

The Early IDENTIFICATION of AUTISM SPECTRUM DISORDERS

►►► A Visual Guide



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Contents

Introduction	9
1. The Importance of Early Identification of Autism Spectrum Disorder	11
Why Early Intervention?	11
How Early Can ASD Be Detected?	13
2. Sources of Variability in Autism Spectrum Disorder in Young Children	15
The ASD Symptom Profile	15
Sources of Variability in ASD Symptom Presentation Across Children	16
Core Symptoms	19
3. Communication in Young Children with Autism Spectrum Disorder	25
The “Spectrum” of Language Delay and Difference in ASD	25
The Subdomains of Language Development	28
Pragmatics, or the Social Use of Language: The Core Communication Symptom in ASD	29
Atypical Language	53
Summary	56
4. Social Interaction in Young Children with Autism Spectrum Disorder	59
The Social Life of the Typically Developing Child	59
Social Engagement and Interest: Specific Behaviors that Imply a Child’s Social Motivation and Basic Capacities to Engage with Others	61
Emotional Signaling: Sharing Emotion and Signaling Internal Affective States	72
Capacity for Interaction: Imitating and Turn-taking	77
Summary	80
5. Putting It All Together: Sustained Social Interaction, Joint Attention, and Reciprocity	83
Sustained Social Interaction Calls upon Multiple Social and Communication Skills	83
Joint Attention: Two (or More) Individuals Paying Attention to the Same Thing for a Period of Time	88
Reciprocity: What the Child Does Depends on What Her Partner Just Did	91

6. Repetitive Behaviors in Young Children with Autism Spectrum Disorder	95
The Nature of Repetitive Behaviors in the Young Child with ASD	95
The Subtypes of Repetitive Behavior in ASD and Versions	
Seen in Young Children	98
Whole-body Behaviors and Motor Stereotypies	100
Visual-stimulation Behaviors or Stereotypies	101
Repetitive Play: Perseverative Activities, Focusing on Mechanisms and Parts of Objects, and Creating Patterns	108
Seeking Sameness in Routine and the Environment	114
Areas of High Interest and Ability	115
Summary	118
7. Sensory Behaviors in Young Children with Autism Spectrum Disorder	119
Sensory Behaviors Associated with Movement	119
Sensory Behaviors Associated with Touch	122
Sensory Behaviors Associated with Smell and Taste	124
Sensory Behaviors Associated with Vision	125
Sensory Behaviors Associated with Sound	127
Summary	129
8. Assessment of Young Children with, or Suspected to Have, Autism Spectrum Disorder: An Overview	131
The Many Contexts of Early Childhood Assessment	131
The Best Assessment Starts with Familiarity with Early Development and with a Broad Variety of Early Childhood Disorders	132
Assessment with Infants, Toddlers, and Preschoolers Has Its Unique Demands	133
Family-centered Practice Shapes Assessment Strategies in Highly Specific Ways	134
General Choices for Assessment Strategies	135
Choices for Assessment Instruments for ASD in Young Children	138
Summary	143
<i>References</i>	145
<i>Further Reading</i>	149
<i>Subject Index</i>	155
<i>Author Index</i>	159

