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Effects of the System of Least Prompts on Pretend Play Skills for Children with Autism Spectrum Disorder

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Abstract: *Engagement in strong play skills is important as an outcome by itself, but also as means to achieve other valued outcomes in early childhood development. Yet, children with autism spectrum disorder (ASD) often demonstrate challenges in this area of development. To address these challenges, intervention is needed. This study evaluated the effects of implementation of an antecedent-based teaching strategy, the system of least prompts (SLP), to teach pretend play skills to preschoolers diagnosed with ASD in an inclusive preschool program. This study utilized single case research design to identify the effects of intervention on pretend play skills. Data presented in this study demonstrated independent engagement in generalized pretend play skills during free choice. Results suggest that this intervention was an effective teaching strategy for young children with ASD, demonstrating effects for all participants.*

Extensive research indicates that young children diagnosed with autism spectrum disorder (ASD), often demonstrate challenges in a variety of areas of development, including play skills (e.g., Chang et al., 2018; Charlop et al., 2018, Jung & Sainato, 2013). Children with ASD engage in play differently than that of their typically developing peers (Barton, 2015; Kasari et al., 2013; Qiu et al., 2019). This play is often repetitive in nature, missing key components of appropriate, cooperative play including other peers (e.g., Barton & Pavilanis, 2012; Hobson et al., 2018; Jung & Sainato, 2013). Research indicates that this diminished quality of developed play skills may lead to compromised experiences interacting with materials and peers, ultimately affecting other corresponding areas of develop (Akers et al., 2018; Lydon et al., 2011).

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Meaningful Play Outcomes

Play is important as an outcome by itself, but also as a means to achieve other valued outcomes across a variety of skill sets (Gerber, 2017; Orr & Geva, 2015). Because play serves as a natural context for intervention, it provides numerous opportunities to embed instruction targeting important skills and behaviors (Lifter et al., 2011; Morrison et al., 2002). The context in which play occurs also provides an abundance of opportunities for positive gains in other areas of learning such as communication, emotional regulation, and social development (Boyd et al., 2018; Gerber, 2017; Kasari et al., 2013), as well as increases in self-esteem, confidence, and overall social acceptance (Locke et al., 2016).

As children learn play skills and develop meaningful gains in other associated skill areas, such as social skills, opportunities for children with ASD to engage with peers are promoted (Golzari et al., 2015; Locke et al., 2016). In the school setting, this repertoire of skills helps to set children up for success when engaging with peers in and outside of the classroom, as social skills are also targeted through effective play skills. Children are more likely to find success in social interactions with peers during play on the playcourt, at recess and lunch, as well as in inclusive classrooms environments. These social interactions lead to

friendships. Research identifies that children with ASD report wanting friendships with peers and wishing that they did not feel alone without these relationships (Bauminger & Kasari, 2000). This emphasizes the need for strong skills in this area. Outcomes of successful play and social engagement with peers span across the age range, as feelings of a sense of community and development of friendships follow children into their adult life and ultimately impact overall quality of life.

Intervention Targeting Development of Play Skills

Targeted instruction is needed to teach children with ASD how to play, seeking to increase development and skills, leading to lasting, meaningful outcomes. Research indicates that without consistent, focused support, children with ASD will continue to play at their current level of development, highlighting the need for early, targeted instruction teaching these skills (Lee et al., 2019; Quigley et al., 2018). Early intervention (EI) and early childhood special education (ECSE) programs commonly utilize a variety of strategies and supports to teach young children play skills, seeking to increase positive interactions and engagement with peers, teachers, and materials.

A large literature base identifies evidence-based practices (EBPs) for children, youth, and young adults diagnosed with ASD (Steinbrenner et al., 2020). Many of these strategies are effective teaching young children meaningful play skills. EBPs commonly used in research to teach play skills include video and live modeling (Barton, 2015; MacManus et al., 2015; Schrandt et al., 2009), systematic prompting (Barton & Wolery, 2010; Qui et al., 2019; Quigley et al., 2018), pivotal response training (PRT; Koegal & Frea, 1993; Kuhn et al., 2008; Lydon et al., 2011), as well as social narratives and activity schedules (Morrison et al., 2002; Sansosti & Powell-Smith, 2006; Schneider & Goldstein, 2010). This study specifically examines the effectiveness of the system of least prompts (SLP), a systematic prompting procedure that utilizes a least to most prompting hierarchy, seeking to teach play skills to preschoolers with ASD.

The System of Least Prompts

SLP is used successfully to teach a number of different skills to individuals with ASD in school, clinic, and home settings (e.g., Barton & Wolery, 2008; Cihak et al., 2010; Probst & Walker, 2017; Qui et al., 2019). SLP is identified as one of the most prevalent teaching strategies used by special education teachers (Fisher et al., 2007) and has been used to teach a variety of target behaviors. These include play and leisure skills (Barton et al., 2018), cognitive and academic skills (Browder et al., 2017), social and communication skills (Finke et al, 2017), community, self-care, and vocational skills (Gratten, 2020; Probst & Walker, 2017; Shepley et al., 2017), and compliance and safety skills (Bassette et al., 2018). SLP provides opportunities for children to independently engage in target play skills with immediate feedback (Barton et al., 2019) and is individualized to meet the needs of each child. Further, prompting hierarchies used in SLP are catered to each child's learning history (Barton, 2015, Qui et al., 2019), ensuring intervention is effective. For example, when designing a prompting hierarchy for a particular child, a specific type and level of prompting may be more effective than others, dependent upon the child's learning history. These considerations are consulted when using SLP with each child, leading to an effective prompting system that meets the need of each child.

