EVALUATING THE SOCIAL BEHAVIOR OF PRESCHOOL CHILDREN WITH AUTISM IN AN INCLUSIVE PLAYGROUND SETTING

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Including children with autism alongside typically developing peers is commonly done in school settings to provide social opportunities and social experiences. However, there is limited research describing the naturally occurring interactions between children with autism and their peers as a result of such placements. We examined the naturally occurring social interactions of 3 students with autism when placed in a playground setting with typically developing peers. Results show that participants rarely engaged in social behavior with peers during inclusive experiences and adult staff rarely facilitated social interactions between children with autism and typically developing peers. This study provides additional evidence that mere exposure to typically developing children is not the mechanism by which students with autism gain meaningful social experiences. Creating inclusive experiences that result in social interactions likely require additional, systematic interventions designed to facilitate those interactions.

Over the past several decades, there has been an increasing trend toward educating students with autism in inclusive settings with typically developing peers (Koegel, Koegel, Frea, & Freedeen, 2001; McGee, Paradis, & Feldman, 1993). The goals of inclusion are multifaceted, but primarily focus on enhancing social experiences and socialization (Boutot & Bryant, 2005). Children with autism display impairments in socialization, including social behavior that may be aloof and withdrawn (DSM IV-TR, 2000) and have difficulty establishing and maintaining meaningful peer relationships. One method to assisting students with autism improve their socialization is to provide inclusive opportunities at school. Inclusion can be a valuable tool in that it provides students with autism the opportunity to interact with typically developing peers, to develop friendships, and to access same-aged role models (Boutot & Bryant, 2005; Koegel et al., 2001; Kohler & Strain, 1999).

The research on inclusion for students with autism primarily focuses on the development and evaluation of specific interventions designed to improve socialization. Numerous systematic interventions have been used to create meaningful social inclusion for students with autism (Harrower & Dunlap, 2001). For example, researchers have successfully implemented strategies including self-management techniques (Strain, Kohler, Storey, & Danko, 1994), peer supports (Kalyva & Avramidis, 2005; Odom, Hoyson, Jamieson, & Strain, 1985), cooperative learning activities (Kamps, Leonard, Potucek, Garrison-Harrell, 1995; Kohler et al., 1995), and pivotal response training (McGee, Almeida, Sulzer-Azaroff, & Feldman, 1992) to improve the social functioning of students with autism in inclusive settings. Arguably, students with autism can, and do benefit from an inclusive experience which incorporates systematic instruction or intervention aimed at enhancing social skills or social experiences (Harrower & Dunlap, 2001).

Despite research focused on interventions designed to enhance social experiences for students with autism, less is known about the efficacy and types of inclusive procedures commonly used in real-world classroom settings. Given the trend to place students with autism in inclusive settings, it is possible students are included in the absence of any specific systematic social intervention (Rogers, 2000). Interventions designed to enhance social integration are oftentimes complex, and may require special expertise among teachers and staff. However, it is not uncommon practice in a school setting

for educators to lack specific training needed to design and implement interventions serving students with autism (Scheuermann, Webber, Boutot, & Goodwin, 2003).

To date, there is limited empirical information showing direct benefits of inclusion for students with autism in the absence of systematic intervention. Researchers found that when placed in inclusive settings, students with autism engaged in slightly less autistic-like behavior than when in non-inclusive settings (McGee et al., 1993). However, Myles, Simpson, Ormsbee, and Erickson (1993) found that when placed in an inclusive setting, students with autism were less likely to receive direct instruction from the teacher and paraprofessionals than when in non-inclusive settings. Regarding social behavior, naturalistic observations of student behavior in inclusive settings reveal few naturally occurring social experiences (Koegel et al., 2001). For example, Koegel et al. (2001, p.757) found the students with autism *rarely* interacted with their peers when placed in an inclusive setting.

Overall, there is a need to examine the social experiences of students with autism across a variety of implementation procedures. In particular, it is important to examine inclusive experiences consistent with what students are likely receiving in real-world school placements. The purpose of this study was to examine the naturally occurring social interactions of students with autism placed in a playground setting with typically developing peers. This situation provided an interesting venue for study in that it was occurring within the context of this school (not set up by researchers) and that it likely mirrors inclusive situations common among educational agencies. In this case, an inclusive model had been adopted by school administration. A shared playground time between students with autism and typically developing same-aged peers was established as a mechanism to provide this inclusive experience. Given the trend to provide inclusive experiences, and pressure to do so, establishing a time whereby students with autism share experiences with typically developing peers is common place.