List of Figures

2.1	The Interface of Symptom Severity with Cognitive Delay	18
3.1	The Continuum of Spoken Language Delay in ASD	26
3.2	Coordinating Communication Modalities	31
3.3	Children Alternating Gaze Between an Object and Their Play Partner to Monitor the Other Person's Involvement and Response	36
3.4	Children Following the Gaze and Point of an Adult and Expecting Reciprocation	37
3.5	Examples of Communicative Intentions	39
3.6	Communicative Repair	48
3.7	Early Discourse: Turn-taking in Conversation, Staying on Topic, Using Eye Contact	52
3.8	Instrumental Communication: Hand-leading	55
4.1	Social Engagement Behaviors: Seeking or Avoiding Proximity	62
4.2	Social Engagement Behaviors: Use of Eye Contact	65
4.3	Social Engagement Behaviors: Making Social Bids or Initiations	71
4.4	Social Engagement Behaviors: Responding to Social Bids of Others	72
4.5	Emotional Signaling Behaviors: Sharing Emotions	73
4.6	Emotional Signaling Behaviors: Signaling Varying Affect	75
4.7	There Is a Subgroup of Children with ASD Who Have Sunny, Outgoing Dispositions	77
4.8	Social Interaction: Back-and-forth Routine	78
4.9	Social Interaction: Imitation	79
4.10	Social Interaction: Turn-taking	80
5.1	Sustained Social Interaction: Girl and Adult	84
5.2	Sustained Social Interaction: Putting It All Together	86
5.3	Joint Attention—Child Incorporates Material from Adult: Boy and Adult	90
5.4	Joint Attention with Low Social Demands	91
5.5	Child with ASD Showing Lack of Reciprocal Interaction: Boy and Mother	93
6.1	Restricted and Repetitive Behaviors in Young Children with Autism Spectrum Disorders: An Organizational Model	99
6.2	Whole-body Behaviors	100
6.3	Visual-stimulation Behaviors	104
6.4	Repetitive Play Behaviors 1	109
6.5	Repetitive Play Behaviors 2	112
6.6	Repetitive Play: Creating Patterns	113
6.7	Areas of High Interest and Ability	116
7.1	Sensory Behaviors: Seeking Motion	120
7.2	Sensory Behaviors: Seeking Touch	122
7.3	Sensory Behaviors: Avoiding Touch	124
7.4	Sensory Behaviors: Seeking Smells and Tastes	124
7.5	Sensory Behaviors: Seeking Visual Experience	126
7.6	Sensory Behaviors: Avoiding Sound	128

List of Tables

3.1	The Subdomains of Language	29
3.2	The Elements of Pragmatic Communication Competence	57
3.3	Ways Young Children Use Eye Contact in Communication	58
4.1	Components of Social Behaviors in Young Children	81
4.2	Ways Young Children Use Eye Contact Socially	82
7.1	Sensory Behaviors Seen in Young Children with ASD	129
8.1	Family-centered Assessment Compared with Traditional Assessment	136

Social Interaction in Young Children with Autism Spectrum Disorder

Difference and delay in social development is at the absolute core of ASD. In the last chapter, we saw how communication delay in terms of learning language itself can be more or less affected in individuals with autism. But this is not the case for social abilities; they are always affected and never “almost normal.” Likewise, in the communication domain, the social use of language is always affected, even when vocabulary and grammar may be more intact. There is, of course, a continuum of severity in terms of how completely missing various social skills are, with some children less severely affected than others.

To understand what constitutes social ability and disability, however, requires detailed study. Everyone has his idea of what is meant when a child is said to be very “social” and “related.” Yet to come to a conclusion about what symptoms the child is showing in this area, it is necessary to parse out the general construct, breaking it down into more specific, observable behaviors. The material in this chapter uses clinical research findings that have shown which behaviors are the most important to focus on in ASD.

The Social Life of the Typically Developing Child

A child’s social life begins soon after birth, when innate infantile behaviors have the capacity to elicit caregiving behaviors on the part of parents or those who feel caring toward the baby. A distressed sound coming from the child may result in her being held, rocked, or fed, and the baby’s calmed or satisfied reaction sets off a continuing cycle of signals and responses that, in most circumstances, creates the parent–child bond

necessary to sustain the extended caregiving that primates and humans require.

Within a month or two, as a baby's eyesight extends past his nose and as control over eye, head, and neck muscles develops, the child develops a strong preference to look at faces as opposed to inanimate objects (Mondloch *et al.*, 1999; Turati, Simion, Milani, & Umiltà, 2002). By six weeks, in addition to intense looking, most children begin to smile and coo in response to adult faces and social input. By three to four months, a baby can carry on an extended exchange of smiles with eye contact and varied vocalizations with a caregiver (Tronick, 2007).

Through these means the baby is able to extract a strong commitment from a few devoted caregivers. It is certainly in her best interests to do so, as her very survival depends on these persons supplying intensive resources in the form of food and physical care and protection. As well, in order to learn the basics of communication and interpersonal behavior, the infant must rely on a constant coach, interpreter, and teacher.

