as they struggle in English class with novels or short stories that focus on feelings and nuances of communication and interaction with less emphasis on generation of facts. Various approaches can be used to help children, including explicit focus on identification of relevant plot/narrative aspects, for instance, *who* is involved, *where* are they, *what* are they doing, *when* are they doing it, and *why* are they doing it. Some computer resources (e.g., the Storybook Weaver™ program) can be used for children to work on developing their own narrative abilities.

As discussed in chapter 6, a number of different strategies can be used to facilitate communication in children with ASDs. For children with limited verbal language, an emphasis on communication, broadly defined, is indicated. Behavioral techniques can be used to increase word use. As discussed previously, for children with limited or no words, picture or object exchange or other augmentative communication aids may be helpful. For the verbal child with an ASD, a host of intervention techniques are available and must be tailored to the specific

needs of the child. Often, there is an early emphasis on vocabulary building, but it is important not to neglect issues of generalization and developing more complex language. For the most cognitively able students, particularly those with Asperger's, the child may have a tremendous vocabulary but rather poor communication skills. The child's speech may be oddly inflected and pedantic with a rather "professorial" aspect (a major problem for peers). For this group, there should be a strong emphasis on explicit teaching of conversational rules, with many opportunities for practice and critique coupled with a strong social skills acquisition program. Language and social skills are intimately related. Often, but not always, gains in both areas proceed in tandem. For some children, even major gains in language abilities may not be associated with similar social gains, such as the ability to put oneself in the other person's place (theory of mind). Poor social judgment coupled with rigidity and an emphasis on telling the truth can lead to some complicated situations. Fortunately, when given appropriate supports, children with ASDs can become more communicative, and often teachers and parents discover that the child has a lot to say.

Sensory and Behavioral Issues

Stereotyped and repetitive behaviors are frequent in school-aged children. These tend to be somewhat more common in students with lower levels of cognitive ability. For more able children, the unusual behaviors may take the form of intense, often unusual, interests/preoccupations; for instance, the child may be fixated on the weather channel or train/bus/TV schedules. These unusual behaviors may also be observed along with unusual sensory responses.

Observations of children over time often reveal some change. For example, early repetitive behavior may start in a rather simple fashion but come to be much more complicated. Unusual rigidity and difficulties dealing with new situations are common. Some studies have suggested that these unusual behaviors, particularly the more common stereotyped movements, become less common as children move into adolescence, although some individuals will retain these into adulthood. Occasionally, the rigidity and repetitive nature of some of the behaviors exhibited is taken to suggest the presence of obsessive–compulsive disorder. However, the more traditional stereotyped movements seen in children with autism are usually less complex than those of obsessive–compulsive disorder. For more able children, another differentiation is that children with obsessive–compulsive disorder do not usually *like* their preoccupation—that is, they would like *not* to be so preoccupied; this is not the same in more able children with Asperger's, who usually like their special interest.

It is important to note that unusual sensory responses and stereotyped behaviors are seen in a range of developmental disorders, including mental

retardation/intellectual disability (see chapter 3). When they are present, however, they can present significant obstacles for intervention. Both behavioral methods (chapter 14) and drug treatments (chapter 15) can be used very effectively. As with other areas, there is always a need to balance potential benefits and risks. Unusual behaviors and sensory responses that interfere with the child's learning are ones that appropriately might be targeted either for medication or behavioral intervention. There is some evidence that, when carefully done, these interventions can significantly enhance the child's learning.

Gender Differences

With the notable exception of **Rett's disorder** (see chapter 13), more boys than girls are usually thought to have autism and ASDs—with rates three to four times higher in boys. Among individuals with Asperger's disorder, the rate may be much higher—with boys outnumbering girls 20 or more to one. This has, unfortunately, meant that information on girls with ASDs is generally rather limited. Researchers have, for example, sometimes excluded girls from participation in research studies. There are some suggestions of differences in presentation. For girls with autism, as a group, there are often more severe cognitive problems. When girls with autism or ASDs are higher functioning, there are some suggestions of differences in how they present; for example, girls may be more concerned about the impression they make on peers. Girls with autism and Asperger's may have even more trouble "fitting in" socially than boys. However, they may have fewer behavior problems and the degree of the social difficulties may be somewhat less. By middle school, girls with ASDs may be more anxious than boys and stressed by social demands. However, girls may also have stronger play and communication skills and may be less prone to attentional problems than boys (Nichols, Moravick, & Tetenbaum, 2009). They also may face special challenges in terms of personal safety (chapter 11) and sexuality (chapter 9). It is important that parents and teachers think about the special problems that girls with ASDs face.

Various theories have tried to account for differences between boys and girls. A British researcher, Simon Baron-Cohen (2003), has suggested that perhaps these differences relate to sex differences in the brain. However, some of the differences in clinical presentation of autism and Asperger's in girls may relate to more general sex differences. Regardless of its cause, the fact that girls less commonly have ASD makes for some challenges in school programs; for example, girls in special ed class settings are likely to be significantly outnumbered by boys, and opportunities for interaction with other, typically developing girls may be limited.

School-Related Issues

School presents many challenges for the child with an ASD. These include the complicated learning environment as well as the social–munication, emotional, and academic challenges intrinsic to the school experience. Differences in response to situations/contexts become much more important, and the child has, for the first time, to become much more differentiated in his behavior and responses. There are many more expectations for self-directed learning, and organization usually comes from within the child as opposed to external structure. Problems with social interaction and communication can have a negative impact on peer interaction. For the more cognitively able student, this may be combined with a growing awareness of being isolated and feeling different.

Some students with ASDs will do well academically, particularly in more "fact-based" areas and most particularly those where they have a special interest or ability. Other children will have variable kinds and degrees of learning difficulties. Some children reach school age but are nonverbal or largely nonverbal, and, accordingly, traditional academic subjects hold little interest for them. In such cases, increasing communication skills and participating in structured learning situations are relevant goals.

Teachers and others often take the child's language skill to give an estimate of overall ability; for children who are typically developing, this is often reasonable. However, for children with ASDs, there are some pitfalls. Children with more classical autism presentations may have much less well developed verbal than nonverbal abilities, and there is a danger that schools will program *only* to the lower verbal skills. Conversely, students with Asperger's may have much better verbal skills but areas of great difficulty with other kinds of tasks; therefore, teachers may underestimate many abilities in this group. It must be emphasized that appropriate supports be provided given the individual's specific needs. The book by Mackenzie (2008) in the reading list discusses these issues in some detail.

Academics and Curriculum

Several considerations arise in thinking about objectives for the academic program. Students with ASDs present teachers with some unusual challenges. In addition to all these considerations, it is important that the objectives spelled out for students in their individualized education plan (IEP) and in their classroom settings be developmentally appropriate. These objectives also have to be realistically placed with the broader context of the curriculum. What is appropriate will vary considerably from child to child. Sometimes the regular program, often with some modification, may meet the child's needs. At other times, a smaller teaching setting will be more helpful. As we have noted, the profiles of strength

and weakness can and will vary considerably from one child to another; accordingly, there is not a simple one-size-fits-all approach (Tsatsanis, 2004). While cognitive profiles are of some help in thinking about the most appropriate teaching strategies and goals, other issues—for example, behavior problems, social difficulties, sensory issues, and difficulties with transitions and change—may also need to be considered. Difficulties with attention and organization, combined with a lack of social attention, pose other problems. When medications are given to help with associated problems, side effects can complicate teaching. The age of the student may also be relevant; for instance, activities or materials that are appropriate for much younger children might attract the interest of the child with an ASD, but there is a risk of typical peers reacting negatively.

Goals targeted will usually include social interaction skills and expanding communication, as well as more traditional academic goals (see Kluth, 2003, for a discussion of teaching procedures and strategies). Fostering other skills, such as leisure time and adaptive skills, is also important. Some of the general areas that are addressed in the IEP for a school-aged child are listed in Text Box 8-2 Keep in mind that this is a general list and the IEP must be tailored to the individual student; also keep in mind, as we've discussed, that the IEP needs to strike a sensible balance—having some short-, medium-, and longer term (vision) goals along with objective data to monitor progress. Continued communication with parents is important.

AREAS TO CONSIDER ADDRESSING IN THE IEP FOR THE CHILD OF SCHOOL AGE

Social Skills/Social Difficulties

- Social skills teaching methods
- Understanding social cues/emotions
- Appropriate social responding, initiation
- Teaching social routines
- Explicit teaching regarding social problem solving

Emotional and Self-Organizational Skills

- Increasing awareness of feelings/emotions
- Using appropriate strategies to deal with anxiety and problem situations

Communication and Language Skills

- Using augmentative communication if appropriate

(*Continued*)

- Increasing complexity of spoken/written communication
- Increasing self-expression (and self-advocacy)
- Understanding social language (nonverbal cues, prosody, voice volume)
- Conversational and pragmatic skills (starting and stopping a conversation, responding to cues, learning figurative/nonliteral language)

Organizational Skills

- Visual, written organizers (schedules/lists/color codes)
- Working independently for longer periods
- Management of materials and tasks (including self-correction)
- Learning when to ask for help
- Keyboarding (as appropriate) and computer resources

Behavioral and Sensory Issues

- Address specific behavior problems or sensory issues
- Increase flexibility and ability to deal with transitions

As discussed in chapters 5 and 6, there are a number of ways to support learning. These must be tailored to the needs of the individual student. They can range from simple organizational aids (written or visual schedules) to much more technologically sophisticated procedures (computers, personal digital assistants, text-to-speech programs, etc.). For some students, there is a genuine pull toward computer-based technology—it is predictable and rule governed, the information load can be tailored to the student, and it can combine auditory and visual information in very interesting ways. Moore (2002) makes a number of suggestions for assisting with organizational issues; for example, color-coding can help all students in the classroom. Technological supports have become increasingly sophisticated; the speech pathologist and occupational therapist can often be helpful in thinking about use of assistive technologies (see chapter 6). Computer-assisted instruction can be helpful in a host of ways. Students who have difficulty in writing may profit from use of organization software (e.g., kidspiration, www.inspiration.com), and if the child can use a laptop, the potential for other aids (spelling and grammar checking) is also present. For some students, speech recognition software may be useful; this turns the student's spoken words into text and may be particularly helpful for students with fine motor problems. In thinking about such systems, any difficulties the student has with the flow of speech should be considered for example, some systems can accommodate students whose speech is slower due to articulation problems. The occupational

therapist may be helpful in thinking about approaches to writing problems and a range of alternatives from more sophisticated computer programs to much simpler interventions, like using a slant board to assist in handwriting (Myles 2005) may be helpful. In this regard, it is important to note that the value of some of the simplest things—visual schedules, preteaching, use of lists/checklists, charts, and so forth—should not be underestimated. Technology is certainly not a replacement for effective instruction.

