Predicting communication outcomes in children with autism

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There is great heterogeneity when it comes to outcomes in autism spectrum disorder (ASD). It hasn’t always been easy to predict which children will become better communicators and which skills are pivotal for optimal communication development. But recently, researchers have been trying to determine which skills in early childhood are connected to better communication abilities later on. By pinpointing these key skills, intervention can target these areas to give children the best possible kick start to their communication development.

Study: what early behaviours predict later communication and intellectual functioning?

While some research has examined which skills in preschoolers with ASD predict outcomes in later childhood, a paucity of research remained regarding very early predictive skills in infants with ASD. This was the impetus for a 2012 study by Poon, Watson, Baranek, & Poe.

Poon et al (2012) studied 29 children with ASD who were between 3 to 7 years old at the time of the study. Poon et al analyzed home videos of these children when they were between 9-12 months and 15-18 months of age. They looked at three skills that emerge very early in typical development that might be linked to later communication and intellectual functioning:

- **Joint attention** – by 12 months of age, most typically-developing infants can share attention via alternating gaze, following another’s eye gaze or point, and directing another’s attention
- **Imitation** – by 9 months of age, babies can imitate actions on objects
- **Object play** – Poon, Watson, Baranek & Poe define object play as “playing or interacting with an object, such as a toy” (2013, p. 1). Functional (pre-symbolic)
play emerges during the first year in typical development, and symbolic play emerges at approximately 12 months.

(Toth et al, 2006)

By studying the early home videos of these children, Poon et al (2012) were able to note these social communication skills early in development in naturally-occurring contexts. During two 5-minute segments of home video footage (two segments at ages 9-12 months and two at ages 15-18 months), they coded both the frequency of occurrence and developmental age ratings of these three behaviours. They also assessed the children’s communication and intellectual functioning when they entered the study (between age 3-7 years). Parents were asked at what age their child began walking to gauge the child’s general developmental maturation.

Results

When the authors looked for associations between the children's functioning early in life and their later abilities, they found that:

- **children who demonstrated more (higher mean levels of) joint attention, imitation, and object play as infants had higher communication and IQ scores between ages 3 – 7 years**
- **children who walked earlier had higher language and cognitive skills between ages 3 – 7- years**
- **the children demonstrated little growth in joint attention, imitation, or object play between the two time points examined (9-12 and 15-18 months). Of the three skills, joint attention had the slowest growth. The rate of change of the three skills between the two time points (9-12 months and 15-18 months) was not related to the children’s later communication or intellectual functioning. This surprised the authors, who felt that perhaps this time period was too short to notice stable growth trajectories, or that other factors could mediate outcomes (such as the services the child receives).**

Why might joint attention, imitation, and object play contribute to communication outcomes?

Poon et al (2012) suggest that by 9-12 months, joint attention, imitation, and object play contribute an important role in predicting later outcomes for children with ASD. While they didn’t investigate why these behaviours contribute to later functioning, they hypothesize that:

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• better joint attention allows infants to take advantage of more opportunities to associate spoken words with their referents and learn about communicating while sharing a common focus with another person
• better object play likely results in more opportunities to learn about objects and people’s actions on objects, as well as more opportunities for others to join in the child’s play and talk about his or her interests and actions
• better imitation allows infants to learn conventional play and language skills

What does this mean for our work with young children with ASD?

While typically-developing infants are making huge strides in joint attention, imitation, and object play during the period examined in this study (9-18 months), children with ASD are at a huge disadvantage when it comes to communication development because of their early delays in these three areas. Poon et al (2012) suggest that “imitation, play skills, and joint attention skills are important intervention targets for children with ASD” (p. 1071). In their study of predictive factors in children with ASD at preschool age, Toth et al (2006) also found that these three skills predict later functioning, and that they should be key areas of focus for early intervention in order to promote communicative competence.

Joint attention, imitation and toy play are key components in the More Than Words® Program (Sussman, 2012). In fact, the More Than Words® Program is currently undergoing updates to include even more of an emphasis on these three key skills. Joint attention goals are an integral part of the program. Parents learn ways to draw their child’s attention to items in their everyday environment as well as to encourage children to draw their parents’ attention to items of interest. In terms of imitation, parents learn to imitate their child to get an interaction started, and then to encourage their child to imitate them back (using prompts and cues when necessary). Finally, parents learn to identify their child’s stage of toy play and to encourage either functional or symbolic play actions through modeling and imitation with toys that are interesting to the child.

The importance of imitation and toy play are also highlighted in Hanen’s new Make Play ROCK™ booklets. The second booklet in this series, titled “Take out the Toys: Building Early Toy Play for Children with Autism Spectrum Disorder and Other Social Communication Challenges” (Sussman & Weitzman, 2014) deals specifically with promoting functional toy play by helping children imitate adult models.

With children identified earlier and earlier these days, it is important to understand how and when these pivotal skills emerge in typical development, and how to intervene when very young children with social communication impairments evidence delays in these areas. By targeting these important early predictors, we are stacking the odds in their favour for better communication outcomes.

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References