Because of its primal necessity, therefore, social competence is being developed from the earliest days and growing in complexity and intentionality over the first two years of life. These highly developed behaviors can be observed in children whose social development is following a typical course and can be noted to be off-course in young children on the autism spectrum.

However, it is important to recall the various patterns of symptom emergence that different children on the spectrum display (see Chapter 2). Some children show normal first-year social development and then start to lose those skills in the second year, while other children evidence delays right from the start.

The behaviors to be described and illustrated in this chapter fall into the following three general clusters:

- *Social engagement and interest:* How does the child show that he is interested in others and ready to be engaged? To this end, where does the child place himself physically so that he has the opportunity to get involved with others? How does the child use eye contact to signal interest in engagement, and monitor the faces of others to extract information about how the interaction may go? How does the child get social interaction going with others, and how does he respond when others initiate social interaction with him?

- *Emotional signaling:* How does a child exchange purely emotional information with others, and signal her internal state?
- *Capacity for interaction:* How easily does the child fall into a give-and-take pattern across a variety of circumstances, from predictable and scripted routines to a free-flowing, reciprocal social interchange? Can he sustain an interaction once it is started?

Social Engagement and Interest: Specific Behaviors that Imply a Child's Social Motivation and Basic Capacities to Engage with Others

Physical Proximity: How “In the Mix” Is the Child?

In order to interact, a child needs to be close enough to observe what others are doing, get their attention, insert herself into the action, and monitor the reactions of others. Children with ASD are known to go off on their own and pursue their own interests (see Figure 4.1). It is important, therefore to observe whether a child spends more time alone than with others who are accessible to her over a period of time.

What the child is doing while off by himself is an important component as well. Young children with ASD may have unusual sensory interests or repetitive behaviors that preoccupy them. Children without ASD who are very interested in how things work may also choose solitary pursuit of their play, but over the course of time will check in with others and engage in brief age-appropriate social interaction. In contrast, the child with ASD will either avoid or be indifferent to attempts to interact with him.

As with all other ASD symptoms, isolated physical proximity associated with lack of social interest runs along a continuum of severity. At the most severe end is the child who actively avoids being close to where others are, and responds to approach by others by moving away. Others, however, are able to *tolerate* proximity and parallel activity. Still others can engage in some back-and-forth or interactive routines as long as they are those with which they are practiced or familiar. Departure from the familiar routine, or insertion of novel material, may result in the child retreating, however.

Typically developing



Puts self in position to interact with and observe others

ASD



Physically separates self from others

Figure 4.1 Social Engagement Behaviors: Seeking or Avoiding Proximity

Eye Contact: Looking at Others and Monitoring the Eyes and Faces of Others

Eye contact, or rather the lack of it, is one of the most well-known symptoms of autism. However, simple presence or absence of eye contact is not the most useful way to think about this behavior in relation to ASD. It is more useful to consider how the child is *using* eye contact. Some children with ASD do in fact look at others' faces with regularity, yet still do not use that eye contact in typical or effective ways. In order to be judged as "effective" or not, eye contact has to be considered within the following specific contexts, not on its own (see Figure 4.2 for some examples).

1. *Very early protoimperative and protodeclarative communication.* This was discussed in the previous chapter (see page 35). Starting around nine months, a child may request that an adult either get for her, or look at in shared interest, an object or event by alternating her eye

gaze between the object and the person. This subsides in typically developing children in the second year of life as they get better at coordinating pointing and vocalizations and eye gaze to make the same type of requests.

