

# Play and the Child With Autism Spectrum Disorder: From Possibilities to Practice

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*In this article, the author (a) examines the nature of play as it pertains to children with autism spectrum disorder and (b) analyzes the theories surrounding play deficit explanations in this population of children. Possibilities for practice are discussed in terms of behavioral and developmental approaches to play. An argument is made in favor of developmental play therapy for children who have autism spectrum disorder. Support for developmental approaches is shaped by a definition of play that embraces a child-directed model.*

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Play is a complex phenomenon that occurs naturally for most children. They move through the various stages of play development and are able to add complexity, imagination, and creativity to their thought processes and actions. However, for many children with autism spectrum disorder, the various stages of play never truly develop or they occur in a fragmented fashion. Approximately 75% of children with autism spectrum disorder also have an intellectual disability marked by significant pragmatic communication delays and social impairments (Starr, Foy, & Cramer, 2001). Difficulties in motor planning, expressive and receptive communication, imitation, and fine and gross motor movements are just some of the many obstacles they encounter during play. Autism spectrum disorder has been identified throughout the world in families of all racial, ethnic, and social backgrounds.

More specifically, autism spectrum disorder is a severe, lifelong, pervasive developmental disorder, identifiable by deficits in imitation, gesturing, observational learning, joint attention, symbolic play, and understanding the expression of emotion (Soucy, 1997). The following associated features are often present: variability of intellectual functioning; uneven developmental profile; unusual perceptual responses; aggressive or self-injurious behavior; restricted, repetitive, and stereotyped patterns of behavior; preoccupations with a restricted range of interests, obsessive routines and rituals; repetitive motor mannerisms; distress over changes in the environment; odd responses to sensory stimuli; and difficulties in sleeping, toileting, and eating (Soucy, 1997). The degree of impairment, the continuum of symptoms, and the extent of ability differ significantly from child to child. Signs of the disorder may vary within the same individual across time.

Because children with autism spectrum disorder generally exhibit many social,

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emotional, and cognitive difficulties, areas essential to success in the home, school, and community environment, it is no surprise that their play experiences will be compromised. Wolfberg and Schuler (1993a) note that “qualitative impairments in reciprocal social interaction and symbolic play are hallmarks of autism spectrum disorder” (p. 3). These children have difficulty initiating and sustaining their play and typically display delayed patterns of social interaction. One of the most visible signs of autism spectrum disorder is the inability to relate to others. Understanding subtle emotional cues and facial expressions can be particularly challenging for these youngsters.

For children with autism spectrum disorder, social withdrawal includes “minimal eye contact and active avoidance of social contact” and has also been described as “not having the ability to make choices, and often engaging in repetitive and self-stimulatory behavior” (Schleien, 1990, p. 318). Furthermore, the capacity for intersubjectivity—that is, the ability to acquire and manage representation of self and other through interactive social experiences—is widely regarded as deficient (Toomey & Adams, 1995). With extensive opportunities for play, the child’s awareness of other people’s mental states and intentions may be enhanced.

This article includes a definition of play that is consistent with and supportive of developmental approaches to play, a discussion of competing theories that explicate play deficits in children with autism spectrum disorder, and a review of the developmental and behavioral approaches to play for children with autism spectrum disorder. In addition, the nature of play in children with autism raises many questions, including the following: Is the child with autism spectrum disorder showing a deficit in play or is he or she simply rejecting play? When taught to play, how do we know whether he or she is later exhibiting deferred imitation or spontaneous play? If a child with autism spectrum disorder can produce play only when directed by the adult, do we deem them as competent players or performance players? These questions are discussed throughout the article and are addressed within the context of play deficit explanations in autism spectrum disorder.

## **EMBRACING A DEFINITION OF PLAY**

Many accepted definitions of play would otherwise fail to recognize that children with autism spectrum disorder demonstrate any play behaviors whatsoever. The descriptions of play put forth by Garvey (1977), Rubin, Fein, and Vandenberg (1983), and Smith and Vollstedt (1985) are used in this article as a working definition of play. They propose that play must have the following characteristics: be pleasurable and enjoyable, have no goal imposed from the outside, be spontaneous, be voluntary and intrinsically motivating, involve some active engagement on the part of the player, attend to the means over the end production of the action or activity, be flexible and changing, and must have a nonliteral orientation. However, if the working definition of play espoused by Garvey (1977) is applied to children with autism spectrum disorder, then it could be argued that many of the more structured, behaviorally based play interventions are far too adult-directed, goal-oriented, and involuntary to be deemed true play. Furthermore, because many of these behavioral approaches involve the adult selecting the toys, materials,

setting, and activity, it is difficult to ascertain whether the play is intrinsically motivating for the child with autism spectrum disorder or whether the play is not developing because the child is lacking motivation to engage with items chosen by someone else. To understand the intricacies of play as they relate to children on the autism spectrum, a careful review and analysis of the current explanations for play deficits in this population must be undertaken.