Whenever possible the special interests/motivations of the student with an ASD should be used; Kluth and Schwarz (2008) give some good examples of this. Often, considerable "incidental" teaching can occur around the topic of special interest or fascination. This isn't always easy to do, but even when it isn't giving the student the opportunity to spend some time on an area of special interest, it can be used as a reward and motivator. Challenges for children with ASDs—particularly those whose verbal skills are less advanced than non-verbal and other abilities—include difficulties in auditory processing. Spoken language is fast paced and ephemeral (in contrast to pictures and the written word). Teachers should plan, in such situations, to give extra time for processing, provide relevant visual supports (outlines, checklists), and keep their language simple and direct (Myles & Adreon, 2001). For more cognitively able students who have trouble with the pace of the class, the use of written notes (e.g., from another student) or even tape recordings of class lecture/discussion may be very helpful. Moore (2002) has some very helpful suggestions, including various possibilities for assisting students with note-taking strategies. Scott, Clark, and Brady (2000) give an excellent review of a range of educational supports.

Teachers should also be aware that while small groups can be good learning environments for students with ASDs, group work needs to be carefully monitored. The student with an ASD will often need support ahead of time, such as reviewing key concepts, terms, and goals, with written or visual supports available if needed as well. First and foremost, the teacher and then other students (hopefully modeling the teacher's behavior) should show consideration and respect for the student with an ASD; for example, if the student makes an off-topic comment, the teacher can help redirect the conversation to the topic at hand. We'll talk more about ways to help peers shortly.

Some children on the autism spectrum have an early—and sometimes very precocious—interest in iconic symbols, including letters and numbers. Some of these children become early readers, occasionally even what has been termed **hyperlexic** readers (very advanced reading skills for the child's chronological age). In contrast to spoken language, written language is static and, for many children, much easier to master. As previously noted (page XXX), it is important for teachers and parents to understand that reading "decoding"

(literally sounding out words) may be much higher—misleadingly higher—than the child's actual understanding.

Several steps can be taken to encourage literacy. These include availability of books and word processing programs, giving children time for reading, and encouraging reading and related literacy skills. Some of the available computer programs (e.g., Living Books) can be highly motivating to students. The reading program should be sure to include an emphasis on strengthening comprehension skills. It is important that teachers keep in mind the possibility that students with ASDs will do well with comprehension of basic facts but may miss other key aspects of stories relating to emotions, intentions, and the like. For testing purposes, teachers may wish to consider ways to minimize the burden of additional language processing; for example, as opposed to open-ended questions, multiple choice, yes/no, fill-in-the-blank questions may more accurately reflect the student's ability to understand the information conveyed.

Spelling can be quite challenging for students with ASDs. This is particularly true for the English language, which borrows heavily from other languages and has a complex set of rules. Students can use a range of different strategies, and it is important to understand the sources of errors in an attempt to provide remediation (Attwood, 1998). Computers can be used to help teach and, when appropriate, to help students spell-check their work. Peer tutoring can also be used. Sometimes spelling, or some other area, may be such a difficult homework task that it becomes all consuming and the student with ASD is spending all his homework time stuck on it, e.g., working on spelling to the eclusion of everything else. When this happens, modification to the rules can be helpful, for example, using a visual timer to give the student a set amount of time to focus on spelling—at the end of the time, he is done regardless of where he is on the spelling list (Myles & Adreon, 2001, provide an excellent discussion of homework-related issues).

Mathematical abilities are highly variable. Basic math concepts may present tremendous challenges for some students, while other students may, literally, be years ahead of their classmates. Some individuals can engage in prodigious savant skills (e.g., calendar calculation) (Thioux and others 2006. Others are interested in certain types of equations or areas of mathematics. Visual cues and multisensory approaches (e.g., TouchMath^{TM}) may be helpful. Some children are very good at understanding the basic math facts due to their strengths in rote memorization; the same students may not have nearly as good an understanding of the underlying principles. Peer tutoring and use of concrete materials (e.g., money) can be helpful. As with other skills, generalization is important.

Teaching Procedures and Programs

We discussed specific teaching procedures extensively in chapter 6 and listed some of the many potential resources and programs teachers can appropriately use in work with children on the autism spectrum (see page XXX). As discussed in chapter 5, these programs have many areas of similarities and some areas of difference. Most are strongly behaviorally based using procedures like discrete trial and pivotal response training and work with teaching functional routines. Others have a stronger developmental component where following the child's motivation becomes more important. It is important that the curriculum be appropriate to the child's level of ability and also consider the child's chronological age and, to the extent possible, specific interests and motivations. Curricular materials and teaching strategies need to be carefully considered. Pivotal response procedures can, for example, by used for various purposes (see page XXX). There are advantages to using various strategies and teaching materials approaches, for example, for enhancing generalization of skills (see Arick Krug, Fullerton, Loos, & Falco, 2005, for a discussion). For school-aged children, sensory issues may need to be addressed to enhance learning. Teaching approaches (e.g., use of visual materials, provision of organization aids and supports) need to be adapted for the individual student. As children progress through school, academic demands become more challenging, with greater expectations for abstract thinking and self-organization. This can lead to attentional and/or behavioral difficulties, and teachers should be careful to monitor students to be sure that what appears to be a lack of attention does not, in fact, reflect greater cognitive challenge; accordingly, periodic assessment should be accomplished.

As noted in chapter 6, various models of instruction and curricula have been developed. For example, the Support and Treatment for Autism and Related Disorders (STAR) program provides a range of training and teaching materials useful in developing individualized behavioral treatment programs for children and their families. It makes use of a number of different methods (e.g., discrete trial, pivotal response training, picture exchange, verbal behavior, and other behavioral procedures). The Web site (www.starautismprogram.com) provides additional information and links to training and other materials, including DVDs. This program has the great advantage of providing detailed lesson plans along with teaching materials and data systems, including curriculum-based assessments in a number of relevant areas such as functional routines, receptive and expressive language, and so forth. The data system helps monitor progress and can be used to help document progress as specified in the IEP. Other programs may use the Treatment and Education of Autistic and Related Communication Handicapped Children (TEACCH) method. This approach, based at the University of North Carolina at Chapel Hill, was begun by Eric Schopler and

continues under the direction of the Gary Mesibov. This approach draws on a number of different methodologies in development of individualized programs for students and their families. It includes careful attention to teaching methods, the structure of the learning environment, and use of visual and other supports in teaching. Materials and information on training are provided on the TEACCH Web site (www.teacch.com). Some excellent summaries of the range of behavioral and curriculum approaches useful to teachers are available (e.g., Hall, 2008).

Programs like TEACCH emphasize the importance of careful consideration of the classroom and classroom structure for learning. For example, placement of the child with an ASD at the front of the class (to be near the teacher) may be appropriate. Classroom rules, schedules, and so forth can be prominently displayed at the front of the room. Moore (2002) makes a number of suggestions for helping the child with Asperger's syndrome, and many of these would apply to other students on the autism spectrum as well. Attention to physical aspects of the classroom environment may reveal specific factors/distracters that need to be addressed, for example, moving the child to an area where he has an opportunity for reduced exposure to extraneous stimuli. For children who must move from one classroom to another, the possibility of the child's moving just before the bell rings may be helpful. Use of visual supports and clear directions is also helpful. Instructions should be considered relative to the child's language level. For students—particularly those with Asperger's—who have handwriting problems, or for students whose anxiety interferes, modified test taking may be appropriate; for example, taking a test in the library or a quiet area or using a different format (oral versus written examination) or doing the test in several shorter periods, can be considered. Depending on the material changes in format of the test (e.g., true–false or multiple choice), there may be better choices for assessing knowledge than open-ended tests (see Moore, 2002). Grades can sometimes be a source of anxiety, and the teacher and student can often work together to develop a straightforward way of giving feedback with explicit guidelines about how grades are calculated.

Mainstreaming and Peer Preparation

Students with ASDs are increasingly included in mainstream settings. Early diagnosis and more intensive intervention have resulted in many children with ASDs who are ready to be fully included by the time they reach first grade. For other children, the opportunity to spend at least part of the day in a mainstream setting can provide important opportunities for positive peer interaction and academic success (see Handleman, Harris, & Martins, 2005, for a detailed discussion; and Myles, 2005, for strategies specific to students with Asperger's syndrome).

Various terms are used, more or less interchangeably, to describe mainstream educational opportunities (e.g., *inclusive classrooms, inclusion*, or *integration*). Various models of **mainstreaming** have been developed. For example, at times children, particularly younger children, may be in a special ed classroom where there are some typically developing peers. In general, the inclusion refers to any time the child with an ASD is with typically developing peers within school. Many variations in inclusion are possible. The child with an ASD may be included in some classes and not others. Specific strategies can used in particular situations; for example, the peer-assisted learning strategies (PALS) method has been used in work on math and reading (see Utley & Mortweek, 1997). The most cognitively able students with ASDs (e.g., those with Asperger's) may be most readily included in academic classes, while special services can be provided at less structured times when the child is more likely to have difficulty (e.g., lunch, recess, physical education [PE]). In some instances, peer buddy systems and other supports may appropriately be used at such times to support inclusion of the child with an ASD. Networks of support can be created in several ways, such as using the Circle of Friends approach (Schlieder, 2007). A range of peer support procedures is available (see Carter et al., 2009).

