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## Peer mediation to increase communication and interaction at recess for students with autism spectrum disorders



Rose Mason\*, Debra Kamps, Amy Turcotte, Suzanne Cox, Sarah Feldmiller, Todd Miller

Juniper Gardens Children's Project, University of Kansas, Kansas City, KS 66101, United States

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#### ABSTRACT

Recess plays an integral role in the social and emotional development of children given the time provided to engage in interactions with others and practice important social skills. Students with ASD, however, typically fail to achieve even minimal benefit from recess due to social and communication impairments as well as a tendency to withdraw. Implementation of evidence-based interventions such as peer-mediated social skills groups, are necessary to ensure recess is an advantageous learning environment for students with ASD. A multiple-baseline design across participants was used to determine if a functional relationship exists between a social skills instructional program combined with peer networks with school staff as implementers and increases in level of communicative acts for participants with ASD at recess. Results indicate all participants demonstrated an immediate increase in the number of communicative acts with the introduction of the intervention. Implications for practice are discussed.

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#### 1. Introduction

The American Academy of Pediatrics recently issued a policy statement on the importance of school recess (www.pediatrics.org/cgi/doi/10.1542/peds.2012-2993) stating, "Recess promotes social and emotional learning and development for children by offering them a time to engage in peer interactions in which they practice and role play essential social skills." This type of activity, under adult supervision, extends teaching in the classroom to augment the school's social climate. Through play at recess, children learn valuable communication skills, including negotiation, cooperation, sharing, and problem solving as well as coping skills, such as perseverance and self-control. These skills become fundamental, lifelong personal tools." (p. 184). This policy statement was issued in reaction to the debate over the role of schools in promoting development of the whole child, and with the increasing pressure to accelerate academic performance which may often preclude social activities. Despite inclusion in recess activities, students with autism spectrum disorder (ASD), generally miss out on the social benefits specific to recess.

ASDs are defined as a group of developmental disabilities characterized by impairments in social interaction and communication and by restricted, repetitive, and stereotyped patterns of behavior (American Psychiatric Association, 2012). Other characteristics include lack of responding to their name, poor eye contact, limited affect and social responsiveness, and language delays or deviances (limited words by 16 months, echolalia, perseveration on topics) (National Institute of

<sup>\*</sup> Corresponding author. Tel.: +1 913 321 3143.

E-mail addresses: rmason519@gmail.com, rosemason519@gmail.com, rmason519@ku.edu (R. Mason), dkamps@ku.edu (D. Kamps), amyturcotte@ku.edu (A. Turcotte), scox@ku.edu (S. Cox), sfeldmiller@ku.edu (S. Feldmiller), Tmiller3@ku.edu (T. Miller).

Neurological Disorders & Stroke, 2009). Koegel reported that problems engaging in social interactions for children with autism primarily serve two functions: avoidance of social attention (interaction) or seeking social attention but using inappropriate communication to do so (perseverative topics) (Koegel, Openden, Fredeen, & Koegel, 2006). Children with ASD use fewer toys, and less time playing appropriately with toys, demonstrate fewer functional play acts and symbolic play, show less imitation than typical peers and even actively avoid peers (Stone & Caro-Martinez, 1990 cited in Harper, Symon, & Frea, 2008). For school aged children these characteristics impact their ability to interact with teachers and peers across a multitude of settings including the classroom, transition areas, lunchroom, and playground.

Interventions that target social and communication skills thus appear to be pivotal to improving their ability to initiate interactions, reciprocate during social exchanges, and infer the interests and emotions of others. Fortunately, research shows increasing evidence for interventions to address these core deficits for children with autism. Kasari, Paparella, Freeman, and Jahromi (2008) and others (Rogers, 2000) report treatment aimed at joint attention and symbolic play as effective for improving social and communication skills with young children with autism. A recent review of social skills interventions (Reichow & Volkmar, 2010) reported peer training, video modeling, and social skills groups as part of a treatment package as evidenced or emerging evidenced-based practices. Peer mediation or peer networks (Haring & Breen, 1992; Kamps, Potucek, Gonzalez-Lopez, Kravits, & Kemmerer, 1997; Kamps et al., 2002) have also been shown effective for improving social and communication skills. Examples include peer dyads or small groups of peers to support a child with ASD or other disability to assist with specific tasks, for example as social and conversation partners, during transitions, as tutors, or providers of social reinforcement. General recommendations for children with ASD include the use of behavioral interventions with a focus on individual needs, responsiveness to intervention, functional outcomes, and generalization of skill use as key indicators of the effectiveness of interventions (Kasari & Lawton, 2010; Koegel, Kuriakose, Singh, & Koegel, 2012; Rao, Beidel, & Murray, 2008). Recommendations also support children with ASD being taught in more naturalistic settings with typical peers to improve social communication and language development (Koegel, Matos-Freden, Lang, & Koegel, 2012; National Research Council, 2001; Reichow & Volkmar, 2010).