## **PLAY DEFICIT EXPLANATIONS IN AUTISM SPECTRUM DISORDER**

There has been much debate in the literature concerning the causes of play deficits in children with autism spectrum disorder. Various models attempt to explain the play deficits, and numerous experimental studies attempt to rule out some explanations in favor of others. In the next section, I outline the three prevalent discourses: the metarepresentational hypothesis (also known as theory of mind), the generativity hypothesis (also known as executive function), and central coherence theory.

### **Metarepresentational Hypothesis**

Theory of mind suggests that children with autism spectrum disorder are unable to perceive or understand the thoughts, feelings, or intentions of others (National Research Council, 2001). In other words, these children lack a theory of mind and are unable to infer the mental states of others (also known as mindblindness). As a result of this gap, children with autism spectrum disorder have difficulty with metarepresentation, which is the process of detaching a representation from its seemingly fixed characteristics. For example, many children with autism spectrum disorder will find it puzzling when a banana (which their mental representation refers to a curvy yellow fruit) is used as a telephone during play (National Research Council, 2001). Research on theory of mind has demonstrated that children on the spectrum have problems understanding knowledge, empathy, deception, humor and teasing, language, and belief/false belief (Brown & Whiten, 2000). These difficulties are linked to later problems, such as impaired joint attention, social understanding, and reciprocal communication—all fundamental to peer interactive play.

A study by Leslie (1987) demonstrated that pretend play involves a more complex representational stance. The child needs to simultaneously hold two mental representations in mind: primary or veridical representation and newly assigned pretend identity. Leslie found that children with autism had difficulties decoupling representations from real-world roles and assigned new pretend identities. The children could not represent the pretend world alongside the real world, which parallels the cognitive processes involved in theory of mind tasks. In Baron-Cohen's (1987) study, children with autism produced much less symbolic play than comparison groups but no differences in functional play. This suggests that symbolic play deficits in autism reflect an impairment in metarepresentation. According

to Steele, Joseph, and Tager-Flusberg (2003), the theory of mind hypothesis is compelling as it explains important aspects of the core social, language, and imaginative impairments that characterize the disorder. Furthermore, it has generated research on the social aspects of autism spectrum disorder, including gaps in joint attention, communication, imitation, and pretend play (Charman & Baron-Cohen, 1997).

For children with autism spectrum disorder, the frequency of spontaneous pretend play is less than would be expected given the child's mental age. Given that theory of mind is the capacity to understand another's mental state and predict behavior based on an appreciation of that mental state, Rutherford and Rogers (2003) argue that it is the most concise explanation offered for the deficit in pretend play exhibited by many children with autism spectrum disorder. This includes volitional (wanting something to occur), perceptual (seeing or hearing something), and epistemic mental states (thinking, knowing, or believing).

Pretend play provides early evidence of a developing theory of mind based on metarepresentations. For example, pretend play requires the child who is using a banana as a telephone to uncouple the primary representation (the banana) from its pretend representation (a telephone). In pretend play, a child must simultaneously represent a play sequence and knowledge that the play is not real (Morgan, Maybery, & Durkin, 2003). This model asserts that because a theory of mind is either absent or atypical in children with autism spectrum disorder, their pretend play will also be lacking or unusual. According to Rutherford and Rogers (2003), children with higher theory of mind scores have a more active fantasy life and are more likely to create imaginary friends.

### **Generativity Hypothesis**

A second theory that explains the gaps in autism spectrum disorder focuses on executive function, that is, forward planning and cognitive flexibility (National Research Council, 2001). C. Hughes and Russell (1993) describe executive function as coordination of attention, planning of activity, inhibition of inappropriate behaviors, and changes in response. McEvoy, Rogers, and Pennington (1993) found a relationship between a deficit in executive function and deficits in joint attention and social interaction in children with autism, which has implications for children's ability to play. Moreover, Liss et al. (2001) note that impaired executive functioning is a commonly associated feature of autism; however, it is not universal in autism but might cause autistic behaviors or deficits in adaptive functioning. These gaps are quite evident when the child with autism spectrum disorder perseverates on a thought, object, or action and lacks the use of strategies to move beyond the perseveration. The absence of imaginative activity (symbolic play) is one of the manifestations of autism spectrum disorder and is a diagnostic criterion in the *Diagnostic and Statistical Manual of Mental Disorders* (Jarrold, 1997).

