

# Music Therapy Engages Children with Autism in Outdoor Play

THE UNSTRUCTURED SPACE, RUNNING, CLIMBING, SLIDING, AND LOUD NATURE OF PLAYGROUND TIME CAN BE OVERWHELMING for children with autism who thrive on predictable and structured routines. As a result, these preschoolers often do not experience the learning and social development benefits from outdoor play seen in their typically developing classmates. However, new research suggests that music may help bridge the gap between children with autism and their peers.

A study, published in the *Journal of Music Therapy*, is the first to examine strategies to promote positive peer interactions during outdoor play for preschoolers with autism in inclusive child care programs. Autism is a complex developmental disorder that affects verbal and nonverbal communication and social interaction, and is associated with repetitive and restricted behaviors. One reason children with autism benefit from attending inclusive classrooms is they have the opportunity to engage with their peers.

Previous research shows that children with autism have an interest in and respond positively to music. Research also finds that playground time for young children is important for learning and social development. This study used an embedded music therapy intervention as a consultative service (one in which the therapist provides guidance, information and training to regular classroom teachers) to encourage peer interaction.

The study evaluated four preschoolers with autism—Eric, Ben, Phillip and Lucas. Researchers developed an outdoor music center, the Music Hut that included a variety of instruments. To engage children in the Music Hut, the lead author composed a song unique to each child with autism. Teachers and parents were given a CD and lyrics. The author trained the teachers to use the principles of music therapy and the materials designed for this study. She taught the participating children the songs during circle time.

The first phase of the study began by establishing a baseline. Researchers observed children on the playground prior to the construction of the music hut and without any interventions. After the Music Hut was built, teachers introduced children to the new center.

Researchers then began a two-part intervention process. The first was teacher driven and was designed to establish a predictable routine. Each day the teacher took the child with autism and a peer buddy to the Music Hut, initiated play between the children, sang the unique song, incorporated the instruments, and taught the peer buddy how to interact with the child. Next, teachers gradually withdrew their help with the goal of the peer buddy and the child interacting independently.

## The study addressed four questions:

- 1) Does the musical adaptation of a playground increase peer interactions on playgrounds for young children with autism?
- 2) Does the use of an individually composed song, sung by the teachers and peers, increase positive peer interaction on the playground for young children with autism?
- 3) Can classroom teachers learn the principles important to music therapy to increase peer interaction on the playground for young children with autism?
- 4) Do peers participate and model targeted tasks?



Prior to the intervention, all four boys had little interaction with their peers. Eric ranged from 0 to 18 percent positive peer interactions during a 10 minute daily observation time. Ben ranged from 0 to 13 percent; Philip from 0 to 15 percent; and Lucas 0 to five percent.

Once the Music Hut was introduced, most children experienced a slight increase in interactions, but the frequency was still low and often inconsistent. However, when the teacher became involved, peer interactions jumped higher. Eric's were in a range of 33 percent to 68 percent. Ben's were 53 percent to 93 percent; Philip's were 33 percent to 93 percent; and Lucas' were 28 percent to 80 percent.

Once peer buddies were on their own interactions decreased, but remained higher than the baseline. (Eric did not participate in the peer intervention due to his teacher's scheduling conflicts.) Ben's interactions ranged from 43 percent to 80 percent; Philip's were eight percent to 33 percent; and Lucas' were 13 percent to 40 percent.

#### **DOES THE MUSICAL ADAPTATION OF A PLAYGROUND INCREASE PEER INTERACTIONS ON PLAYGROUNDS FOR YOUNG CHILDREN WITH AUTISM?**

All of the children were attracted to the sound produced in the Music Hut and explored the instruments. However, the existence of the Music Hut itself did not increase peer interactions.

#### **DOES THE USE OF AN INDIVIDUALLY COMPOSED SONG, SUNG BY THE TEACHERS AND PEERS, INCREASE POSITIVE PEER INTERACTION ON THE PLAYGROUND FOR YOUNG CHILDREN WITH AUTISM?**

Prior to the teacher and peer interventions, the children with autism did not often play with peers. Yet, once the intervention occurred, children's level of peer interaction increased.

#### **CAN CLASSROOM TEACHERS LEARN THE PRINCIPLES IMPORTANT TO MUSIC THERAPY TO INCREASE PEER INTERACTION ON THE PLAYGROUND FOR YOUNG CHILDREN WITH AUTISM?**

With one exception, all teachers successfully implemented the intervention. When teachers performed the tasks at a high level, peer interaction also was high.

#### **DO PEERS PARTICIPATE AND MODEL TARGETED TASKS?**

All peers implemented parts of the five-step intervention correctly. Philip and Lucas had peer buddies that consistently completed all steps. Ben's peer buddies were variable ranging from two to five steps completed.

## **Recommendations**

Playgrounds should be viewed as therapeutic settings and part of classroom curriculum. The authors recommend additional research to verify that an outdoor music center can enhance learning and development for both children with and without special needs. In addition, future research should examine a variety of peer-mediated strategies.

## **Study Background**

The study evaluated four boys with autism, aged three to five years, attending one of three different classes in a community-based child care program affiliated with a university. Additional participants included six classroom teachers and 32 classmates with and without disabilities.

Class size ranged from 12 to 14 children and all children's participation was voluntary. Two peers were selected as "peer buddies" for each targeted child. Selection was based on the child's interest in music, social skills, relationship to the child with autism, and motivation to participate. "Peer buddies" varied daily based on children's actions and class attendance.

All experimental sessions occurred during morning outdoor play. The playground was large and included a climbing and sliding structure, three sandboxes, a wooden playhouse, a tricycle path, an open field, and other play equipment. Each observation lasted 10 minutes over a period of eight months.

## **To Learn More**

Kern, P., & Aldridge, D. (2006). Using embedded music therapy interventions to support outdoor play of young children with autism in an inclusive community-based child care program. *Journal of Music Therapy, 43* (4), 270-294.