For children with ASDs who have greater cognitive and behavioral challenges, inclusion may occur only in very specific contexts where high levels of adult support can be provided. While much of the work on mainstream procedures has been based on work with younger children, there has been an increasing focus on school-aged children, and it is clear that the typically developing peer can be a wonderful model for the school-aged child with an ASD. Indeed, peers can be highly effective teachers and supporters, although some degree of training and/or support is needed if peers are to be effective; that is, just having the child with an ASD in the classroom is not of itself sufficient (Carter et al., 2009). Several programs have used typical peers of elementary or junior high school age to increase social contacts and peer relationships (e.g., Haring & Breen, 1992; and Morrison, Kamps, Garcia, & Parker, 2001). In one study, Pierce and Schreibman (1997) were able to train elementary school–aged peers in a modified version of pivotal response training (PRT) with notable success.

Various considerations go into selecting peers to work with the child with an ASD, such as the level of disability that the child with an ASD exhibits, the motivation and interest of the typical peer, the degree of supervision/support that the typical peer needs, and so forth. Carter and colleagues (2009) have summarized some of the pros and cons of different approaches for recruiting peers into programs, such as student identification, teacher recommendations, classroom announcements, and so forth. Peers may need training in areas such as language level and methods of demonstration as well as in dealing with or ignoring

inappropriate behaviors. Typical peers may benefit from this work. Peers can be assigned as peer buddies or can participate in social skills groups. For younger and less socially advanced students with ASDs, preteaching, social scripts, and other supports may be of help. Another approach has used videotape review of social interaction with typical peers for teaching social skills (Thiemann & Goldstein, 2001). There are many different activities than can incorporate peer support, from walking with the student from one class to another to helping with homework, reviewing lessons/course content, sharing materials, and helping with communication, to name just a few (see Carter et al., 2009).

Peer supports can be particularly helpful at what are some of the most challenging times of the day for students with ASDs—notably, lunch, recess, transitions from one classroom to another, and PE. PE can be particularly challenging for students with ASDs; for example, changing clothes can take longer than for other students; the social back-and-forth in the locker room (particularly for boys) may be very confusing; and team sports can be very challenging, given the combination of organizational, motor, and social skill requirements. Adaptive PE can be used when appropriate with specially trained teachers who work with students in smaller settings.

Teachers and school staff should also keep in mind the more general importance of providing information to the entire student body about disabilities. This can take a more general and generic approach in the beginning, for example, encouraging discussion of ways people cope with difficulties and disabilities, having students participate in activities that help them understand the challenges disabilities present, and using videotapes and a class/school discussion section to present information and encourage an atmosphere of mutual tolerance and respect. Various specific resources relevant to autism, Asperger's, and related disorders are now available, including some excellent videos and children's books (see reading list and text box on page XXX). All students will know someone with a disability (even if it is as "minor" a disability as wearing glasses). We have fond memories of attending one of our daughter's second-grade classes and doing an inservice on disability in general, including having children practice what it is like to be sightless (with a blindfold on and a cane to try to get around), or in a wheelchair or being on crutches.

PEER INFORMATION/RESOURCES

Amenta, C. A. (1992). Russell is extra special: A book about autism for children. New York: Magination Press.

Cook, J., & Hartman, C. (2008). *My mouth is a volcano!*. Chattanooga: National Center for Youth Issues.

Donlon, L. (2007). The other kid: A draw it out guidebook for kids dealing with a special needs sibling. Coral Springs, FL: Llumina Press.

Gosselin, K. (2002). Taking seizure disorders to school: A story about epilepsy. Hawthorne, NY: JayJo Books.

Hoopmann, K. (2001). *Blue bottle mystery: An Asperger adventure*. Philadelphia: Jessica Kingsley.

Hoopmann, K. (2001). *Of mice and aliens: An Asperger adventure*. Philadelphia: Jessica Kingsley.

Hoopmann, K. (2002). *Lisa and the lacemaker: An Asperger adventure*. Philadelphia: Jessica Kingsley.

Hoopmann, K. (2003). *Haze*. Philadelphia: Jessica Kingsley.

Keating-Velasco, J. L. (2007). *A is for autism, F is for friend: A kid's book for making friends with a child who has autism*. Shawnee Mission, KS: Autism Asperger.

Welton, J. (2003). *Can I tell you about Asperger syndrome? A guide for friends and family*. Philadelphia: Jessica Kingsley.

In addition to peer preparation, the classroom teacher will benefit from training in methods to support inclusion. The teacher needs to consider the role of the peers, the nature of the activities, support for the peers, and the needs of the child with an ASD. Picking activities that are fun and motivating will increase the interests of typical peers and the student with an ASD. The teacher should also consider the physical arrangements of the room and have plans in place, in advance, for dealing with behavioral issues. In general, the goal should be for the teacher to be a background presence and facilitator once activities are under way with, as much as possible, interaction and feedback coming from the students interacting with each other. It must be emphasized that peers need preparation and support, particularly in the early phases of the process.

Discussion of peer and teacher support strategies also raises an important issue, providing enough but not too much support. Readily available supports, like peers, are much less intrusive and often more effective than other supports (e.g., paraprofessionals). Aides and other paraprofessionals have an important role but, as with students and teachers, need preparation for their role. They are present in the classroom to facilitate the accommodation of the student(s) with special needs but must maintain a careful balance, e.g., in encouraging peer interaction and increasing levels of autonomy and independence for the student with ASD. Having a paraprofessional who sticks like glue to the student with an ASD can be off-putting to peers. They should always keep in mind the overall goal of fostering classroom inclusiveness and participation and think about how their intervention can help the student become more independent. There are

some good books written specifically for the child with an ASD that may be helpful as well (see the text box on page XXX).

INFORMATION FOR CHILDREN WITH ASDs

Cook, J. & Hartman, C. (2008). *My mouth is a volcano!* Chattanooga: National Center for Youth Issues.

Larson, E. M. (2006). *I am utterly unique: Celebrating the strengths of children with Asperger syndrome and high-functioning autism*. Shawnee Mission, KS: Autism Asperger.

Lears, L. (2002). *Becky the brave: A story about epilepsy*. Morton Grove, IL: Albert Whitman & Company.

Ludwig, T., & Manning, M. J. (2006). *Sorry!* Berkeley, CA: Tricycle Press.

Naylor, P. R. (1994). *King of the playground*. New York: Aladdin Paperbacks.

Strachan, J., & Schnurr, R. G. (1999). *Asperger's huh? A child's perspective*. Gloucester, Ontario: Anisor Publishing.

Bullying and Teasing

Unfortunately, one of the issues that comes about with exposing children on the autism spectrum to typically developing peers is the potential for teasing or bullying to occur. Although the data on this topic are in some ways limited, it is fairly clear that children with ASDs—probably particularly those with Asperger's and high-functioning autism—are more likely to be bullied than their typically developing peers. The higher functioning individuals with ASDs are also, unfortunately, the ones who have greater potential for subsequent problems with self-esteem and other problems given their higher cognitive abilities. Given that these are the individuals most likely to be mainstreamed, there clearly is potential for significant trouble.

Some of the factors that predispose children with ASDs to teasing and bully include their difficulties in reading social cues and in dealing with the fast pace of social interaction. Unusual interests may make them stand out from peers and be perceived as profoundly uncool. Language issues may be a problem—difficulties with more sophisticated language and figures of speech may lead to confusion. The child with an ASD may say something not intended to be funny and feels badly when laughed at.

Bullying can be verbal or physical. It can also be either very overt or much more subtle, for example, involving exclusion or isolation from a group. It can take the form of malicious gossip. There can sometimes be a fine line in

deciding what bullying is or isn't (e.g., the teacher who uses sarcasm or ridicule). Bullying can be an isolated instance but can also be ongoing and frequent. As Heinrichs (2003) notes, bullying types vary with the developmental level of the child so that younger children are more likely to exhibit physical or verbal aggression toward same-sex peers, while in early adolescence social and other kinds of bullying become more common and impact both same-sex and opposite-sex peers. In later adolescence, sexual aspects of bullying may be more prominent.

Factors that seem to increase the potential for being bullied include social isolation and social awkwardness. Difficulties with language use in general and social language use (pragmatics) in particular, are also risk factors. Individuals with ASDs have trouble understanding more sophisticated forms of humor and this, along with idiosyncratic communication styles also contribute to risk for being bullied. Social eccentricity, social isolation, and what appears to be self-centeredness likely also contribute to this problem. One study (Little, 2002) found that children with Asperger's or the nonverbal learning disability (NLD) profile had a fourfold increase in bullying. Bullying leads to stress and symptoms of stress. Bullying may also precipitate aggression as well as depression and symptoms of anxiety. In his original description of the condition that now bears his name, Hans Asperger commented on the potential for these problems.

Although definitions of bullying vary somewhat, they almost all involve some sense of one student's having power over another one. As Attwood (2008) notes, bullying is more likely to occur in situations where adults are not closely monitoring things (e.g., hallways, recess, sports/gym). Bullying can also happen outside of school, for example, on the neighborhood playground or even with siblings. As noted, teachers and other adults in authority can sometimes use sarcasm to the point that this becomes bullying. Attwood (2008) also comments on a problem that we've seen fairly frequently—rather overly trusting children on the autism spectrum can be "set up" by other students who use the child's desire for friendship and acceptance as a path to getting them to engage in inappropriate behaviors, for example, the boy who pulls the fire alarm on a dare at the suggestion of a peer who says he's "chicken" otherwise.

Unfortunately, some of the same problems that contribute to bullying in the first place also make it less likely that the more able child with an ASD will report the bullying. The child may be afraid of retaliation/"payback," he may not understand the motivation of the bullying, and he doesn't often think about asking adults for help. As a result, sometimes the awareness of teachers and parents of bullying emerges only when the child comes into treatment for symptoms of anxiety or depression (Attwood, 2008). Sometimes children will start having major meltdowns over seemingly trivial things, and it may emerge that the child has been under considerable stress due to bullying. It is important for

parents and teachers to be alert for signs of possible bullying. It is also important that the school environment be one that discourages bullying.