Lewis and Boucher (1988) designed an experiment looking at performance versus competence in symbolic play. The experimenters expected autism-specific problems with play in the spontaneous condition, but there was no difference in the use of substitute or imaginary objects in the elicited condition from the spontaneous

condition. This suggests that children with autism did not have a problem with the representational aspects of play but with the generation of play ideas. This study of symbolic play demonstrated that children with autism could form and manipulate symbols associated with play acts when the symbol was suggested by another. They could represent absent objects in play, assign new identities to existing objects, and ignore the salience of the object's true identity while representing a different identity. These findings of preserved function and the competence–performance contrast challenge Leslie's metarepresentational account of the symbolic play problem in autism. If a metarepresentational (theory of mind) hypothesis were true, the children should not have been able to produce any symbolic acts, even if elicited by the adult. There is an improved ability of children with autism to carry out pretend play when scaffolding is provided by an adult or competent peer.

The second challenge to the metarepresentational hypothesis comes from the evidence yielded in studies that show impaired object and functional play. In spontaneous play conditions, young children with autism with low verbal mental ages produce fewer functional play acts, especially with dolls, and fewer sequences than a comparison group of children with developmental delays. Children with autism also spend equivalent amounts of time playing in immature types of play as well as mature types of play, whereas comparison children spend the majority of their play time in more mature play. These differences are not well accounted for by the metarepresentational model, which asserts that there are no variations in nonsymbolic play between children with autism spectrum disorder and their typically developing peers. An impaired generativity hypothesis predicts that children with autism will be impaired in producing both functional and pretend play in situations in which they must generate their own ideas for play, but not in situations in which ideas for play are supplied to them, for example, by, provision of play instructions. Conversely, the metarepresentational deficit hypothesis predicts that children with autism will show selective impairments of symbolic, but not functional, play in both types of play situations.

Lewis and Boucher (1995) also tested generativity by examining the number of different ideas a child could generate in a specific time period. They found autism-specific differences in the generativity task but not in the elicited play condition. The generativity deficit occurred in many areas of functioning (i.e., word fluency and free recall). Their findings reveal that children with autism spectrum disorder have the ability to engage in pretend play, but not spontaneously. They have problems generating ideas for pretend play, rather than the mechanics involved in pretense. According to proponents of the generativity hypothesis, pretend play need not require the ability to metarepresent, which involves simultaneously representing a play sequence and knowledge that the play is not real (Jarrold, Boucher, & Smith, 1994). Furthermore, research has shown that the production of structured, elicited, or instructed pretence may not be impaired in autism (Lewis & Boucher, 1995) and that the ability to comprehend pretend play acts might also be intact (Kavanaugh & Harris, 1994).

However, there are many methodological issues to consider when analyzing studies that favor a generativity hypothesis. For example, there is a possible confounding of imitation and pretend play. Perhaps children with autism spectrum disorder are simply displaying deferred imitation rather than spontaneous pretend play. Second, the children with autism spectrum disorder may have learned to play

by modeling, watching the adult and appropriate scaffolding. Third, the investigators did not consider the ambiguity that occurs between competence and performance when evaluating the play of children with autism spectrum disorder. For example, were the children refusing to play on a given day because they were refusing the play partner, activity, or materials? Or, if the children were playing, how do we evaluate their competence? Do we consider it pretend play if they can imitate the pretend play acts generated by the adult or is it simply instructed play? Does the child truly understand that one object is standing in for another or that some absent object or property is present? When the child was presented with a number of items, and asked, "Show me how the doll would wear a hat," did the child choose a bowl because it was the most hat-like prop? How much of this accuracy is intelligent guessing? How do we assess the quality or novelty of the produced pretend act? When children with autism spectrum disorder were asked to produce novel play acts with a range of objects, they produced pretend actions, but at a slower rate than matched controls. If we revisit the original definition of play, the generativity hypothesis falls short of what is considered play because the children are not selecting the materials and they are being instructed on what to do with them.

Proponents of the executive functioning explanation are indirectly implying that the diagnostic criteria for autism spectrum disorder are questionable because lack of pretend play is one of the identifying characteristics of the disorder. They would suggest that the deficit in spontaneous pretending seen in autism spectrum disorder is not the result of a global inability to pretend, as suggested by proponents of a metarepresentational account (theory of mind) (Jarrold et al., 1994). Instead, they prefer a conative hypothesis, which interprets the lack of make-believe among children with autism spectrum disorder as a motivational issue given that these children will often perform well when specific intellectual abilities are tested, even though they will not display these abilities spontaneously in natural settings (F. P. Hughes, 1998). The gaps inherent in the executive function model can be described by a lack of executive control, deficits in initiation, and particular difficulty generating the ideas required for pretence. Rutherford and Rogers (2003) state that pretend play,

involves executive function since it requires disengagement from the real world (inhibition), creation of new pretend scenarios (generativity), and shifting attention from one interpretation of toys to another (set shifting). Therefore, gaps in pretend play (particularly with initiation or generation of spontaneous pretend play acts) could be related to executive dysfunction. (p. 291)

As a result, the executive function theory can account for the competence–performance distinction in pretend play.