#### 1.1. Recess interventions

A few studies have successfully targeted social behaviors at recess (Harper et al., 2008). Lang et al. (2011) conducted a review of 15 studies that used recess time to teach target behaviors to students with ASD. In several studies, the perseverative interests or preferred activities of the children were incorporated into the recess or social events with improvements in social/play interactions and affect ratings (Baker, Koegel, & Koegel, 1998; Koegel, Vernon, Koegel, Koegel, Koegel, Toegel, Koegel, Wernon, Koegel, Koegel, Koegel, Wernon, Koegel, Koegel, Wernon, Koegel, Koegel, Wernon, Koegel, Koegel, Wernon, We Paullin, 2012c; Licciardello, Harchik, & Luiselli, 2008; Machalicek et al., 2009). Machalicek et al. taught three children with ASD to select pictures of preferred equipment to use on the playground and pictures were then used to create an activity schedule. Challenging behavior decreased, and appropriate play increased. Lang and colleagues decreased severe challenging behavior by increasing teacher attention and praise for appropriate behavior during recess (Lang et al., 2010 reported in Lang et al., 2011). Licciardello et al. also used teaching assistants to prompt and reinforce interactions between the participant and peers during recess for four, 6–8 year old children with autism resulting in increased social initiations and responses. Zanolli, Daggett, and Adams (1996) implemented a priming session in which 2 4-year old children with autism received a dense schedule of reinforcement with few demands just prior to recess. Peers were taught to respond to social initiations resulting in increases in the number and topography of initiations by the children with autism (reported in Lang et al., 2011). Others have incorporated peer training to increase interactions for children with autism at recess. Owen-Deschryver, Carr, Cale, and Blakely-Smith (2008) taught peers to initiate and respond to the children with ASD and to consider their interests when playing. McGee, Almeida, Sulzer-Azaraff, and Feldman (1992) using incidental strategies, taught peers to reinforce initiations for preferred toys, to praise, and to prompt turn taking with improved reciprocal interactions. Gonzalez-Lopez and Kamps (1997) taught peer mentors to give clear simple instructions, to model appropriate social skills, and to praise kindergarten children with ASD. Results indicated improved frequency and duration of social behaviors, and decreases in disruptive behaviors for participants. Others have used structured activities using music (Kern & Aldridge, 2006) and affection activities (McEvoy et al., 1988) to increase interactions between peers and young children with autism.

Kasari, Rotheram-Fuller, Locke, and Gulsrud (2012) used two interventions to improve social skills for children with autism during recess and lunch time. The first program consisted of child-assisted direct instruction using role play and practice with an interventionist until skills were mastered. The second was a peer-mediation procedure with the interventionist training peers to engage the children with autism in social interaction and game playing. Skills were selected based on the individual child's needs and the setting (e.g., entering and sustaining attention in games, maintaining a conversation, game rules, steps for specific activities, good sportsmanship, etc.). Thirty children participated in the 'child' intervention and 30 children in the 'peer mediation' intervention, with each lasting 6 weeks with 20-min intervention sessions twice each week. Results included improved class-wide-rated social network status (nominations), improved teacher ratings of social skills, and decreased isolation on the playground for the children with autism. Minimal changes were noted in the percent of interactions with joint attention during recess observations for any of the interventions with a 9% increase during follow-up observations for the children in the peer mediation intervention.

The use of Pivotal Response Training (PRT, Koegel et al., 1989, 2006; Pierce & Screibman, 1995) has been used to improve motivation and responding to increase language use and promote positive interactions for children with autism and their peers. Harper et al. (2008) taught peers to use naturalistic strategies including PRT during recess to increase initiations and

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