The nature of bullying and difficulties in reporting are obstacles to prevention; for example, bullying will tend to occur in settings where adult supervision is minimal or nonexistent and the children involved often don't report it. Preventing bullying requires a broad-based approach with staff and teacher training, explicit discussion and class rules against bullying, monitoring and intervention when bullying occurs, and promotion of social competence for all involved (including the bully). Zero tolerance of bullying might, at first blush, seem to be a good solution, but carries its own problems (e.g., relative to children who have been repeatedly bullied but then act out); zero tolerance also may potentially discourage reporting (Heinrichs, 2003). Having an explicit discussion with all students and an established school code of conduct can be helpful. An effective bullying prevention program will also include sensible strategies for helping students being bullied and those who bully (sometimes there is overlap of the two groups). Finally, as Heinrichs points out, it is important to help the student with an ASD understand the differences between normal peer conflicts and bullying. These clarifications can be particularly helpful to more able students with ASDs who have trouble disentangling the normal ups and downs of social relationships from bullying. This is helpful as well in educating the student with an ASD about what bullying actually is and what they can do to get help. Various resources to prevent and deal with bullying are provided by Heinrichs (2003) and Dubin and Carley (2007).

TEN BULLYING STRATEGIES FOR KIDS WITH ASPERGER SYNDROME

1. Keep telling adults when you are bullied or teased. Find out who will listen to you and take action.
2. If you are being bothered at recess, stay closer to an adult and play with or around other kids when you can.
3. If someone is bothering you and won't stop, say "Stop that" loudly, turn around quickly, and walk away.
4. As you walk away, try to remember who you see standing around; they may be a witness to what happened.
5. Say something assertive like "Back off," instead of attacking back by saying something mean like "You're an idiot, too."
6. If someone asks you to do something or say something to someone else that you don't feel right about, stop, think, and say, "Why don't you do it yourself"; then don't do it!

7. Stay away from kids who are mean to you, and don't keep trying to make them like you no matter how popular they are.

8. Talk to and hang around with kids who are nicer to you but may not be as popular as others; they may need a friend.

9. If someone tells you to stop doing something, they probably mean it. So stop.

10. Watch kids who usually get along with most everyone, including the teachers, and see how they act in different situations. You might get some good ideas for how to behave.

Reprinted, with permission, from Heinrichs, R. (2003). Perfect targets—Asperger syndrome and bullying (p. 177). Shawnee Mission, KS: Autism Asperger.

Case Studies

Case 1: Jack

Jack was a 12-year-old adolescent who was enrolled in the sevent grade in middle school who had been seen by us four times since he was 3. At age 3 we had made a diagnosis of autism, and his family and school had provided extensive supports for him. He had made slow but steady progress, and at the time of the current evaluation, he was participating in many mainstream activities with some special ed classroom time. He was no longer receiving individual speech–language or occupational therapy (OT) services (those had stopped when he transitioned to junior high school last year). A social skills group was provided on a weekly basis (and led by his former speech patholo-gist). His parents sought the current assessment because starting in grade 10 he would have to transition to high school and they wanted an update on his progress. They also were concerned that he was increasingly making negative comments about himself and was more anxious in school. Some weeks before our assessment, he had been started on a selective serotonin reuptake inhibitor (SSRI) medication (see chapter 15) to help deal with anxiety and behavioral rigidity.

Over the years, Jack's cognitive functioning had consistently fallen in the low average to borderline impaired range but with notable strengths in skills in tasks that involved rote memory and weaknesses in tasks that involved verbal skills or where fast processing was required. During the current testing, Jack was cooper-ative and compliant. He was careful and thoughtful in his approach and would ask for clarification if he didn't understand. He responded well to praise, and the psychologist also noted that after completing a difficult item, he would

comment on his performance, saying "I got it!" He was occasionally anxious when tasks were more difficult, even though he'd been told that some things would be more difficult for him. He had some occasional off-task behaviors that involved some hand mannerisms, but these generally didn't cause him trouble. The psychologist felt that the scores obtained were reasonably valid indicators of current levels of ability.

Jack was given the Wechsler Intelligence Scale for Children, 4th edition (WISC-IV) (see chapter 3) to evaluate his level of cognitive functioning. He had been given other versions of this test previously, and it was chosen because of its appropriateness for Jack and its ability to assess various areas of cognitive functioning.

On the WISC-IV Jack exhibited significant scatter in his scores. The WISC-IV provided several index scores as well as a full-scale IQ all with a mean of 100 and a standard deviation of 15. Jack's index scores were 71 for verbal comprehension, 102 for working memory, 82 for perceptual reasoning, and 73 for processing speed. His overall IQ score was 79, although in the report we emphasized the importance of looking at the pattern and range of his scores and not the overall IQ. The discrepancy between his lowest and highest scores was statistically significant.

An analysis of the specific subtests that go into the various index scores was of interest in further understanding his profile of strengths and weaknesses. For example, in looking at the tasks that went into his verbal index score, Jack had the most trouble with a task called comprehension (which involves some understanding of social rules and judgment) but did much better with understanding word meaning (vocabulary) and similarities (e.g., how are a cat and dog alike). Both tasks that went into the working memory score were solidly average. Within the perceptual reasoning subtest, his area of greatest weakness was block design (usually an area of strength for people with autism but not one for Jack), while other subtests in this area were in or near the average range. One of the reasons he did poorly with block design was his tendency to not carefully check his work, thus losing points because he missed a small detail. In fact, his actual score on the task was unchanged from the previous time we had seen him. On a different task in this area, he was asked to identify pictures from a group of conceptually similar pictures. The psychologist noted that Jack talked himself through this task and did better as a result.

Tasks that involved speech in processing were difficult for Jack. He had trouble working at a rapid pace and also had some problems with the tasks that also involved his crossing out pictures; that is, the combination of a handwriting aspect and a need to move quickly were particularly challenging for him. In comparison to his previous testing, Jack's overall cognitive abilities have remained consistent, indicating that he has made age-related

gains. Additionally, his pattern of personal strengths and weaknesses has also remained consistent; he continued to demonstrate personal strengths in rote memory and mental control and personal weaknesses in verbal reasoning and speed of processing.

The psychologist administered some tasks from other assessment instruments. He noted that when Jack was able to use language to help solve a problem (particularly one with a visual component) he did better than if the problem were more abstract. She also noted that he had a tendency to "get stuck" and didn't always change his strategy in response to a new situation. A similar pattern was reported by his parents on an instrument looking at executive functioning—his parents noted that Jack had problems in the areas of flexibility and being able to inhibit his responses. They also noted that he could become overly emotional in response to changes in plans, transition, and so forth, and that sometimes seemingly little things could cause an angry or tearful outburst. Jack's parents also reported that he has difficulty with inhibition. They reported that he acts impulsively and without thinking, blurts out statements, and has trouble staying seated.

The speech pathologist reviewed Jack's IEP and noted that he was getting some small group social skills work but otherwise no individual speech–language services. His IEP had a number of good goals for social development as well as some curriculum-based speech–communication goals. Social goals had to do with carrying on a conversation, dealing with transitions and turn taking, and decreasing perseverative speech. During the speech–communication assessment, Jack was polite and cooperative. He was given a brief schedule of the assessment activities, including breaks, which were checked off during the session. With the support of the checklist, Jack complied with all assessment tasks, made frequent comments, and remained engaged with each of the testing activities. Although he was cooperative, Jack exhibited a high level of anxiety and needed constant reassurance, asking, "Is that right?" As during the psychological assessment, he would become worried if he made an incorrect response. Also consistent with the psychologist's observation, Jack often got stuck when he made a wrong response. The speech pathologist noted that when he was more anxious, that is when tasks were more difficult his language tended to become more scripted. Unfortunately, this often seemed to worsen his performance since, instead of taking in the new situation, he would be preoccupied with the previous question/task. Jack had made some nice gains in his ability to carry on a conversation. He responded well to simple and direct questions. He had more difficulty if the pace of the language increased or if the level of the language was more complex. Although he exhibited relatively little variability in his tone of voice, he did have good eye contact and had easy-to-read nonverbal cues.

The speech pathologist used several different tests to evaluate Jack's communication skills. She also collected a sample of his communication by tape recorder for subsequent analysis. On the Comprehensive Assessment of Spoken Language (CASL)his standard scores ranged from 56 to 86 (with a mean of 100 and standard deviation of 15). He had the greatest difficulties with nonliteral and pragmatic language. His abilities to understand synonyms and make grammar judgments were in the average range. As with the IQ test results, an analysis of the subtest scores helped to clarify areas of strength and weakness. His ability to understand ambiguous language and idioms was weak. Overall, while he had made gains from his previous assessment, his language use remained very concrete. Jack had substantial difficulty with implied or indirect meanings.

Jack's ability to tell a story was at the low end of the average range. For a child of his age, he was not yet able to construct more complicated plots. He had trouble putting aspects of his story together with time markers and, as he became tired, he often left out important aspects of the story. While Jack could understand major elements of a story, he was producing less mature stories that were likely to impact his written language and his participation in mainstream classrooms as materials became more complex.

The sample of Jack's spontaneous language showed that most of his sentences were well formed but generally simple and not very elaborate. He did resort to scripted language at times and occasionally had word-finding problems. As noted previously, his prosody was unusual. He had numerous pauses in his speech and unusual patterns of intonation, but these didn't affect his ability to be understood.

Jack appeared to enjoy engaging in reciprocal communication. At times he would initiate conversation and wait for a response. He had a clear ability to engage in reciprocal conversation and comment on joint activities with positive affect, which confirmed significant progress since his last evaluation. However socially, Jack did not yet show an appreciation for the perspective of others or recognize and repair communication breakdowns.

The Vineland Adaptive Behavior Scales, expanded form, were used to assess Jack's adaptive skills. Results could be compared to his previous assessment, and his relatively stable standard scores showed that he was making age-appropriate progress in the areas of communication and socialization (standard scores between 65 and 70). His daily living standard score was lower (45) reflecting less progress than expected given the passage in time. Compared to his cognitive ability, his adaptive skills were significantly lower than expected, particularly for the area of daily living.

