

A Peer-Mediated, Interactive, Social Story Intervention for Preschoolers with Autism Spectrum Disorders



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Introduction

Significance

One-third to one-half of children with disabilities are enrolled in child care or preschool programs that include typically developing peers (Booth & Kelly, 2002; Diamond & Huang, 2005).

Without specific teacher supports or targeted interventions, the typical peers in inclusive classrooms tend to choose other typical peers as playmates instead of playing with the children with disabilities (Beckman, 1983; Devoney et al., 1974; Peterson & Haralick, 1977).

Children with autism spectrum disorders (ASD), in particular, are at greater risk for experiencing loneliness, difficulty establishing and maintaining social relationships, and mental health problems due to a pervasive social dysfunction (APA, 2000).

Previous Research

Peer-Mediated Interventions have been successfully used in integrated settings to increase the quality and quantity of social interactions with the children who have disabilities or limited skills in the area of social communication (e.g. Betz, Higbee, & Reagon, 2008; Gena, 2006; Kalyva & Avramidis, 2005; Kohler, Greteman, Raschke, & Highnam, 2007; Nelson, McDonnell, Johnston, Crompton, & Nelson, 2007; Trembath, Balandin, Togher, & Stancliffe, 2009).

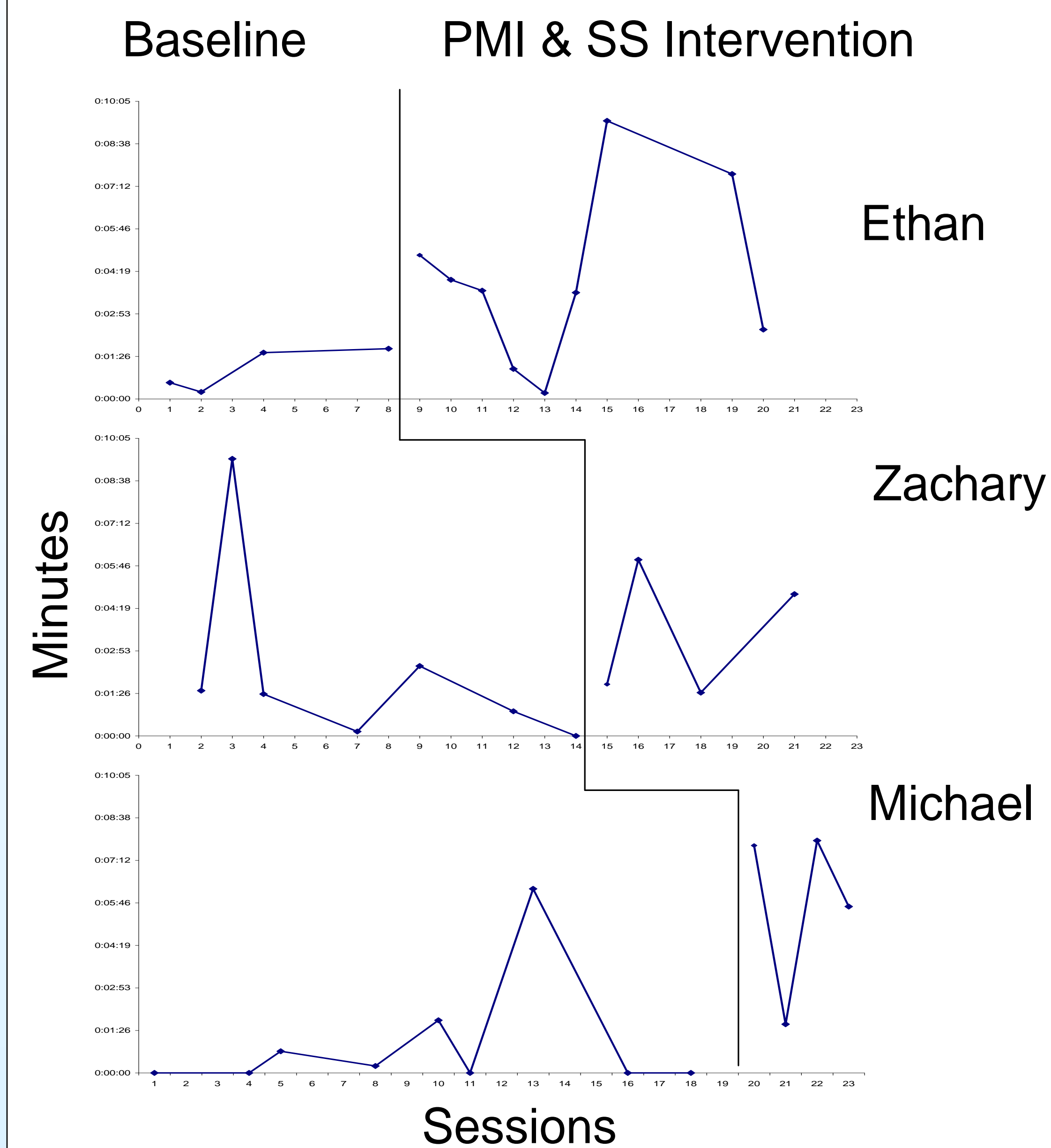
The efficacy of social story interventions for improving social communication skills in children with autism has been well-established (e.g. Delano & Snell, 2006; Ozdemir, 2008; Sansosti & Powell-Smith, 2008; Scattone, 2008; Scattone, Tingstrom, & Wilczynski, 2006).