2. *Looking at a person in combination with other communication modalities to enhance the effectiveness or the meaning of the message.* This is also described in the previous chapter. Looking at the person makes it clear to whom the message is being sent, and alternating the gaze between the person and the object emphasizes what is being requested (see pages 35–36). As well, because emotional content is sent through the eyes and facial expression, directing a gaze may add information about the child's emotions regarding the exchange. For example, the facial expression may be playful, relaxed, urgent, annoyed, or anxious. Having this information available to the recipient of the message will allow the subsequent interaction to go in the right direction, and in the direction that allows the needs of the child to be met (when the caregiver is able to understand and respond to these subtleties of the message).
3. *Monitoring faces and eyes for social information.* This may be one of the most important behaviors to note in a young child at risk for ASD, because it signifies the presence of key social understanding on the part of the child. Figure 4.2 shows why a child might be monitoring someone's face during an interaction, and what type of information he may be looking for. First, there is the emotional or affective information available: Does my play partner's expression show approval? Is this going OK? Should I keep doing this? Did I do the right thing? Second, the play partner's face may be showing cues about what to do next—is he looking expectantly so that I should take my turn next? Is it time for me to imitate him? What is meant to happen next?

As a side note, one line of research has shown that children and adults on the autism spectrum tend to look at non-social information in pictures and movies, and if they look at people's faces, they often look more at the mouth than at the eyes (Falck-Ytter & von Hofsten, 2011). These studies of course suggest that this is happening during daily interactions, and that those with ASD are not "wired" to look for social information. In addition, informal reports from individuals with ASD have made it clear that sometimes to make eye contact is very overstimulating and sometimes distracting and

anxiety-provoking. Whether avoidance of eye contact comes from lack of interest or from avoiding aversive overstimulation, this tendency still results in the missing of social information that is sent from eyes and faces of others.

4. *Following the gaze of another person.* Looking where your play or communication partner is looking gives you very concrete information about where to look in order to continue the interaction effectively, and to get the information you need out of it. This behavior is not solely social in nature, and that is why milder or older children with ASD can eventually add this to their repertoire, especially when they come to learn that the partner can help them play with or learn about things that are of interest to them.
5. *Alternating gaze between object and person during an interaction.* This occurs very frequently in interactions with typically developing children, and seems to serve a variety of purposes. It is primarily a type of monitoring so that the child keeps track of what is happening with the object or activity, and of what the partner communicates through her eyes and face about how this activity is going to move forward. Functionally, it serves to let the play partner know that both the partner and object is getting the child's attention. There are times, as well, that the glancing from object to adult and back is part of what the child intends to happen. For example, a child may hand the person a toy, looking back and forth between object and person, as a way of saying, "Take this."
6. *Social referencing.* This term refers to when the child looks to the adults to get affective information about something novel that has been presented. Studies have shown that if a very young child sees something new that he is uncertain about, he will look to the parent to see how she is reacting, and then react in a similar way (Striano & Rochat, 2000). The standard experiment was to present a small robot that made noise, then ask the mother either to look afraid or smile and look happy about seeing the robot. In most circumstances after the baby looked to his mother to find she was afraid, the baby became afraid and sought comfort from the mother and avoidance of the new toy. If the mother looked happy and welcoming, the child relaxed and wanted to play with the robot.

General**Typically developing**

Frequent and appropriate eye contact

ASD

Avoids eye contact

Contexts for observing effective use of eye contact:

- (1) Combining eye contact with other communication modalities to make the message more effective

Typically developing

Boy makes eye contact with his mother as he raises his hands to be picked up



Girl points, looks, and verbalizes at the same time. There is no doubt to whom she is speaking and where she wants her to look

Figure 4.2 Social Engagement Behaviors: Use of Eye Contact

ASD



Boy, wanting to leave the park,
looks at the gate and cries instead
of looking at his mother and saying
“open”

ASD



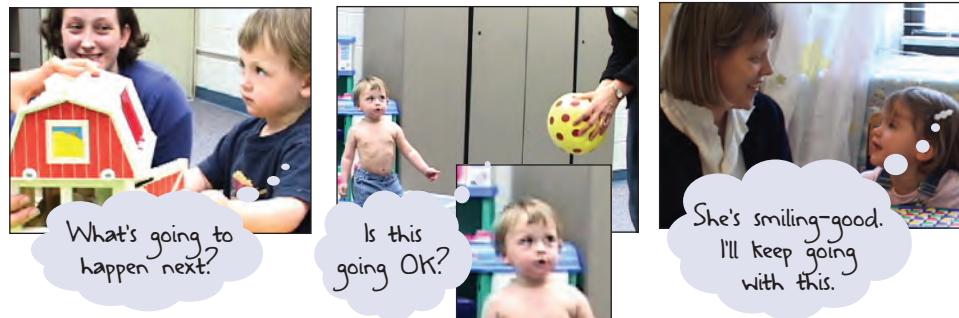
Girl takes her mother’s hand and places it on the mouse without looking at her
instead of verbalizing her request and making eye contact

Figure 4.2 Social Engagement Behaviors: Use of Eye Contact cont.