During Jack's time with the psychiatrist, there was an opportunity to see Jack in a less structured situation and to talk with him and his parents about his feelings of frustration, anxiety, and loneliness. Jack was quite responsive and clearly

enjoyed talking. He had obvious social vulnerabilities. When asked to describe his friends, he said he had only one friend, David, but then couldn't really talk about why David was a friend other than to say that David has some interest in video games. He talked about some of the difficulties he had with a peer at school who seemed to be making fun of him. Jack had not really talked to his parents or teachers about this and didn't have any strategies to help in dealing with it. Similarly, Jack was able to provide clear descriptions about situations that lead him to experience negative emotions, such as anxiety, sadness, and anger; again, he was not able to describe any coping strategies for managing these negative feelings.

Jack was also able to engage in brief reciprocal conversations, particularly when the evaluator asked direct questions or when he was able to talk about his experiences and interests. When describing his interests, he could become overly wordy and then had trouble letting the psychiatrist have a chance to talk. Sometimes, in describing situations or his own emotions or feelings, he seemed to resort to scripted language. When listening to more complicated speech, he would sometimes echo portions of it, apparently in an effort to remember it while working on his response. Jack made appropriate and consistent eye contact, used various gestures, and responded to nonverbal gestures.

At the time of this contact, Jack was just beginning to show physical signs of puberty. He did talk with the psychiatrist (the only male among those seeing him) about his interest in girls and his wondering about the changes in his own body. He had an interest in understanding more about girls and sex but had a fairly rudimentary understanding of all that was involved in having a meaningful relationship.

Jack demonstrated a few unusual behaviors. He occasionally squinted his eyes, rubbed his hand across his head, and one time he slapped his arm. Jack also seemed to have strong interests, including movies and Pokemon.

In our feedback with Jack and his parents and in our subsequent report, we emphasized several things. Most importantly, we talked about the gains he had made since the time of our last visit. He had made major gains in his ability to get along with others, to engage in conversation, and had greater social awareness and engagement. We also pointed out that in some respects these also made him more aware of areas of difference, which continued to exist for him, with vulnerabilities in some important areas of his life.

The psychological testing revealed that Jack's difficulties increase when he needs to independently abstract and/or meaningfully organize information that is implicit in a learning situation or experience but that he did better with some supports to guide him (these could be rules, a sequence of steps, or visual templates). Given his capacity for reasoning within a structure, it seemed important not only to give him specific information but also define the problem, his

options, and the general rules that would guide his problem solving. Given his age and the onset, in the near future, of adolescence we also suggested the importance of prioritizing functional academic and adaptive skills with a view toward enhancing his independence.

Our report included a number of different recommendations, particularly in light of the transition to high school in a year's time. These included a range of academic and social supports, with an emphasis on beginning transitional planning and thinking about fostering adaptive skills and functional abilities. We recommended a number of potential changes for his school program, including some individual work with the psychologist and speech pathologist as well as continued group social skills training. Work with peer mentors and explicit targeting of problem situations with peers (bullying) was noted to be a critical area. We also discussed with his family the option for him to attend a summer camp for children with special needs. We recommend a move toward highly functional academic goals and a focus on Jack's areas of potential vocational interest.

As part of social skills development, we recommended several things, including explicit teaching in his small group setting followed by individual work and use of the Social Stories$^{\text{TM}}$ approach to help him have a better awareness of social situations and to prime (i.e., cue) appropriate responses. We recommended after-school and extracurricular involvement with typical peers with support of a "peer buddy." Given the transition to high school in a year or so, we suggested some beginning activity in the new school with the potential of a peer buddy to help Jack build up an awareness of the new school and to increase his confidence in being able to negotiate it.

It appeared that, given the onset of adolescence and his interest in understanding more about girls and sexuality, Jack should receive concrete and specific information about social norms and relationships, as well as risks of danger and abuse. We recommended that a same-sex adult work with Jack in understanding some of the basics about sexuality, public and private behavior, personal boundaries, and appropriate and inappropriate touching and sexuality.

We agreed with Jack's parents that it was not too soon to begin thinking about transitional planning. We made some connections for them with local services in their state disabilities service and vocational programs.

For Jack's teachers we made a number of recommendations about teaching strategies, for example, in making tasks explicit, to use preteaching and practice in natural settings, in use of a task-analytic approach for more complex tasks, and to use functional routines along with repetition to encourage generalization. In dealing with more abstract/complex materials, we suggested first presenting things at a more concrete level and then moving to more abstract examples. We

also noted the continued need for using visual and other supports to help Jack in learning.

In terms of some of Jack's behavioral problems, we suggested a number of strategies to help him deal with new situations. These included using routine and consistency to decrease anxiety with explicit teaching about novel and anxiety-provoking situations with explicit strategies for Jack to use in dealing with such situations. He could be provided with decision trees to represent possible scenarios. For instance, the identified problem could be "bothersome peer," and Jack, with help from an adult, can identify various ways to manage the situation. We provided his parents and school with a flowchart that could be readily adapted to create visual supports for this and similar situations.

In our discussions with him, Jack was not able to identify a single coping strategy for dealing with negative feelings We also made some suggestions about helping Jack deal with feelings of anxiety and issues of self-esteem. These included an explicit focus on helping him recognize and label his feelings, developing some new coping strategies, and learning specific relaxation and other techniques. Given Jack's clear desire for feedback, we also suggested that his teachers and parents provide positive feedback but keep in mind that the overall goal was for Jack to monitor his own performance accurately; for example, he should be encouraged to self-monitor and be praised for doing so. It seemed that Jack's requests for clarification when he didn't understand were an important exception in that we wanted to encourage this type of questioning, as it helped further the goal of self-monitoring by giving him the information he needed to succeed. We also noted that in conversation Jack often used questions as a way of maintaining the conversation but without necessarily building on what he had just heard his conversational partner say, so we recommended that Jack be taught additional appropriate ways to maintain conversation.

As part of his social skills program, we recommended the continued use of a peer with the addition a peer-mentoring component and through use of a range of strategies, including small groups, social activities, continued teaching of social skills, role playing, and instruction on the social rules/norms of his peers.

A number of goals for individual work with the speech pathologist were identified, including building up Jack's ability to use and comprehend narrative language and building on the important gains he had made in receptive and expressive language.

Our report discussed the pros and cons of medication and the importance of careful monitoring and a thoughtful implementation of other supports to help Jack feel less anxious. We also suggested careful monitoring of his self-esteem issues and noted the potential for some adolescents with ASDs to become more overtly depressed.

Finally, we outlined to Jack and his parents a number of goals in the area of adaptive skills, with a particular emphasis on the importance of independent daily living skills. We recommended a number of books and talked about the options for using written/visual schedule in activities of daily living.

Discussion   Jack's case illustrates several things. First, with early intervention Jack has done rather well. When first seen at age 3, he was not yet talking but by the time of this assessment he had made a number of gains and was largely mainstreamed. However, it appeared to us that some supports—notably, some of the individual work with the speech pathologist—had been pulled a bit too quickly. Jack's growing ability to self-monitor and his motivation to do well were important strengths but also carried the potential for feelings of anxiety and depression. His experience of being bullied by another student is, unfortunately, not uncommon. Neither was the fact that his parents and teachers were unaware of it. Although Jack had made a number of gains, his overall abilities remained significantly scattered.

With support, Jack was able to make a number of gains in the year following this assessment and was able to transition relatively easily to high school. He had made a relationship with two peer buddies in the high school program before his arrival and felt comfortable there by the time he arrived for actual classes. Jack and his family were also delighted to discover that he could do well on his own at a special needs summer camp.

In high school there was a strong emphasis on functional skills, and Jack enjoyed his work in a convenience store as well as a major discount store. Jack and his family made greater use of a psychologist in the community who has become a major resource for him around behavioral issues which gave him a chance to actually apply skills in community settings. As a teenager Jack has continued to receive a relatively low dose of an SSRI medication, which he feels helps him with anxiety.

Jack is now almost done with high school and planning on going to a technical school after high school. He has become much more independent and self-sufficient but still relies on his parents for some support and plans to continue to live with them during technical school. He has now had several friends and one relationship with a girl.

Case 2: Tammy Jo

Tammy Jo ("TJ") was a 6½-year-old girl who was seen for follow-up evaluation. TJ had previously been seen by us at 2 years of age, when autism was diagnosed. TJ's parents were concerned about her progress and current school

placement. In addition to our multidisciplinary evaluation, we did conduct a school visit.

TJ's parents were first worried about her when she was a year of age. At that time, she was not talking. Although they had expressed concern to their pediatrician, they had been reassured by him, given TJ's apparently good motor skills and her ability to solve puzzles. By 18 months, language still had not developed; at that time, the pediatrician performed a hearing test, which was normal, and then referred her to us for an assessment. At that time, she was producing a very limited range of sounds, had no actual words, was socially very isolated, and had shown some troubles with change and in responding to the environment. She wasn't responding to her name, nor was she engaging in social routines. She seemed very isolated and "in her own world." At that time, we told the parents of our concern and discussed the difficulties of early diagnosis but recommended intensive intervention services. These had included a (parent-funded) home-based applied behavior analysis (ABA) program and, starting at 3, school-based services.

TJ's parents reported that her interest in people had increased over the last several years and her communication skills had improved. They had been generally pleased with her progress. The school had provided a reasonably intensive support program and had suggested that she repeat kindergarten. At the time of our assessment, she had just entered the first-grade program, where she was having some noteworthy behavior problems, which we'll talk about momentarily.