Although Harris (1993) agrees with the executive function hypothesis, he presents different reasons for the gaps in pretend play. He asserts that pretend play typically requires a child to set aside familiar schemas that are evoked by external objects and guide their actions with reference to an internal plan. This shift in the locus of executive control would be impaired in children with autism spectrum disorder if they suffered from executive dysfunction. Therefore, the children would be unable to impose their own pretend schemas on objects with salient functions, giving rise to impaired production of spontaneous pretend play (Harris, 1993). This explanation implies that children on the spectrum have difficulty overriding the

knowledge of an object's real function in order to use that object in an alternative nonliteral way (e.g., a child may have difficulty using a hat as a mountain as part of play theme). The assumption can be made that children may find it easier to use an object in a nonliteral manner if that object does not have a clear function itself (e.g., a child may find it easier to use a pylon as a hat if they do not understand the function of the pylon; Harris, 1993).

### **Central Coherence Theory**

A third area of interest has focused on central coherence theory to explain the core gaps in autism spectrum disorder. This perspective suggests that the core difficulties arise from a basic impairment in observing meaning in whole arrays or contexts (National Research Council, 2001). According to Frith (1989), typically developing children have coherent processing that is implicit and automatic, enabling rapid interpretation of information. In central coherence theory, integrated representations are suggested as the means by which context influences the interpretation of individual elements or events (Morgan et al., 2003). Conversely, children on the autism spectrum demonstrate weak central coherence "or a bias toward local cognitive processing," meaning that they focus on individual pieces of information rather than the global context (Morgan et al., 2003, p. 647). For example, children with autism spectrum disorder often perform better (compared with typically developing children) on tasks such as block design, puzzles, and embedded figures because these tasks favor local processing. This suggests that children with autism spectrum disorder are advantaged by tasks for which information can be processed piecemeal, but they are disadvantaged by tasks that require holistic processing.

Other research has demonstrated that it is more likely that weak central coherence has led to theory of mind deficits rather than vice versa (also known as the linked deficit hypothesis; Jarrold, Butler, Cottington, & Jiminez, 2000). The independent cognitive deficit hypothesis stresses that weak central coherence coexists with a theory of mind deficit in autism spectrum disorder (Morgan et al., 2003). During pretend play, children must be able to integrate different pieces of information (i.e., attributing properties to an object that it does not have), using an object as if it were another object (also known as substitution), and referring to absent objects as if they were present. Because children with autism spectrum disorder have a compromised theory of mind and weak central coherence, it is not surprising that they are often unaware of what to do when presented with an array of objects and directed to play.

## **PLAY INTERVENTIONS FOR CHILDREN WITH AUTISM SPECTRUM DISORDER**

There are a variety of play interventions used with children who have autism spectrum disorder. The next section describes more structured approaches to play that rely heavily on behavioral principles for learning. These include applied

behavior analysis, discrete trial training, pivotal response training, and reciprocal imitation training. Following these behavioral-based interventions are developmental approaches to play intervention that tend to facilitate child-led interactions. These include the developmental, individual-difference, relationship-based model; the integrated play groups model; and the Miller Method.

### **Behavioral Play Interventions**

An analysis of the play interventions that rely on behaviorism could not begin without a subsection dedicated to applied behavior analysis (which is the first topic in this section). Although the early literature on applied behavior analysis as it relates to autism spectrum disorder never included a discussion about play, many therapies and interventions have stemmed from the early principles put forth by O. Ivar Lovaas, the first psychologist to take Skinner's theories of behaviorism and apply them to children with autism spectrum disorder. In behavioral play interventions, the adult plays a pivotal role in ensuring that skills are actually being developed during the play, such as imitation, vocabulary, and compliance. In addition, with behavioral approaches, the definition of play becomes even more obscure, and one questions whether play was the primary goal of the intervention or whether it was simply used as a skill builder.

#### *Applied Behavior Analysis*

Behavioral intervention as a general teaching strategy has proven to be effective for some children with autism spectrum disorder (Stahmer, Ingersoll, & Carter, 2003). Lovaas' (1977) model of structured teaching assumed that the interpersonal difficulties experienced by children on the autism spectrum were the result of cognitive and language impairments; therefore, treatment had to focus on the acquisition of discrete cognitive and language skills in highly organized and structured environments with precise instructional styles (Quill, 1995). Although many successful behavioral interventions have surfaced in the literature (Koegel & Koegel, 1995; Maurice, 1996; Schopler & Mesibov, 1994), many focus on IQ and academic achievements, failing to pay attention to the social and emotional growth of children. The birth of applied behavior analysis (which has its roots in behavior modification) came from the need to extinguish behaviors deemed detrimental to the well-being of the child with autism spectrum disorder and his or her family (Maurice, 1993).

