

Critical Review:
Is peer-mediated intervention effective for preschoolers with autism spectrum disorders for improving communicative outcomes?

Rachel Pessah

M.Cl.Sc SLP Candidate

University of Western Ontario: School of Communication Sciences and Disorders

Deficits in social communication skills are a key feature of autism spectrum disorders (ASD). Social communication skills are important to successful inclusion in a mainstream classroom and purposeful intervention is necessary to see gains in social communication (Gutierrez et al., 2007; Koegel et al., 2001). This critical review examines the effectiveness and maintenance of peer-mediated intervention on social communication skills in preschoolers with autism spectrum disorders. A literature search using computerized databases was completed resulting in four articles meeting the inclusion criteria. Study designs were all single-subject multiple baseline across participants. The articles were evaluated using a critical appraisal template evaluating the level of evidence, validity, and importance of the information included in the articles. Taken together, studies provide moderate support for the use of peer-mediated intervention for preschoolers with ASD. Limitations of the research and its clinical implications are discussed in the review.

Introduction

Impairments in social communication skills are a defining feature in individuals with autism spectrum disorders (ASD) (American Psychiatric Association, 2013). These deficits can include, but are not limited to, difficulties in initiating, taking turns, responding to peers, and sharing interests (American Psychiatric Association, 2013).

As a result of these social communication challenges, children with ASD often struggle to connect and build meaningful relationships with their peers. In order to create positive inclusion outcomes, children with disabilities must interact with and learn from typically developing peers (Odom, 2000; Simpson et al. 2003). Peer-mediated intervention (PMI) provides opportunities for supported positive inclusion with the goal of maintaining communication skills following intervention (Katz & Girolametto 2013, Lee & Lee, 2015). In PMI, one or more typically developing peer(s) are instructed to teach social communication skills to a child with ASD.

child with ASD's diagnosis were well described. The researchers did not provide details on the preschool teacher's knowledge or training on the "Buddy Skills package."

Further limitations exist within the study's methodology. First, during coding, the observer did not note which peer was the recipient of the target child's interactions. Second, blinding was unclear as the individual doing the coding/observing was not identified. As well, the authors reported acceptable interrater agreement, although details regarding these procedures were lacking. Third, the study utilized a staggered baseline but do not state participants were chosen for each start point.

The importance and validity of this study is moderately strong as a result of inadequate information provided about selection and randomization of participants, instructor training, and unclear data collection methods.

Lee and Lee (2015) conducted a study with a single-subject multiple baseline design across participants to examine the effects of a comprehensive non-play-based social skills intervention package combining peer-mediated strategies and environmental arrangements on the peer interactions of three children with autism (3.9 - 4.2 years) in a Malaysian preschool. Following baseline (5-9 recordings), 9 typically developing children (approx. 4 years) completed training (5 sessions) on social initiation and correspondence for engaging with their classmate with autism at snack time, and 3 typically developing peers were grouped with each child with ASD. The authors utilized a 10 second interval coding system to measure the number of initiations, responses and reciprocal social interactions. Results of visual inspection indicated significant gains in the frequency of reciprocal interactions and verbal interactions for children with ASD and gains were maintained immediately after intervention with continued environmental arrangements. No PAND score was computed. Teachers' ratings of acceptability and social validity supported the use of the intervention package but revealed modest ratings on feasibility.

Limitations exist within this study. First, the teachers assigned themselves to the target child with whom they felt most comfortable. Second, details regarding the participants' pairings were limited. Third, environmental arrangements and peer-mediated intervention were employed simultaneously and therefore gains cannot be teased apart. Fourth, no PAND value was provided which makes it difficult to determine the level of effectiveness of the intervention(s).

Strengths exist within the above study. The participants were well described. The study also used an acceptable fidelity check. The evidence was further strengthened through interrater agreement with a blinded second rater, social validity, acceptability, and feasibility (applicability to environment) ratings.

The importance and validity of this study are strong, despite the potential experimenter bias as a result of acceptable fidelity checks, interrater agreement with a blinded second rater, and due to the inclusion of ratings of social validity, acceptability, and feasibility.

Trembath et al. (2009) utilized an alternating treatments design embedded in a multiple baseline design across participants to examine the effectiveness of peer-mediated naturalistic teaching with and without augmentative and alternative communication on communicative behaviours of 3 preschoolers with ASD (3-5 years). Prior to intervention, all six typically developing peers were trained (2 20 minute sessions) how to use the peer-intervention procedures and to model AAC. Peers were randomly assigned to either the peer-mediated intervention (PMI) alone condition or AAC and PMI condition. Children with ASD received both conditions (each condition was with a different peer) in random order. The

re62(cw)41(v)6(v)h

calculated the number of communicative behaviours per minute. An interval of one minute is significantly longer than the other studies in this critical review and is not sensitive to the intricacies within each interval. Sixth, The authors defined communicative behaviours as any behavior produced by the child with autism, expressed using one or more communication modes that were potentially communicative, which makes it difficult for the researchers to provide any specific outcome measures regarding the types of communicative behavior that occurred. Seventh, only a single probe was used to test generalization to outside peers. Lastly, on visual inspection of the graphic data, it is clear that for two of the three participants there was a small increase in communicative behaviours initially but as intervention continued the communicative behaviours declined to baseline levels demonstrating that the intervention effects were fleeting, despite high PAND scores.

Strengths exist in the Trembath et al.'s (2009) study

children with autism in inclusive school settings. *Behavior Modification*, 25, 745–761.

Kohler, F. W., Greteman, C., Raschke, D., & Highnam, C. (2007). Using a buddy skills package to increase the social interactions between a preschooler with autism and her peers. *Topics in Early Childhood Special Education*, 27(3), 155-163.

Lee, S. H., & Lee, L. W. (2015). Promoting snack time interactions of children with autism in a Malaysian preschool. *Topics in Early Childhood Special Education*, 35(2), 89.

McClelland, M. M., & Morrison, F. J. (2003). The emergence of learning-related social skills in preschool children. *Early Childhood Research Quarterly*, 18(2), 206-224.

Odom, S. L. (2000). Preschool inclusion what we know and where we go from here. *Topics in early childhood special education*, 20(1), 20-27.

Schlusser, R. W., Lee, D. L., & Wendt, O. (2008). Application of the percentage of non-