As part of our assessment, TJ was seen by several different professionals. During the speech communication assessment, TJ was generally cooperative but seemed to do best when given visual cues and a visual schedule. She also worked well when given stickers as rewards and frequent breaks. Her expressive single-word vocabulary was an area of strength and higher than her understanding of single words (standard scores of 88 and 50, respectively, where 100 is the average and 15 is the standard deviation). Her actual use of language was much lower, at an age equivalent of 4 years for language comprehension and 3½ years for language expression. Her speech was mostly understandable (she still used some jargon) but had an unusual sing-song quality. During the psychological assessment, we chose to use a test of nonverbal intelligence—the Revised Leiter International Performance Scale. This test was chosen because of we wanted at a good measure of nonverbal problem solving (see chapter 3). On this instrument, TJ's score of 82 was in the low-average range. The psychologist attempted to administer a more traditional test of intelligence, but TJ's behavior quickly became problematic. She was noted to have developed an ability to sound out (decode) single words and was starting to read, although her understanding of what she read was at a much lower level.

On the Vineland Adaptive Behavior Scales, her scores ranged from close to age-expected levels for written language and motor skills to significantly delayed—with areas of greatest delay in receptive and expressive communication (age equivalents of nearly 4 years for receptive language and 3 years for expressive language) and in socialization skills (interpersonal age equivalent of 2 years 6 months).

TJ's parents met with the psychiatrist to talk about their concerns with her behavior. Since her enrollment in first grade, her parents had felt that her behavior significantly worsened, with higher levels of stereotyped behavior (particularly body rocking and hand mannerisms) and the onset of a self-injurious behavior (face slapping). They were concerned because the stereotyped behaviors had seemed much worse since her new placement and the face slapping was hard for them to interrupt. The child psychiatrist observed TJ during parts of her assessment and also spent time with her. He noted that she was more related to her parents than other people and made more eye contact with them. She was able to engage in some simple social routines and could take pleasure in this. Attention varied with task difficulty and seemed most impaired if supports weren't provided. TJ used play materials for simple functional play and early pretend play. Stereotyped mannerisms were most common when she was frustrated or overwhelmed with tasks. She was developing some early abilities for self-monitoring but engaged in task avoidance when activities were more challenging for her.

Review of the IEP and then a follow-up discussion with her school program revealed some areas of concern. The combination of her much higher expressive vocabulary and ability to sound out words had been taken to suggest a much higher level of understanding of language/written words than actually was the case. As a result, much of her academic program was more advanced than she was able to understand and, consequently, she appeared to be frustrated during much of her time in the first-grade classroom. During the school visit, the absence of some of the problematic behaviors during her "special" times (when working in a more structured situation on skills more appropriate to her level) also seemed to reflect the combination of inappropriately high academic goals and difficulties responding in more complex environments. In talking with the school and with her parents, we suggested some modifications in her program to take into account the significant scatter in her skills. We suggested increasing a number of the more structured out-of-class times with service providers like the speech pathologist. We also suggested implementing a number of supports for TJ in the classroom and emphasized the importance of responding to the range of her abilities.

TJ's problematic behavior rapidly diminished when she was given a modified program more appropriate to her levels of ability. She continued to be in the

mainstream setting for some classes but had more opportunities for learning in a structured setting at school. Her face slapping decreased quickly.

Now, some months later, her school is beginning to again increase mainstream class time, but they are careful to do this slowly and to monitor for any signs of frustration. TJ has continued to make progress, and her parents have been pleased that the problem behaviors have diminished dramatically.

Case 3: Danny

Danny was a boy of almost 9 years of age who had a long history of problems in social interaction, but who seemed to have good language skills. His school raised the question of whether he might have autism because he seemed "too verbal." Danny's early history was remarkable for early development of words (he was saying single words by 8 months and talking in sentences by 18 months) but slow motor development (he didn't walk until 16 months and was always described as somewhat clumsy and poorly coordinated). His parents noted that he had early, long-standing special interests in things like trains, geography, and astronomy. His parents reported that he was a sensitive child who seemed to notice changes and disliked certain foods. But they had not been worried about him until he was 4 and started preschool, where his teachers reported concerns about his peer relationships and difficulties dealing with change. At the time of this assessment, he was completing second grade in a public school (having repeated kindergarten because of poor social skills). His school had suggested an evaluation for possible attention deficit hyperactivity disorder (ADHD), given his tendency to be impulsive and very verbal.

He had been evaluated at 5½ by a developmental pediatrician, who suggested he might have PDD-NOS. In school, he was given OT and speech therapy but mainstreamed for much of the time. At the time of the current assessment, he was in regular classes with 1 hour a week for occupational therapy.

On psychological testing, Danny was a talkative 8-year 8-month–old boy. On meeting the examiner, he launched into a discussion of outer space events. His attention was somewhat variable, but, in general, he seemed to cooperate with assessment procedures. When given any opportunity, he would become very "professorial," assuming a "lecture-like" stance with the examiner and explaining his views on topics having to do with astronomy. His social style was very one-sided. Although he could follow a story, he often returned to a discussion of stars, planets, and so forth. A visual schedule with routines and reinforcement for staying on task (and off space topics) was helpful. The psychologist noted that Danny had poor hand–eye coordination and particular trouble with tasks that involved manipulative or graphomotor skills. On psychological testing, his verbal IQ was 104 and his nonverbal IQ 78 (mean of 100, standard deviation

of 15). He exhibited much scatter on the test of intelligence with strengths in the areas of auditory memory, fund of knowledge, and to a lesser extent, verbal reasoning. Areas of specific deficits included visual–spatial orientation, facial recognition, and computational skills.

The psychologist noted that Danny tried to use verbal strategies to cope with nonverbal tasks and that when tasks became nonverbal he often had difficulties attending. He talked throughout the assessment. On a test of visual–motor integration, his standard score was 72. He had difficulties with visual perception and motor planning. During speech–communication assessment, Danny's expressive single-word naming emerged as a strength (standard score of 119). Receptive vocabulary was solidly average (standard score of 99). When tasks were more complicated, he had moderate to severe delays in formulating language. He made a few articulation errors. His prosody was somewhat unusual. He tended to talk at a very fast rate but could slow down if asked to do so. Whenever possible, he would try to turn the discussion to one of his topics of special interest. His language tended to be slightly pedantic, with a tendency to use more sophisticated words but in a somewhat unusual way. He had significant difficulties carrying on a conversation. He did not respond to nonverbal cues.

During the psychiatric assessment, Danny was noted to be an overtly sociable little boy but one whose sociability was rather superficial and one-sided. While clearly related to his parents, he was inconsistent in use of eye contact. He had trouble in responding to nonverbal cues and with pragmatic language. He had trouble with figurative and ambiguous language and significant troubles understanding sarcasm. Danny did have trouble with distraction, but when provided with support, he could focus for long periods of time. He had some difficulties with transitions/changes in activities. He talked excessively about his areas of special interact. He had trouble responding to cues from his conversational partner. He tended to rely excessively on verbal skills to mediate the ongoing social interaction. His affective range was rather limited. He was generally happiest when engaged in discussion of some topic of particular interest to him. He did sometimes take pleasure in interaction in successful task performance and was, at such times, able to share the focus of happiness with the examiners. When excited, some toe walking was observed. His use of play materials tended to be rather rigid and stereotyped. Some degree of motor difficulty was noted, as Danny had problems with poor coordination, clumsiness, and unstable gait. Neither his gross nor fine motor skills appeared to be at age level. During this time with the psychiatrist, Danny drew a rather poor sketch of the solar system, but his verbalization about the various planets and the controversy over whether Pluto should be considered a planet was at a much higher level.

On the Vineland Adaptive Behavior Scales, Danny's standard scores ranged from 32 to 52, i.e., very delayed relative to his cognitive ability. He had isolated

strengths in written and expressive language but major areas of weakness in social and expressive communication, and daily living skills. Interviews with his family revealed a paternal grandfather with problems similar to Danny's.

Although his school has raised the question of attention deficit disorder, our impression was of a youngster with Asperger's disorder. On cognitive testing, there was significant discrepancy between his verbal and nonverbal intelligence. He had gross and fine motor difficulties. He relied heavily on verbal strength to solve problems. Problems with inattention and impulsive behavior were noted but usually in response to more challenging (nonverbal) tasks. He similarly had marked scatter in his language skills, with strengths in single-word vocabulary but weaknesses when asked to cope with more complicated language tasks—particularly if these involved social language use. His social difficulties, reliance on verbal mediation strategies, circumscribed interests, motor problems, and other features were consistent with Asperger's disorder and his psychological testing consistent with the NLD profile.

In our report, we emphasized that his unusual developmental profile put him at a real disadvantage in dealing with peers and certain academic subjects. We made a number of recommendations for developing social and communication skills and an appreciation of nonverbal social cues. Individual speech therapy along with OT and physical therapy (PT) were recommended, as was a social skills intervention program.

Comment   In this case, as was particularly true in the past, Danny's better vocabulary skills combined with behavior difficulties initially suggested attentional difficulties. The severity of his social (and other) problems was masked by his good verbal abilities. Provision of a more appropriate intervention program proved very helpful to Danny. He was able to learn to use verbal mediation strategies to help with social situations and in dealing with novelty. He currently is enrolled in the ninth grade, where he receives some special supports and accommodation (including use of a laptop and untimed tests). His interest in space and astronomy has continued.

Summary

In this chapter we've talked about some of the issues the impact school age children and their families. In some ways this age group is the one we know the most about, at least in terms of research. There are many opportunities for positive growth and behavior change in this age group. On the other hand behavioral management issues can also become much more important. Parents and teachers should pay attention both academic and nonacademic skills. There is the potential for children to learn skills in isolation and the

family has a critically important role in helping children learn to generalize skills. Parents and teachers should also be alert to the potential for problems with bullying in this age group.

■ READING LIST

Aarons, M., & Gittens, T. (1998). *Autism: A social skills approach for children and adolescents*. Bradwell Abbey, Milton Keynes, UK: Speechmark.

Adreon, D., & Stella, J. (2001) Transition to middle and high school: Increasing the success of students with Asperger's syndrome. *Intervention in School and Clinic, 36,* 266–271.

Arick, J. R., Krug, D. A., Fullerton, A., Loos, L., & Falco, R. (2005). School-based programs. In F. Volkmar, R. Paul, A. Klin, and D. Cohen (Eds.), *Handbook of autism and pervasive developmental disorders* (3rd ed. , pp. 1003–1028). Hoboken, NJ: Wiley.