The early behavioral interventions developed by Lovaas (1977) required the child to imitate a word being paired with an object. According to Layton and Watson (1995),

There was little communication going on in this type of language exchange. At best the child was a receiver of the information but was taught only to label specific terms. The child never had the opportunity to learn the necessary communicative exchange to ask someone else to get the car so he could play with it, nor did he or she learn to address someone else socially as a communicative partner. (p. 77)

Lovaas merely addressed vocabulary development and did not consider the social intentionality aspects of language, such as greeting, protesting, requesting, and negating, as well as commenting. Quill (1995) critiques the behavioral philosophy, which “disregards neurological problems and makes the child look you in the eye, stop the odd gestures, and hide every tell-tale symptom” (p. 63). The criticisms mentioned above coupled with the need to teach children social skills led to the development of play interventions that were grounded in principles of applied behavior analysis.

### *Discrete Trial Training*

Discrete trial training, which was developed in the 1960s, targeted a set of skills that was anticipated to increase the range of behavioral repertoires needed to play with objects. In discrete trial training, complex skills are broken down into small chunks or subskills that are taught via numerous teaching trials. The environment is highly structured, and the teaching is quite regimented and scripted. The therapist controls the session by preselecting the materials to be used and by providing extensive modeling for the desired response (Stahmer et al., 2003). Systematic reinforcers are used when the child produces the targeted response. The child’s acquisition of skills is facilitated by the use of prompting and shaping techniques. Children on the spectrum with high needs are usually introduced to one-step play responses (such as rolling a ball or pushing a pop-up toy). During extended play sequences, the teacher or therapist breaks down the play task into small steps. For example, putting the baby doll to bed might include “putting a pillow in the cradle, putting the doll into the bed, saying goodnight baby, and kissing the doll goodnight” (Stahmer et al., 2003, p. 402). The steps are taught separately, and forward or backward chaining is used to link the steps in the proper sequence.

### *Pivotal Response Training*

Pivotal response training (PRT) has gained popularity over the years because it can be used in multiple settings (e.g., home, school, community) and can be directed by various individuals working or living with the child with autism spectrum disorder (parent, teacher, therapist, siblings, etc.). PRT works to increase motivation by including components such as child choice, turn-taking, reinforcing attempts, and interspersing maintenance tasks, and has been used to target language skills, play skills, and social behaviors in children with autism (Stahmer et al., 2003). This method, often viewed as the most naturalistic among the behavioral approaches, has enough structure to help children learn simple to complex play skills, while still being flexible enough to allow children to remain creative. PRT has been shown to be effective in teaching children who are developmentally ready to learn symbolic and sociodramatic play skills with another adult (Stahmer, 1995). The following vignette is an example of PRT:

Vicky and her daughter Sheila are at the park with their family. Vicky shows Sheila the box of sporting equipment and asks her, “What do you want?” Sheila points to a blue ball and

takes it out of the box. Then she starts to roll the ball to Vicky. Vicky stops her and says, "Roll." Sheila says, "Ro." "Good girl, Sheila!" Vicky says, and lets her roll the ball. Vicky catches the ball and says, "Now it's my turn." Vicky rolls the ball to Sheila. (Koegel et al., 1989)

This approach bridged the gap between highly structured discrete trial training (which uses drill-oriented teaching) and very naturalistic methods such as incidental teaching (which is discussed later). It is important to note that pivotal response training in symbolic play skills does not carry over into peer play situations (Yang, Wolfberg, Wu, & Hwu, 2003).

### *Reciprocal Imitation Training*

Reciprocal imitation training is a variation of PRT and was developed to teach spontaneous imitation skills to young children with autism spectrum disorder in a play environment. This procedure, as described by Stahmer et al. (2003), involves contingent imitation. Reciprocal imitation training includes imitation, whereby the therapist or teacher imitates actions and vocalizations produced by the child; linguistic mapping, whereby the therapist or teacher labels the actions that he or she and the child are performing; and pivotal response training strategies such as child choice of stimuli, direct reinforcement, reinforcement of reasonable, purposeful attempts at correct responding, and direct prompting of the correct response (Stahmer et al., 2003). Ingersoll (2003) suggests that very young children with autism spectrum disorder learn imitative pretend play with an adult using this procedure and that this play generalizes to novel settings, therapists, children, and materials.