Contexts for observing effective use of eye contact:

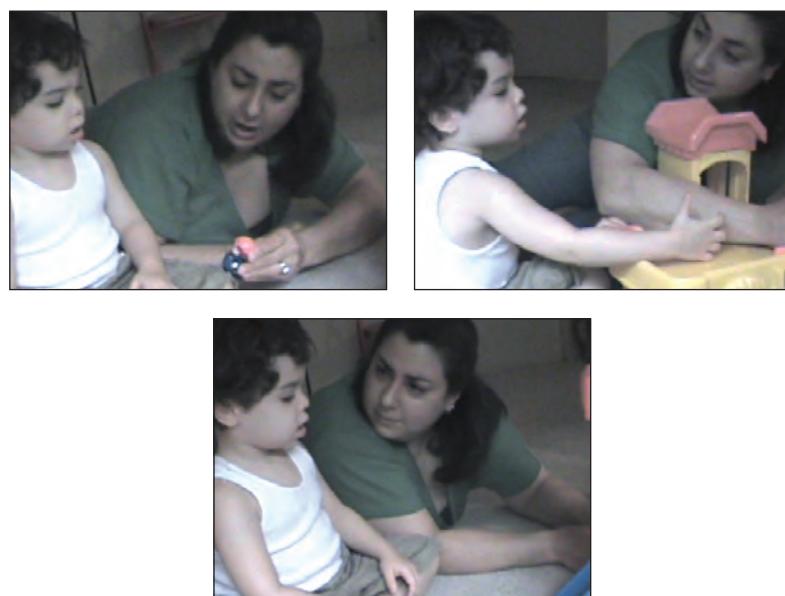
(2) Monitors eyes and faces for social information

Typically developing



Watches other's face for social and communication cues

ASD



Does not monitor faces and eyes

Figure 4.2 Social Engagement Behaviors: Use of Eye Contact cont.

Contexts for observing effective use of eye contact:
(3) Follows gaze or point of communication partner
Typically developing



Follows gaze or point

ASD



Does not follow point

Figure 4.2 Social Engagement Behaviors: Use of Eye Contact cont.

Contexts for observing effective use of eye contact:

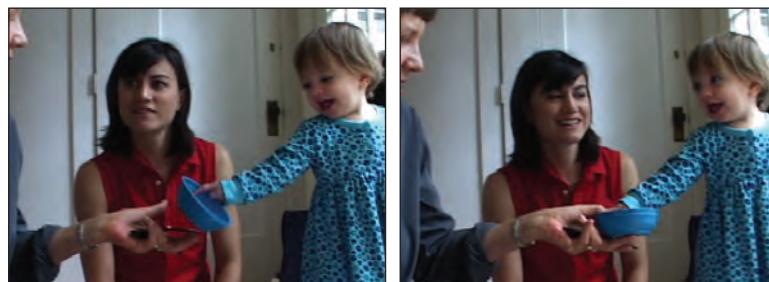
(4) Alternates gaze between object and person

Typically developing



Boy's use of eye contact shows that he intends for the adult to be involved in what he is doing in his play

Typically developing



By looking back and forth between the bowl and the adult, girl shows that she expects the adult to take it from her

Figure 4.2 Social Engagement Behaviors: Use of Eye Contact cont.

Learning to Observe

When assessing how a child is doing with eye contact, it is important to observe how the child is using eye contact across a number of contexts. Monitoring faces is as important a social behavior as eye-to-eye gaze, as is gaze shifting in specific situations.

As can be seen, then, understanding whether a child is using eye contact appropriately needs to be appraised from specific interactional contexts. Young children with ASD can show a lot of variation in eye-contact