Aspy, R., Grossman, B., & Mesibov, G. B. (2007). The Ziggurat Model: A framework for designing comprehensive interventions for individuals with high-functioning autism and Asperger syndrome. Shawnee Mission, KS: Autism Asperger.

Attwood, T. (2008). *The complete guide to Asperger's syndrome.* London: Jessica Kingsley.

Attwood, T. (1998). *Asperger's syndrome: A guide for parents and professionals*. London: Jessica Kingsley.

Baker, J. (2001). Social skills picture book: Teaching play, emotion, and communication to children with autism. Arlington, TX: Future Horizons.

Baron-Cohen, S. (2003). The essential difference: Male and female brains and the truth about autism. New York: Basic Books.

Baron-Cohen, S. (2008). *Autism and Asperger syndrome (the facts).* New York: Oxford University Press.

Bishop, B. (2003). My friend with autism: A coloring book for peers and siblings. Arlington, TX: Future Horizons.

Brock, S. E., Jimerson, S. R., & Hansen, R. L. (2006). *Identifying, assessing, and treating autism at school.* New York: Springer.

Buron, K. D., & Curtis, M. (2004). Incredible 5-point scale: assisting students with autism spectrum disorders in understanding social interactions and controlling their emotional responses. Shawnee Mission, KS: Autism Asperger.

Buron, K. D. (2007) A 5 is against the law! Social boundaries straight up. Shawnee Mission, KS: Autism Asperger.

Burrows, E. L., & Wagner, S. J. (2004). Understanding Asperger's syndrome: Fast facts—a guide for teachers and educators to address the needs of the student. Arlington, TX: Future Horizons.

Carter, E. W. (2008). Peer support strategies for improving all students' social lives and learning. Baltimore: Brookes.

Carter, E. W., Cushing, L. S., & Kennedy, C. H. (2009). *Peer support strategies for improving all student's social lives and learning*. Baltimore: Brookes.

Carter, M., & Santomoura, J. (2004). Space travelers: An Interactive Program for developing social understanding, social competence and social skills for students with AS, autism and other social cognitive challenges. Shawnee Mission, KS: Autism Asperger.

Cook, J., & Hartman, C. (2008). *My mouth is a volcano!.* Chattanooga: National Center for Youth Issues.

Coulter, D.(Producer/Director). (2000). *Asperger syndrome: Success in the mainstream classroom* [DVD]. Winston Salem, NC: Coulter Video.

Coulter, D.(Producer/Director). (2006). *Intricate minds: Understanding classmates with Asperger syndrome* [DVD]. Winston Salem, NC: Coulter Video.

Coulter, D.(Producer/Director). (2006). *Intricate minds II: Understanding elementary school classmates with Asperger syndrome* [DVD]. Winston Salem, NC: Coulter Video.

Coulter, D.(Producer/Director). (2006). *Intricate minds III: Understanding elementary school classmates who think differently* [DVD]. Winston Salem, NC: Coulter Video.

Crary, E., & Casebolt, P. (1990). *Pick up your socks . . . and other skills growing children need*. Seattle, WA: Parenting Press.

Dubin, N., & Carley, M. J. (2007). *Asperger syndrome and bullying: Strategies and solutions*. London: Jessica Kingsley.

Dunn, M. A. (2005). S. O. S. Social Skills in our Schools: A social skills program for children with pervasive developmental disorders, including high-functioning autism and Asperger syndrome, and their typical peers. Shawnee Mission, KS: Autism Asperger.

Edwards, A. (2001). *Taking autism to school*. Hawthorne, NY: JayJo Books.

Ernsperger, L. (2002). *Keys to success for teaching students with autism*. Arlington, TX: Future Horizons.

Faherty, C., & Mesibov, G. B. (2000). *Asperger's: What does it mean to me?*Arlington, TX: Future Horizons.

Fein, D., & Dunn, M. (2007). Autism in your classroom: A general educator's guide to students with autism spectrum disorders. Bethesda, MD: Woodbine House.

Flowers, T. (1996). Reaching the child with autism through art: Practical, "fun" activities to enhance motor skills and improve tactile and concept awareness. Arlington, TX: Future Horizons.

Grandin, T. & Barron, S. (2006). The unwritten rules of social relationships: Decoding social mysteries through the unique perspectives of autism. Arlington, TX: Future Horizons.

Gray, C. (2000). *The new social story book*. Arlington, TX: Future Horizons.

Gutstein, S. E. (2001). Autism Asperger's: Solving the relationship puzzle—a new developmental program that opens the door to lifelong social and emotional growth. Arlington, TX: Future Horizons.

Hall, Laura J. (2008) *Autism Spectrum Disorders: From Theory to Practice*. Upper Saddle River, NJ: Prentice Hall.

Handleman, J. S., Harris, S. L., & Martins, M. (2005). Helping children with autism enter the mainstream. In F. Volkmar, R. Paul, A. Klin, & D. Cohen (Eds.), *Handbook of autism and pervasive developmental disorders* (3rd ed.; pp. 1029–1042). Hoboken, NJ: Wiley.

Haring, T. G., & Breen, C. G. (1992). A peer-mediated social network intervention to enhance the social integration of persons with moderate and severe disabilities. *Journal of Applied Behavior Analysis*, *25*, 319–333.

Heflin, L. J., & Alaimo, D. F. (2007). *Students with autism spectrum disorders: Effective instructional practices*. Upper Saddle River, NJ: Pearson.

Heinrichs, R. (2003). Perfect targets: Asperger syndrome and bullying—practical solutions for surviving the social world. Shawnee Mission, KS: Autism Asperger.

Hobson, P. (2005). Autism and emotion. In F. Volkmar, R. Paul, A. Klin, & D. Cohen (Eds.), *Handook of autism and pervasive developmental disorders* (3rd ed.; pp. 406–424). Hoboken, NJ: Wiley.

Howlin, P. (1998). Children with autism and Asperger syndrome: A guide for practitioners and careers. Hoboken, NJ: John Wiley & Sons.

Jaffe, A., & Gardner, L. (2006) My book of feelings: How to control and react to the size of your emotions. Shawnee Mission, KS: Autism Asperger.

Kluth, P. (2003). You're going to love this kid: Teaching students with autism in the inclusive classroom. Baltimore: Brookes.

Kluth, P., & Chandler-Olcott, K. (2008). *"A land we can share": Teaching literacy to students with autism*. Baltimore: Brookes.

Kluth, P., & Schwarz, P. (2008). "Just give him the whale": 20 ways to use fascinations, areas of expertise and strengths to support students with autism. Baltimore: Brookes.

Koegel, R. L., & Koegel, L. K. (1995). Teaching children with autism: Strategies for initiating positive interactions and improving learning opportunities. Baltimore: Brookes.

Koegel, R. L., Koegel, L. K., & Brookman, L. I. (2003). Empirically supported pivotal response interventions for children with autism. In A. E. Kazdin & J. R. Weisz (Eds.), Evidence-based psychotherapies for children and adolescents (pp. 341–357). New York: Guilford Press.

Koegel, L. K., & LaZebnik, C. (2009). *Growing up on the spectrum*. New York: Penguin Books.

Larson, E. M. (2006). I am utterly unique: Celebrating the strengths of children with Asperger syndrome and high-functioning autism. Shawnee Mission, KS: Autism Asperger.

Little, L. (2002). Middle-class mothers' perceptions of peer and sibling victimization among children with Asperger's syndrome and nonverbal learning disorders. *Issues in Comprehensive Pediatric Nursing*, *25*, 43–57.

Ludwig, T. (2006). *Just kidding*. Berkeley, CA: Tricycle Press.

Mackenzie, H. (2008). Reaching and teaching the child with autism spectrum disorder: Using learning preferences and strengths. London: Jessica Kingsley.

McClannahan, L. E., & Krantz, P. J. (2005). *Teaching conversation to children with autism: Scripts and script fading*. Bethesda, MD: Woodbine House.

McKinnon, K., & Kremps, J. L. (2005). Social skills solutions: A hands-on manual for teaching social skills to children with autism. New York: DRL Books.

Moore, S. T. (2002). Asperger syndrome and the elementary school experience: Practical solutions for academic & social difficulties. Shawnee Mission, KS: Autism Asperger.

Morrison, L., Kamps, D., Garcia, J., & Parker, D. (2001). Peer mediation and monitoring strategies to improve initiations and social skills for students with autism. *Journal of Positive Behavior Interventions*, *3*, 237–250.

Myles, B. S. (2001). Asperger syndrome and sensory issues: Practical solutions for making sense of the world. Shawnee Mission, KS: Autism Asperger.

Myles, B. S. (2005). Children and youth with Asperger syndrome: Strategies for success in inclusive settings. Thousand Oaks, CA: Corwin Press.

Myles, B. S., & Adreon, D. (2001). *Asperger syndrome and adolescence: Practical solutions for school success*. Shawnee Mission, KS: Autism Asperger.

Myles, B. S., & Southwick, J. (1999). *Asperger syndrome and difficult moments: Practical solutions for tantrums, rage, and meltdowns*. Shawnee Mission, KS: Autism Asperger.

Myles, B. S., Trautman, M. L., & Schelvan, R. L. (2004). *The hidden curriculum: Practical solutions for understanding unstated rules in social situations*. Shawnee Mission, KS: Autism Asperger.

Naylor, P. R. (1994). *King of the playground*. New York: Aladdin Paperbacks.

Nichols, S., Moravick, G., and Tetenbaum, S. P. (2009). *Girls growing up on the autism spectrum*. London: Jessica Kingsley.

Ozonoff, S., Dawson, G., & McPartland, J. (2002). A parent's guide to Asperger syndrome and high-functioning autism: How to meet the challenges and help your child thrive. New York: Guilford Press.

Paul, R., Augustyn, A, Klin, A., Volkmar, F. R. (2005). Perception and production of prosody by speakers with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, *35*(2): 205–220.