### **Developmental Play Interventions**

Interventions that embrace a developmental model incorporate experience-based, playful, and enjoyable interactions with the promise of enhancing shared attention, pretend play, initiations and responses, and communication (Bernard-Opitz, Ing, & Kong, 2004). Researchers have noted that the developmental level interacts with the teaching method in its impact on clinical outcomes (Kok, Kong, & Bernard-Opitz, 2002). Although traditional behavioral teaching methods (such as discrete trial training) have demonstrated some benefit to the play skill development of children with autism spectrum disorder, the research is sparse regarding the impact of these methods on subgroups of children with autism spectrum disorder (Kok et al., 2002). For example, the majority of behavioral research studies exclude children on the autism spectrum who are nonverbal. Furthermore, the behavioral approaches regard play as a skill to be acquired, which contradicts the definition of play mentioned earlier—namely that play is something pleasurable, enjoyable, has no goal imposed from the outside, is spontaneous and voluntary, and involves some active engagement on the part of the player.

### *The Developmental, Individual-Difference, Relationship-Based Model*

Wieder and Greenspan (2003) have constructed the developmental, individual-difference, relationship-based (DIR) model for examining the functional develop-

mental capacities of children in the context of their biological make-up, their family relationships, and interactive patterns. This approach is unique in that it takes into account the individual profiles of children and gives serious consideration to their sensory profiles. The *D* represents the developmental capacities that emerge during the child's early years and include shared attention and engagement, back and forth interactions, problem solving, creating play ideas, and abstract thinking. The *I* represents individual differences in sensory motor processing and regulation that need to be taken into account and treated to support development (e.g., auditory or visual spatial processing gaps). The *R* represents the relationship and environment necessary to provide the interactions through which the development of emotional, social, and cognitive capacities are nurtured, practiced, and enhanced (Wieder & Greenspan, 2003). For many children on the autism spectrum, Wieder and Greenspan (2003) believe that an emotional milestone is often being mastered during play. "This could mean [for example] acquiring the ability to feel calm and focused. It's hard to start working on so basic a skill when your child is already two, three, or even older. It is tempting to work instead on language skills, color recognition, or some other age appropriate behavior; but such an approach is not effective" (p. 425).

During spontaneous floor-time play sessions, adults or children follow the child's lead by using affectively toned interactions, gestures, and words coupled with exaggerated affect to move the child up the symbolic ladder. The adult or child must establish a foundation of shared attention, engagement, simple and complex gestures, and problem solving to usher the child into the world of ideas and abstract thinking (Wieder & Greenspan, 2003). The key elements of floor time are broken down into stages (see the Appendix) of which Stages 5 and 6 demonstrate the importance of pretend and symbolic play to the development of the whole child with autism spectrum disorder.

Greenspan and Wieder (1998) offer suggestions that include staying patient and relaxed, empathizing with the child's emotional tone, being aware of your own feelings, monitoring your tone of voice and gestures, following the child's lead, interacting, and tuning in to the child's multiple developmental levels. One of the most important guidelines, following the child's lead, requires the adult or child to look for ways to turn many child actions during play into interactions. This involves treating behavior as purposeful and as an opportunity to build two-way communication. In their direct experience working with children who have autism spectrum disorder, Greenspan and Wieder report that early intervention coupled with daily opportunities for symbolic play help the child move up the developmental ladder. Through idea-laden play and expanding use of words, the child begins to learn that symbols stand for things (i.e., empty box in which he bathes his doll is a symbol for a bathtub; therefore, the word *bathe* is a symbol for his activity in the tub).

### *The Integrated Play Groups Model*

A second developmental approach to teaching play skills to children with autism spectrum disorders was developed by Wolfberg and Schuler (1993b). They note that qualitative impairments in reciprocal social interaction and symbolic play

are hallmarks of autism spectrum disorder. Because play is not easily defined in operational terms and ceases to be play when it is externally imposed, it comes as no surprise that many teachers, parents, and children have difficulty teaching play skills to children on the autism spectrum (p. 468). According to Wolfberg and Schuler (1993b),

The very nature of play, characterized as being voluntary, intrinsically motivated, spontaneous, and free from adult imposed rules defies the type of highly structured step-by-step teaching programs which heavily dominated the early phases of the social skills training literature. Play-related interventions for children with autism are often either highly structured or, led by the assumption that play is what children do when left to their own devices. (p. 468)

The danger in relying on overly structured behavioral play approaches is that the focus is placed on child responses rather than child initiations (Wolfberg & Schuler, 1993b). The integrated play groups model incorporates a multitude of variables known to affect play and social interaction. This approach provides a support system for peer play whereby play development is fostered by physically arranging the environment to bring about the most competent forms of play and by guiding participation within these environments so as to maximize child initiations (Wolfberg & Schuler, 1993b). With the integrated play groups model, children are able to maximize their developmental potential (within their zone of proximal development) with the support and challenge of experienced social partners through guided participation in culturally valued play activity (Yang et al., 2003).