Limited research has been published on the efficacy of social story interventions on preschool age children with autism (i.e. Crozier & Tincani, 2007).

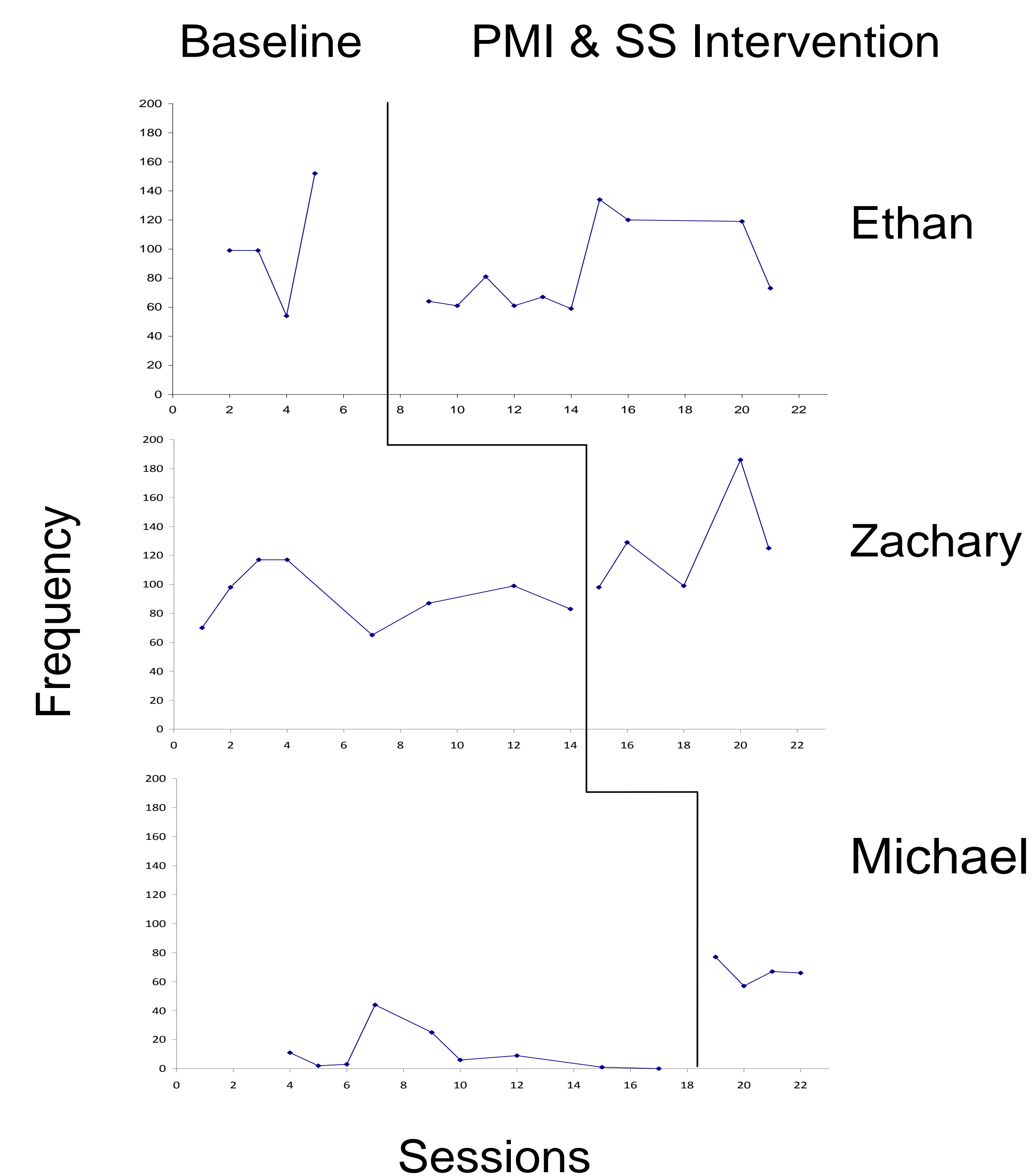
Research Questions

- 1) Does the peer training session increase the peers' social communication attempts towards the children with ASD (target children)?
- 2) Does the peer-mediated, Social Story intervention increase the frequency of the target children's social communication attempts toward their peers?
- 3) Does the peer-mediated, Social Story intervention increase the frequency and duration of mutual activity between the target children and their peers?

Intervention Effect on Social Engagement



Intervention Effect on Conversational Behavior



Results

Expressive Communication Summary Data

	Baseline (mean and range)	Intervention (mean and range)
Ethan	101 (54-152)	83.9 (61-134)
Zachary	92 (65-117)	127.4 (98-186)
Michael	11.2 (2-44)	66.75 (57-77)

Ethan and Michael demonstrated immediate and level increases in their social engagement with matched peers after the onset of intervention.

Michael also demonstrated an immediate increase in his conversational behavior with matched peers in intervention.

Implications

Combining technology with other known effective intervention strategies for children with ASD may increase the efficacy of the interventions.

More research is needed on the efficacy of Social Story Interventions with preschool-age children who have ASD.

Research is needed on how to create the most effective peer matches for PMI.

Methods

Participants

- Target Children: 3 Boys with ASD, Ages 5-0 to 5-4