Method

Participants

Three pre-school aged children meeting the educational eligibility for autism participated in this study. All participants attended a public preschool exclusively serving children with autism. Peter was a 5-year-old male, Harry was a 4-year-old male, and Teresa was a 5-year-old female. Peter and Harry both engaged in stereotyped behavior and echolalia, and used single-word utterances to communicate. Teresa used 3-word phrases but rarely displayed spontaneous speech. Harry and Teresa were part of the same preschool classroom and therefore, were on the playground at the same time. Peter was in a different preschool classroom and was not on the playground when Harry and Teresa were on the playground. Teachers or staff referred all participants following an announcement at the school that the study was underway to evaluate social interactions in a playground setting. These were the first three individuals referred whose parents agreed to sign informed consent.

Materials

Observations were conducted on the school playground during the participant's regularly scheduled playground time. Playground equipment (e.g., slides, see-saws) and materials (e.g., tricycles, sand pales) were accessible to participants through the duration of the observation. Researchers recorded data during 10-minute observations using hand timers and paper data sheets.

General Procedure

During playground time, two preschool classes shared a common playground. One of the classes was a self-contained class serving eight students with an educational eligibility of autism. The second class was that of a neighboring preschool, which served typically developing same-aged children. The participant's class and a class with typically developing peers were on the playground together to provide an inclusion opportunity for the students with autism. During playground time, 10-15 children from the typically developing class participated during playground inclusion.

Observations were conducted once per day, 1 to 5 days per week for 1 to 4 weeks per child for a total of 10 observations. Researchers observed participants from an unobtrusive location inside the playground area and recorded data on participant behavior. Each observation lasted 10 minutes. Researchers did not interact in any way with participants or classroom staff. Adult teaching staff did not receive any specific training on inclusion as part of this study. Adult teaching staff included teachers and aides from both the school for children with autism, and the neighboring preschool for typically developing children.

Behavioral Definitions

During the observations, researchers recorded a variety of social behaviors exhibited by each participant as well as the social behaviors of peers initiated towards participants. Behaviors recorded were categorized as (1) social interactions initiated by target child to typically developing peer, (2) social interactions initiated by typically developing peer to the target child, (3) social interactions facilitated by an adult teaching staff (teacher or aide), and (4) appropriate interaction with playground equipment or material. Behavior definitions and within category distinctions are presented in Table 1.

Table 1

Behavior Definitions

Behavior	Definition
Social Initiations by Target Child to Typical Peer	
Vocalizations	Any vocal behavior directed to a typically developing peer (e.g., saying *hello*, vocally requesting).
Gestures	Any gesture (e.g., waving, pointing, head-nodding) directed at a typically developing peer.
Physical	Any physical contact between initiated by target child to any part of typical peer's body (e.g., touching, pushing, holding hands, grabbing).
Social Initiations by Typical Peer to Target Child	
Vocalizations	Any vocal behavior directed to a target child (e.g., saying *hello*, vocally requesting).
Gestures	Any gesture (e.g., waving, pointing, head-nodding) directed to target child.
Physical	Any physical contact initiated to typical peer to any part of the target child's body (e.g., touching, pushing, holding hands, grabbing).
Adult Teaching Staff Behavior	
Facilitation	Any prompting (physical, verbal, or gestural) by the staff to the target child that resulted in the child being at least in proximity to typical peers.

Data Collection and Inter-observer Agreement

Data collectors recorded the occurrence of target behavior during 1-minute intervals during 10-minute sessions. A continuous partial interval recording method was used during all observations; a behavior was scored as occurring for that interval if it was observed at any point during the 1-minute interval. Ten, 10-minute observations were conducted for each participant. Two observers independently collected data on 33% of all observations. Inter-observer agreement was calculated by dividing the number for agreements for each 1 minute interval by the number of agreements plus disagreements. Inter-observer agreement averaged 70% (Range 53% - 82%).

