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Using free operant preference assessments to select toys for free play between children with autism and siblings

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Abstract

Stimulus properties of toys may impact the type and amount of play observed between children with autism and their playmates. Six children with autism and their siblings participated in an evaluation of toy characteristics on type of play, problem behavior, social initiations, and responses to social initiations. Separate free operant preference assessments were conducted with toys in two categories: sensory stimulating toys and developmentally oriented toys. Highly preferred items and low to moderately preferred items from each category were then introduced into free play observations with children with autism and their sibling. Generally, highly preferred sensory stimulating items were associated with more problem behavior and solitary play while developmentally oriented toys that were moderately preferred produced the most interactive play and the least problem behavior. Implications for sibling-based play interventions are discussed.

Keywords: Preference assessment; Siblings; Autism; Play

Autism is characterized by pervasive deficits in socialization, communication, and restricted and repetitive behavior (American Psychiatric Association, 2000). One hallmark communication impairment is a lack of varied, developmentally appropriate, spontaneous make believe play or social imitative play. The play of children with autism is often limited and is solitary and repetitive when it does occur with a tendency towards intense preoccupation with visual examination of an object or an isolated part of an object (Williams, 2003). Even when matched on mental age, children with autism exhibit less appropriate play, which is also less varied and integrated, than non-affected children (Williams, 2003). Failure to develop appropriate play

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skills can result in children with autism remaining socially isolated and marginalized (Simpson & Myles, 1993).

The development of appropriate play skills offers children with autism several benefits. First, play skills allow children with autism to benefit from play interactions, which are the normative avenue for obtaining the social, emotional, and cultural experiences needed for typical early childhood development (Libby, Powell, Messer, & Jordan, 1997). Second, increases in appropriate play skills are often accompanied by decreases in socially inappropriate behavior such as self-stimulation and tantrums (Eason, White, & Newsom, 1982; Stahmer & Schreibman, 1992). Third, play skills may improve language gains as suggested by infant studies, which indicate that turn-taking games and social interactions about objects facilitate early language acquisition (Bakeman & Adamson, 1984; McArthur & Adamson, 1996; Tomasello & Farrar, 1986; Williams, 2003). Finally, appropriate play skills facilitate integration into mainstream settings and improve interactions with typical peers, which commonly revolve around toys and play situations (Restall & MaGill-Evans, 1994).

Behavioral intervention programs have improved play skills of children with autism by incorporating play activities into social and language instruction (e.g., Charlop-Christy & Carpenter, 2000; Laski, Charlop, & Schreibman, 1988) and by explicitly targeting functional toy play and peer interactions with direct intervention (e.g., Harris & Weiss, 1998; Leaf & McEachin, 1999; Maurice, Green, & Foxx, 2001; Maurice, Green, & Luce, 1996). However, curricula and research studies typically provide little explanation for the selection of specific toys to be used beyond a brief statement of age and gender appropriateness (Leaf & McEachin, 1999; Lovaas, 2003; Maurice et al., 2001). Some curricula (e.g., Leaf & McEachin, 1999; Maurice et al., 1996) suggest analyzing the child's self-stimulatory behavior and incorporating items with similar properties in play (e.g., toys with lights corresponding to visual self-stimulation), but no empirical evidence for this recommendation is provided.

A robust literature on preference assessment has illustrated several beneficial procedures for identifying items that might function effectively as reinforcers when provided contingently on desired behavior (e.g., Carr, Nicolson, & Higbee, 2000; Cohen-Almeida, Graff, & Ahearn, 2000; DeLeon, & Iwata, 1996; Hanley, Iwata, & Lindberg, 1999; Northup, George, Jones, Broussard, & Vollmer, 1996; Roane, Vollmer, Ringdahl, & Marcus, 1998). In general, this literature suggests that highly preferred items are more effective as reinforcers for skill acquisition than low and moderately preferred items (DeLeon & Iwata, 1996; Fisher et al., 1992; Northup et al., 1996; Roane et al., 1998). Additionally, presentation of highly preferred items in a noncontingent arrangement, often referred to as an enriched environment, has proven effective in decreasing certain types of problem behavior. However, preference assessments have not been directly used to select toys for play interventions and the finding that high preference stimulating items produce the best results might not hold true when the target is interactive play with another child.

A free operant preference assessment is a brief (5 min) assessment involving free access to a variety of stimuli (Roane et al., 1998). Several items are placed in the environment and the duration of engagement with each item is recorded as an index of relative preference. Free operant assessments provide a quick, easy evaluation of preference without removal or withholding of preferred items or the presentation of specific selection opportunities that might be perceived as demands. Thus, the likelihood of problem behavior is decreased (Roane et al., 1998) and the chance of inadvertent social reinforcement that could obscure child preference is minimized. Free operant assessments could prove useful in identifying toys to include in dyadic play interventions when the goal is a specific quality or amount of play.