

**Relationship between classic article and follow up article**

Both articles looked at the efficacy of peer mediated intervention models for improving the social skills of school age children with autism spectrum disorder (ASD) in inclusive play settings. Strain, Kerr and Ragland (1979) compared two different peer-mediated intervention procedures: training a typically developing peer to initiate social interactions with a child with ASD, using a variety of verbal and motor signal prompts (e.g., “come play”, handing the child with autism a ball) and second, training a typically developing peer to prompt (e.g., “Give the truck to ____”) and reinforce (e.g., “Nice playing together”) social interactions amongst one another. Kasari, Rotherman-Fuller, Locke and Gulsrud (2012) compared the efficacy of a peer-mediated intervention procedure similar to the social initiation procedure used by Strain et al. (1979) with the more commonly used direct training model (i.e., direct instruction of social skills to the child with ASD) in addition to a direct training and peer-mediated combination treatment model.

**Purpose of the follow-up article**

The purpose of this article was to investigate the efficacy and maintenance of a direct training approach (CHILD) vs. a peer-mediated approach (PEER) vs. a combination model to improve the social skills of children with ASD placed in general education classrooms. Furthermore Kasari et al. (2012) sought to determine how treatment conditions would effect teacher perception of social skill development and friendship identification and reciprocity across participants and typically developing classmates.

**Summary of results and conclusions**

Kasari et al. (2012) used a 2 x 2 factorial design to determine and compare the efficacy of CHILD (child-assisted) and PEER (peer-mediated) intervention designs for teaching social skills to school aged children with ASD. Within the 2 x 2 factorial design were four treatment cells to be compared: an inclusion condition, CHILD condition, PEER condition and a combination CHILD and PEER condition. The target participants included in the study met the criteria for ASD, participated in general education classrooms and within the age range of 8-11 years old (Kasari et al., 2012). In addition to
the 60 children with ASD considered target participants, were 815 typically developing classmates, some of whom served as peer models throughout the PEER treatment conditions. All treatment conditions were targeted across 12 weeks with an additional 12-week follow-up.

The child-assisted (CHILD) intervention condition consisted of all children assigned to the condition (15 males) meeting individually with a trained interventionist for a 20 minute, twice weekly, instructional session at school (Kasari et al., 2012). The interventionist provided direct instruction aimed at developing the individualized and developmentally appropriate social skill goals of the child with ASD (e.g., entering into a game, sustaining conversations, etc.). All skills were targeted sequentially and involved continued practice across treatment sessions.

The peer-mediated (PEER) intervention condition consisted of three typically developing children enrolled in the classroom of a target participant (i.e., child with ASD) meeting with a trained interventionist for 20 minutes, two times per week at the school they attended (Kasari et al. 2012). During these meetings the interventionist would coach the typically developing peers on how to identify and engage with socially withdrawn children on that playground (e.g., direct instruction, modeling, role playing, rehearsal). The identities of the target participants remained anonymous within the peer group throughout the course of the study.

In addition to the PEER and CHILD conditions, Kasari et al. (2012) included 15 children (15 males) receiving both PEER and CHILD treatment conditions and 15 children (1 female, 14 males) receiving neither PEER nor CHILD interventions (i.e., inclusion only).

Primary outcome measures used to evaluate the efficacy of PEER, CHILD, and PEER + CHILD conditions included a social network salience score and playground observation of peer engagement score (Kasari et al., 2012). The social network salience (SNS) score was calculated using a survey that at least 50% of the children in each classroom completed. This survey measured each child’s social network salience score across baseline, treatment conditions and follow-up, calculating the number of nominations of a target participant to any given peer group in their classroom and dividing this score by the highest SNS score in the classroom. A playground observation score was also calculated across baseline, treatment conditions and follow-up and consisted of an interval based behavior coding system; measuring time spent in isolation (i.e., not engaging with peers) and time spent jointly engaged with peers (e.g., turn taking) on the playground.

Secondary outcome measures included by Kasari et al. (2012) are as follows: a questionnaire for teachers to complete; presenting their perception of social skill development at baseline, post treatment and follow-up. Also included was a further analysis of the social network survey: received friendship nominations, friendship nominations made by target participants, reciprocal friendships (i.e., target participant and typically developing peer chose each other as a top three friend in the classroom) and
rejects (i.e., total number of times a target participant was marked as someone a classmate did not like to hang out with).

Kasari et al. (2012) found that children assigned to PEER treatment conditions had better outcomes on a number of measures (primary and secondary) with positive outcomes sustained at 3-month follow-up. Target participants exposed to PEER treatment conditions had higher SNS scores than those without a peer component at post treatment and follow-up, a faster decline in isolated playground behavior across time and at follow-up, improved joint engagement on the playground at follow-up, received friendship nominations post treatment and teacher perception of social skills improvement. Furthermore, when target participants had changed classrooms by follow-up, SNS score gains remained similar to those recorded post treatment. Finally, the authors noted no drop in SNS score for classmates participating as peer models.

The results presented by Kasari et al. (2012) suggest the importance of a shift in how clinicians deliver social skill interventions to children with ASD. The more common approach of direct instruction (i.e., delivered individually or in a group context outside of the natural environment) is often lacking a critically important generalization component and the data presented in this study reflect that deficit (Kasari et al., 2012). Furthermore, increasing peer understanding and interaction with children demonstrating isolating social behaviors has proved to be an influential aspect of social skill development for children with ASD, with effects remaining stable at a 3-month follow-up without the provision of additional support. Finally, only when the child-assisted intervention was combined with peer-mediated intervention did the intervention prove effective, further emphasizing the importance of shifting social skill intervention design to include peers as instructional agents in educational settings (Kasari et al., 2012).

Future Research

Kasari et al. (2012) recommend that future research include even larger intervention samples for school-aged children with ASD in order to test mediators and moderators of treatment effects in addition to further research investigating the efficacy of using school personnel to deliver both direct and peer-mediated instruction for social skills.

Why this article is important

A wealth of research supports the notion that social development plays a critical role in the academic, emotional and social success of children in school settings (Kasari et al., 2012) and children with ASD are no exception to this rule. Unfortunately, ineffective service delivery within educational settings leaves children with ASD particularly at risk for social isolation. Kasari et al. (2012) present data reflecting one of the largest treatment samples for children with ASD in a school environment and the data supports the use of the more cost effective and less socially stigmatizing peer-mediated intervention model to effectively develop and maintain social skills for children with ASD. These results raise significant concerns regarding the long-term effectiveness of the more commonly used direct instruction model for social skills development.