Pierce, K., & Schreibman, L. (1997). Multiple peer use of pivotal response training to increase social behaviors of classmates with autism: Results from trained and untrained peers. *Journal of Applied Behavioral Analysis*, *30*(1), 157–160.

Pierce, K., & Schreibman, L. (1998). Using peer trainers to promote social behavior in autism: Are they effective at enhancing multiple social modalities? *Focus on Autism & Other Developmental Disabilities*, *12*, 207–218.

Quill, K. (1995). *Teaching children with autism: Strategies to enhance communication and socialization*. New York: Delmar.

Scott, J., Clark, C., & Brady, M. (2000) *Students with autism: Characteristics and instruction programming*. San Diego, CA: Singular.

Schlieder, M. (2007). *With open arms: Creating school communities of support for kids with social challenges using circle of friends, extracurricular activities, and learning teams*. Shawnee Mission, KS: Autism Asperger.

Silverman, S., & Weinfeld, R. (2007). *School success for kids with Asperger's syndrome: A practical guide for parents and teachers*. Waco, TX: Prufrock Press.

Small, M., & Kontente, L. (2003). *Everyday solutions: A practical guide for families of children with autism spectrum disorder*. Shawnee Mission, KS: Autism Asperger.

Strachan, J., & Schnurr, R. G. (1999). *Asperger's huh? A child's perspective*. Gloucester, Ontario: Anisor.

Strong, C. J., & North, K. H. (1996). *The magic of stories*. Eau Claire, WI: Thinking Publications.

Thiemann, K. S., & Goldstein, H. (2001). Social stories, written text cues, and video feedback: Effects on social communication of children with autism. *Journal of Applied Behavior Analysis*, *34*, 425–446.

Thioux, M., Stark, D.E., Klaiman, C., Schultz, R.T. (2006) The day of the week when you were born in 700 ms: Calendar computation in an autistic savant. *Journal of Experimental Psychology: Human Perception and Performance*. *32*(5) 1155–1168.

Tsatsanis, K. D. (2004). Heterogeneity in learning type in Asperger syndrome and high-functioning autism. *Topics in Language Disorders*, *24*(4), 260–270.

Tsatsanis, K. D., Foley, C., & Donehower, C. (2004). Contemporary outcome research and programming guidelines for Asperger's syndrome and high functioning autism. *Topics in Language Disorders*, *24*(4), 249–259.

Utley, C. A., & Mortweek, S. L. (1997). Peer mediated instruction and intervention. *Focus on Exceptional Children*, *29*(5), 1–24.

Vicker, B. (2007). *Sharing information about your child with autism spectrum disorder: What do respite or alternative caregivers need to know?* Shawnee Mission, KS: Autism Asperger.

Volkmar, F., & Cohen, D. (1985). The experience of infantile autism: A first person account by Tony W. *Journal of Autism and Developmental Disorders*, *15*, 47–54.

Weber, J. D. (2000). *Children with fragile X syndrome: A parents' guide*. Bethesda, MD: Woodbine House.

Wing, L., Gould, J. (1979). Severe impairments of scoail interaction and associated abnormalities. *Journal of Autism and Developmental Disorders*, *9*(1), 11–29.

Winter, M. (2003). *Asperger syndrome: What teachers need to know.* London: Jessica Kingsley.

QUESTION AND ANSWERS

1. **I am a relatively new speech pathologist who works in a public school. I happened to see one of my students last week in the mainstream class he attends for reading (he is in the second grade). Usually, I see him individually for pull-out from his resource room program. He was with his aide, and I realized that he was sitting at the back of the room—mostly staring out the window while the teacher was reading. The aide, who is a very nice, grandmotherly type person, seemed to always run interference for him with the other students. He was humming to himself and doing some self-stim while looking outside and watching the trees and bird feeder. He wasn't making any trouble, but I wasn't sure how much, if anything, he was learning. He has made good progress in his individual work, but I wonder if we should take a look at his mainstream time—I wasn't sure this was doing a lot of good.**

   You have made a number of important observations and also are in a position to be helpful since you are already part of the team. Your question raises several different issues: the value of his mainstream experience, the issue of the pros and cons of having his own aide in the setting, and your own individual work with him. There are several steps you and the teacher can think about to make the mainstream time more valuable. If he is seated nearer to the teacher, she'll be better able to keep an eye on him. Second, the teacher could work with the aide and special ed teacher to do some preteaching; for example, maybe he should see the book ahead of time or have a visual support (pictures of important things to attend to). The aide could be involved in working on this with him before the class. As you point out, having an aide raises some potential risks for his being isolated from his peers. It would be worth working with her a bit to give him a bit more space and have more possibilities for peer interaction. You and the teacher could work with her about effective ways to help him be more interactive and to encourage peers when they want to interact with him. Finally, depending on how things with you are going, you might consider some work with a small group of peers from his mainstream class, for example, so that he could have some practice in interaction in a small-group setting with some peers who might help him generalize his skills in the larger setting.

2. **My fourth-grade daughter has a profound interest in insects. She has had other interests over the years, but this one has been the most enduring. She occasionally drives her mother and me crazy**

with wanting to go get books on insects or look for TV programs or movies that feature insects. She has a whole insect collection of stuffed animals. Is there any way to get rid of this? If we can't, is there any way to get some control over it?

You've asked two very good questions. In his original paper, Asperger pointed out that the special interests he saw in children tended to be all-encompassing, interfered with the child's learning other things, and often came to dominate family life. Interests often do change somewhat over time. Occasionally, students are able to use their interests in an adult occupation. Getting rid of the interest is probably not so easily done. Rather, try to see how you can work with it—there are some good books on the topic in the reading list, for example, the book by Kluth on using special interests. Often, a lot of incidental learning can occur when the child is given projects that build on her interest in some way; for example, math can focus on multiplying insects. Books or movies with insect characters can be used to teach about narrative and plot and feelings. It might help to put children who are overly preoccupied on a schedule where they get time to pursue their interest as a reward for other work, for example, setting up a homework schedule where your daughter gets time to pursue her insect interest as a reward for getting her homework done.

3. **My 9-year-old son with autism can be a bit of a handful in terms of his behavior. My husband and I would like to take some time off to go to the movies or out to a restaurant occasionally. Our parents and siblings live several towns away, so we can't use them except occasionally. Do you have any suggestions about finding a good babysitter?**

You are wise to think about getting some time for yourselves and for your child to have the opportunity to be with other caretakers. Often, other parents or sometimes teachers and school staff can suggest possible babysitters. Sometimes parents of other children with special needs are willing to do babysitting swap arrangements. If you live near a college or university, sometimes putting up an ad in the psychology department or school of education can be a good source for finding college students with an interest in children with special needs who may be willing to babysit. Sometimes state departments of developmental disabilities (called different things in difference states) maintain programs to provide parents with respite care. There is a book by Vicker (2007) in the reading list with information that babysitters and other caregivers need to know.

4. **Our 7-year-old son with Asperger's has trouble with explosive outbursts. We've identified some of the triggers for these**

(unexpected transitions and changes in schedule) but not for others. Both we and his teacher notice that we can sometimes tell when he is ''about to blow''—he starts to look angry or upset, but he doesn't seem aware of this. Are there any things we can do to help?

You are right that often there are triggers, and you have identified some of them already—new situations and transitions are frequent sources of difficulty, and changes in schedule can be a real problem. There are several different things to do. First, continue to pay attention to when these situations happen—location, setting, who the child is with, and so forth. Second, you, and eventually your son, should start to work on helping him have an increased awareness of when he is "going to blow." He may be having trouble knowing when he is getting angry and upset. There may be physical signs he could pay attention to and then use as a cue to do something about it. Finally, there are some good resources to help children learn about their emotions—look at the reading list for some of the books by Buron and by Jaffe and Gardner). For children with Asperger's, learning to put things into words is a good first step. We talk about some of these issues in chapter 14.

5. **Our 8-year-old with an ASD has a problem with showing affection. He has gotten more interested in people but sometimes will come inappropriately close to them or he will go up and hug other kids. We are not sure what to do about this. It is getting him into trouble.**

There are several things you can do. As we discussed in this chapter, some children with autism and autism spectrum disorders develop the "active but odd" social style. Their social interest is a plus, but their ability to translate this interest into appropriate behavior can be a problem. There are some resources for teaching about boundaries and personal space. We talk more about this in the next chapter as well. The book by Buron in the reading list on social boundaries is a good place to start. These issues become even more important as children become adolescents (and we talk more about it in the next chapter) so this is a good time to start working on the problem.

6. **Our 7-year-old with an ASD is starting to ask questions about why he is different from other kids. How should we deal with this?**

Children often start to develop an awareness of being different in the early school years sometimes earlier and sometimes later. Parents should try not to be defensive but answer questions honestly with an appropriate

amount of information. Discussion about strengths and weaknesses is appropriate. So is pointing out the range of people with disabilities of varying degrees. Simply giving a label to a child isn't horribly helpful; don't say "you have Asperger's disorder" and leave the topic. There are some books written specifically for children with ASDs about having an ASD (see the book by Strachan and Schnurr in the reading list). Usually, this is a topic children will keep coming back to. For some children, being able to talk to a knowledgeable professional (physician, psychologist, teacher) can be helpful. Keep in mind that it is important to emphasize areas of strength as well as vulnerability (see the book in the reading list by Larson, written for children on just this issue).

7. **I am a fourth-grade teacher. We are about to have a student with Asperger's included in the class for most of the day. What would be the best way to do this? We are a relatively new middle school, and many of the children won't know each other or the student coming into the class.**

    There are several things you can do. There are some excellent video resources (see the reading list for Coulter videos) that may be helpful with somewhat older elementary school children. There are also a number of children's books written for peers or siblings (see the text box on page XXX). You need to walk a fine line here—you want to give the classmates good information but you don't want to "set up" the child with a difficulty to be in trouble from the start! A lot of this will also rest on your attitudes and responses; for example, if the child with Asperger's has a problem with blurting out an answer, a supportive but corrective response from you will set the tone for classmates dealing with interruptions.