Results

The results of this study allowed us to examine the naturally occurring social experiences for students with autism in an inclusive playground setting. In particular, information was generated regarding the social initiations by the target child to typical peers, as well as the typical peer social initiations to the targeted children with autism.

Table 2

Summary of Playground Interactions (% of 1-minute intervals behavior occurred)

Behavior	Peter	Harry	Teresa
Initiations by Target Child to Typical Peer			
Vocalizations	0%	0%	1%
Gestures	0%	0%	0%
Physical	0%	1%	12%
Initiations by Typical Peer to Target Child			
Vocalizations	3%	2%	4%
Gestures	0%	0%	1%
Physical	1%	0%	4%
Facilitations of Social Interactions by Adult Teaching Staff	9%	1%	3%
Engagement with Playground Materials/Equipment	82%	96%	96%

Table 2 presents the percent of 1-minute intervals each of the target behavior occurred**.** Overall, the results reveal that social interactions between the students with autism and their typically developing peers were minimal. The students with autism almost never initiated a social interaction using

vocalizations or gestures. The most frequently occurring initiations were physical in nature (Teresa at 12%), although two participants almost never initiated physically.

The typically developing peers made some social initiations towards the targeted students with autism. However, the occurrence we very low regardless of the mode of interaction (vocal/gestural/physical), ranging from 0%-4% of 1-minute intervals.

Additional information was generated regarding the frequency of naturally occurring instances when an adult staff member facilitated a social interaction between a typically developing student and a targeted student with autism. Again, the occurrence of facilitated interactions was low for all 3 participants (1-9% of intervals). Interestingly, the targeted students with autism spent the majority of the time engaged appropriately with playground material or equipment (82-96% of intervals).

Discussion

Students in this study were examined during a naturally occurring playground inclusion time during their school day experience. All students with autism were those who were being served in a public center-based school, but whom shared a playground with a neighboring preschool for typically developing students, as an inclusive experience.

Results of this study show overwhelmingly that students with autism rarely initiated social interactions with typically developing peers when provided with proximity to and shared experiences with typically developing peers. In addition, the typically developing peers rarely initiated social interactions towards a targeted student with autism. In this case, the mere proximity and shared experience did not produce a substantive number of meaningful social interactions.

In addition, to child behavior, it also observed that adult teaching staff provided little to facilitate interactions. Although some of the adult teaching staff (1-2 adults) were serving the typically developing students from the neighboring preschool, the remaining teaching staff (2-3 adults) were those specifically serving students with autism. While the teaching staff serving students with autism may not have had specific instruction on procedures to facilitate social interactions in inclusive settings, they did receive training on autism and strategies related to educating children with autism as part of their job. These results suggest that for some educators, learning to facilitate social interactions may require specific or additional training, and may not necessarily be abstracted from more general knowledge of strategies to work with students with autism.

Because these data are descriptive, there is no way to know if the students with autism benefited in some unevaluated way (e.g., observed appropriate behavior that may be modeled at a later date on the playground). However, with initial goals of inclusion to be to provide an opportunity to interact with and establish relationships with peers, these data provide overwhelming evidence that such relationships were unlikely to develop in this situation for these students.

Several factors may have contributed to the limited social interactions observed in this setting. For one, the students included in this study were being served at a center-based preschool and by nature of their placement, demonstrate more intensive needs and significant impairments than students are may be served in their home school, or regular education setting. It is likely that students with more severe autism will have much fewer social interactions with peers in this setting, than might have occurred for students with autism with less significant impairments. A second factor is the nature of the playground setting as a place to facilitate social interactions. In this case, playground time was an unstructured time, whereby students were permitted to move freely from one area to the other playing on a variety of playground equipment. For students with autism, the unstructured nature of this setting may have decreased the likelihood that social interactions occur. Additional research may focus on the naturally occurring interactions when students are included in unstructured activities (e.g., free play) versus more structured times (e.g., snack, story time).

Despite these limitations, these data are consistent with previous descriptive data (e.g., Koegel et al., 2001), that inclusion in and of itself, is not the mechanism by which students with autism show enhanced socialization. Rather, it is likely the combination of inclusive opportunities, along with systematic, structured and supported interventions that yield meaningful changes as a result of inclusion.

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