### *The Miller Method*

Miller and Miller (1989) present a cognitive developmental approach toward play for children with autism spectrum disorder. This approach provides some structure within a child-centered approach to play. Miller and Miller note, “for most of the children on the spectrum, play with another—like other forms of interaction—must be carefully structured before the child can learn to initiate activity independently” (p. 373). Miller and Miller propose a variety of large-group interactions, such as swinging on the large ball (each child has a turn pushing or being pushed) and using broken objects to encourage group interaction (children must work together to fix a broken ping pong table to begin a game). According to Miller and Miller, “before a child is asked to take turns carrying a passenger on his or her tricycle or pulling a child in a wagon, the teacher must have already determined that this skill is in each child’s repertoire” (p. 377). This reciprocal pattern can be introduced during dramatic play (dress-up) where children can comb each other’s hair or put hats, necklaces, and bracelets on each other. The adult turns over control of these tasks to the children as soon as they begin to perform the activity independently and successfully.

## **COMPARING BEHAVIORAL AND DEVELOPMENTAL PLAY INTERVENTIONS FOR CHILDREN WITH AUTISM SPECTRUM DISORDER**

There are key differences between the behavioral and developmental approaches to teaching play skills to children with autism spectrum disorder. Behav-

ioral approaches tend to be more structured, task-based, adult-directed, provide less flexibility when it comes to the child's play choices, and use mass practice of discrete trials. Conversely, developmental approaches tend to be more child-directed and choice-based, using principles of incidental teaching and developmentally appropriate practices based on the child's unique profile. A study by Kok et al. (2002) compared the effects of structured versus facilitated play on preschoolers with autism. Their results indicated that children with a higher mental age showed more appropriate play and communication under the facilitated play approach. There were more communicative responses under the structured play approach, but more children had communicative initiations under the facilitated play scenario. In revisiting the definition of play, it is evident that the facilitative approach embraces the true essence of what play consists of—spontaneous, voluntary, intrinsically motivating, and attention to the means over the end production. Should we be concerned with how often children produce communicative responses (as in the structured play approach) or with their ability to initiate play with peers? A greater emphasis should be placed on the latter. How children play is a more important question to consider rather than what they produce at the end of their play. Kok et al. (2002) argue for a continuum of intervention approaches that combine traditional teaching methods and play with the use of incidental teaching techniques, multiple exemplars, and cues.

One of the greatest challenges appears to be which play approach to use with which type of child on the autism spectrum. Because the optimum window for learning occurs in the early years, many parents and professionals feel the need to follow one approach for a length of time to obtain favorable results while excluding many other treatment approaches to play. However, as noted in the literature, some children do not respond to specific play approaches; therefore, many months can be consumed with specific play training that does not yield any benefits for the child. Furthermore, the various play approaches generate different results among children with autism spectrum disorder because of the variability among the children and because the focus may be either skill-based (i.e., to elicit eye contact with a peer) or more broadly based (i.e., to increase the number of spontaneous initiations during cooperative play). Given that children with autism spectrum disorder differ considerably in their cognitive and social abilities, there is a need to begin plotting which child characteristics seem to be more compatible with specific play approaches. Further investigation and research are needed to define the subtypes of autism spectrum disorder to select the appropriate play approach(es) for each child.

## SUMMARY

The benefits of play on the development of cognitive, social–emotional, communication, language, and sensorimotor domains are well recognized in the literature. However, for children with autism spectrum disorder, their education programs often comprise strict medical and therapeutic interventions to compensate for deficits. The focus is on skill development, and play is used as a reward after the child has worked through various program areas (Quill, 1995). As a result, play is often excluded from the programming for children with autism spectrum disorder. According to Anderson, Hinojosa, and Strauch (1987), when play is limited by

internal (individual) and external (environmental) factors, the ability to learn and develop the skills and attitudes associated with play is also limited.

A careful review of the definition of play reveals that choice, freedom, and child-driven intentions are necessary components. This definition easily lends itself to support developmental models of play in which the adult is viewed as a facilitator rather than on models in which the focus is on predetermined structured activities or on a concentrated subset of skills. Although one can easily recognize the importance of teaching skills such as imitation, sorting and matching, and joint attention during play activities, these should occur naturally through incidental play opportunities and should not be regarded as isolated skills that can be taught only by the adult or therapist. Behavioral approaches tend to follow a medical model that asserts that children are lacking or deficient in specific skills that need to be taught explicitly by the adult. Conversely, developmental approaches begin with the child's strengths and areas of interest and capitalize on these by expanding the play experiences.