- Peers: 4 girls, 3 boys; Ages 4-9 to 5-1
- Two peers matched to each Target Child.
- One peer served as a substitute.

Setting

- Half-day, afternoon, preschool special education class
- 1 Intervention Specialist and 2 Assistants
- Public Elementary School in Northeast Ohio
- Peers attended an integrated preschool class down the hall from the special education classroom.
- Peer training and interaction with Social Stories took place in a media room down the hall from both classes.

Independent Variable

- Peer-mediated, Social Story intervention using interactive whiteboard technology
- Social Story individualized for each target child.
- Theme of all Social Stories was social engagement with peers.
- Social Stories created in PowerPoint with embedded pictures and audio.
- Social Story projected onto interactive whiteboard.
- Children navigated through the Social Story by tapping the interactive whiteboard with a wand.
- Training session with matched peers to practice with technology and learn expectations and strategies for interacting with target child.

Dependent Variables

- Measured during 10-15 minute free play time immediately following viewing of the Social Story
- Frequency of conversational behavior
- Number of words/vocalizations of target children
- Number of conversational turns
- Time spent in mutual activity

Data Collection

- Target child wore a special vest with a LENA™ device to record audio input and output including conversational turns.
- LENA™ is the Language Environment Analysis System that collects and analyzes language data.
- Play sessions recorded using Flip™ video.