Baron-Cohen's (1987) theory of mind explanation is convincing when considering the play gaps of children on the autism spectrum. The argument is made that play is challenging for these children because of the social difficulties associated with this diagnosis. Furthermore, the lack of spontaneity in pretend play reveals a failure to reflect on one's own imagination—also known as the inability to mind read. The relationship between pretend play and language development would be viewed differently depending on whether one ascribes to the metarepresentational or generativity hypothesis for the pretend play problem in children with autism spectrum disorder. Because the metarepresentational/theory of mind explanation for symbolic play deficits is most convincing, an interrelationship between language and play can be made given that one main purpose of language is sharing of mental states and learning language requires awareness of the contents of the speaker's mind. Conversely, support for the generativity hypothesis would not necessarily predict a relationship between language and symbolic play.

Play is considered valuable because it educates and develops the cognitive capacities of human youth. However, many of the studies on play and autism fail to embrace Sutton-Smith's (1997) second rhetoric of play—play as rhetoric of the self where play exists to evolve the self by providing intrinsic experiences of pleasure, relaxation, and escape, either through play itself or through the aesthetic satisfaction of play performances. Researchers in the field of autism spectrum disorder have not paid enough attention to the solitary play of children with autism spectrum disorder. Therefore, in accepting this second rhetoric provided by Sutton-Smith, many children with autism spectrum disorder are actually engaging in play when they are immersed in what psychologists deem stereotypic or perseverative behaviors such as rocking, spinning wheels, flicking light switches, and so forth. These are forms of solitary play for the child with autism spectrum disorder because they provide escape or relaxation from a sometimes overwhelming environment of sights, sounds, smells, and tastes.

## CONCLUSION

Many children with autism spectrum disorder begin to develop learned helplessness as a result of their inability to communicate and control their environment

(Lane & Mistrett, 2002). When children with autism spectrum disorder feel incompetent, they begin to learn that they cannot do or cannot achieve. This learned helplessness further exacerbates the problem given that many children begin to develop low self-esteem and adults regard them with apathy. Children with autism spectrum disorder experience a battle between their internal drive to play and their inability to access play. For children with autism spectrum disorder, it is all the more important to provide ample opportunities for play, so that they can begin to acquire the skills that will help them in other domains, such as communication (expressive/receptive), reciprocity (turn-taking), and sensory processing. Because much of their play involves manipulating objects, parents, teachers, siblings, and friends can begin reciprocal interactions with objects that are of salience to the child.

Through play, children learn about the world around them, test ideas, ask questions, and come up with answers. Furthermore, play is a powerful way to reach a child with autism spectrum disorder, and the key to success is balancing a developmental approach to play with some structure and some open-endedness. Children with autism spectrum disorder can begin to develop positive play experiences if we take into account their level of development and if appropriate social contexts are made available to them.

Children on the autism spectrum vary considerably in their ability to play, and some will demonstrate sophisticated play skills at specific play stages. The wide disparity among children makes program planning difficult, which may result in a universal method of instruction for all children in the classroom. A one-size-fits-all approach is detrimental to a child's learning, and appealing to developmental models allows us to be more adept at considering the unique profiles of children on the autism spectrum. One of the more important facets of play is that a socially and mutually engaging component is present. Developmental approaches, such as the integrated play groups model (Wolfberg and Schuler, 1993b), easily lend themselves to promoting peer play in inclusive environments (as opposed to behavioral approaches, which take place in clinical settings with trained therapists). The overall goal is to ensure that children on the autism spectrum generalize the many skills they learn during play experiences to a variety of contexts and people. If we begin to make play an everyday component of a child's education and home life, then we are one step closer to moving the child up the developmental ladder.

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(Appendix follows)

## Appendix

### Stages of the DIR Intervention Model

*Stage 1: Self-regulation and shared attention (interest in the world)* focuses on harnessing all senses and motor capacities to help the child stay calm and regulated in order to draw him/her into shared attention.

*Stage 2: Engagement and relating* involves encouraging the child to engage positively, as seen when the child brightens, smiles, references (looks), moves, vocalizes, or reaches. The idea is to encourage growth of intimacy.

*Stage 3: Two-way intentional communication* entails following the child's lead and challenging him or her to communicate through exchanges of gestures and emotional signals about his or her interests, needs, or intentions. Affect cues (signals) are used to entice the child and generate purposeful social gestures.

*Stage 4: Purposeful complex problem-solving communication* is when the child and adult work up to a continuous flow of 30 or more back and forth circles of communication.

*Stage 5: Creating and elaborating symbols (ideas)* entails encouraging the child to relate to sensations, gestures, and behaviors, and to the world of ideas that can be shared in pretend play.

*Stage 6: Building bridges between symbols (ideas)* involves challenging the child to connect his or her ideas by seeking his or her opinion, enjoying his or her debates, and negotiating for things he or she wants using logical reasons.