An additional compelling feature of SLP is that it diminishes the possibility of prompt dependency because it utilizes the least intrusive level of support necessary to elicit target behaviors from the onset of intervention. SLP is flexible, and can be implemented in various settings and contexts (e.g., inclusive preschool classrooms, extracurricular activities, community settings, etc.). The ease of implementation of this intervention across settings results in consistent learning opportunities, increased fluency of skills, and eventual generalization and maintenance of learned skills.

Implementation of SLP

There are three important steps of implementation of SLP. First, SLP implementation begins by presenting toys and other play materials present in the particular setting. This presentation of materials serves as the

discriminative stimulus for children to begin engagement with the presented materials. Next, depending on if a child engaged with the materials, implementation of SLP begins. In other words, if a child does not engage with the play materials naturally, SLP is implemented, moving through the hierarchy of prompting until the child does successfully engage in the target behavior(s). Commonly, this hierarchy entails three or four levels of prompting, including presentation of toys and materials, live modeling, and partial and full physical prompting (Barton, 2015). Lastly, behavior specific social reinforcement is delivered immediately following engagement in target play skills and behaviors, seeking to increase future engagement.

This study seeks to examine the generalized effect of the SLP on acquisition of pretend play skills outside of the initial training setting. Further, this study seeks to answer the following question:

What are the effects of SLP on increasing generalized pretend play skills demonstrated by preschoolers with ASD during free choice?

Method

Participants

This study took place in one preschool classroom that provided extended, intensive instructional services for children with ASD. All children in this program had a medical diagnosis of ASD and attended an inclusive preschool classroom four days a week within the same center. Participants were chosen based upon enrollment in the extended day program for children with ASD, nominations by their teachers, identified prioritized target skill/behavior(s) of play skills on their Individualized Education Plans (IEPs), and regular attendance.

Gabriel. Gabriel was a 4-year-old African American boy with ASD receiving educational services in social, communication, and cognitive domains. Gabriel was verbal, communicating with peers and adults using 5-6 word sentences. Without support, Gabriel did not typically engage in pretend play activities with peers due to engagement in high rates of rigidity and self-stimulatory behavior within his play.

Lee. Lee was a 4-year-old Chinese American boy with ASD receiving educational services in social, communication, gross motor, fine motor, and cognitive domains. Lee communicated using short, 3-4 word sentences. Without support, Lee did not typically engage in pretend play activities with peers due to engagement in high rates of self-stimulatory behavior within his play.

Mayah. Mayah was a 5-year-old Caucasian American girl with ASD receiving educational services in social, communication, gross motor, fine motor, adaptive and cognitive domains. Mayah communicated using the Picture Exchange Communication System (PECS) (Bondy & Frost, 2002), as well as some 1-word approximations, gestures, and limited sign language, to aid in her communication. Without support, Mayah did not typically engage in pretend play activities with peers due to engagement in high rates of self-stimulatory behavior within her play, as well as reported high rates of challenging behavior in free choice.

Intervention Implementer

Intervention Training Sessions. During intervention training sessions, one doctoral level BCBA-D implemented the SLP. The interventionalist was trained by another doctoral level BCBA-D using the evidence-based practice training protocol by Parsons et al.(2012). These procedures included 1) Describe the target skill, 2) Provide a succinct written description of the target skill, 3) Demonstrate the target skill, 4) Practice the target skill, 5) Provide feedback during practice, and 6) Repeat steps 4 and 5 until skill mastery (Parsons et al., 2012). The interventionist demonstrated 100% fidelity on steps of implementation prior to the onset of intervention.

Free Choice. In the free choice setting, different classroom staff members were assigned to each free choice section. In each section of free choice, one staff member was present. In total, there were 6 staff members and one head teacher in this setting. Classroom staff members

were registered behavior technicians enrolled in a Master's in Education program in Applied Behavior Analysis. The head teacher was a board certified behavior analyst (BCBA) and certified special education teacher.

Setting and Materials

Setting. Intervention training sessions and data collection took place in two different settings. Intervention training sessions occurred in a small classroom connected to the preschool classroom where implementation of SLP occurred. Participants sat at a child-sized table with the previously identified themed toy sets. The interventionist and participant were the only individuals present in this setting. All participants received intervention training sessions separately.

Data, including baseline and intervention, were collected in each student's preschool classroom, specifically in the dramatic play section of free choice. Free choice was an unstructured class time with various areas/sections set up around the classroom with different activities and materials available to children. Among others, these stations included dramatic play, art, books, games, etc. Children were able to independently navigate the classroom during free choice, choosing activities and materials to engage with on their own.

Materials. Materials in this study were toys and materials commonly present in the dramatic play area of preschool free choice settings. Specifically, these materials included themed toy sets and their associated materials. Themed toy sets included house, jungle, fire station, and doctor. During intervention training sessions, two identical themed toy sets, and their associated materials were used, one by the child and one by the interventionist. During free choice, the identical themed toy sets, and their associated materials, were placed and available for children to play with in the dramatic play section of the free choice setting. Additional neutral toys that were not part of specific toy sets were also used in both intervention training sessions and free choice settings. Examples of neutral toys included blocks, Lincoln Logs, and Legos®. These toys were meant to supplement themed toy sets available to children in the dramatic play area of free choice. In both intervention and free choice settings, all materials were easily accessible to children.

In free choice, materials were switched in each play area/section often, removing opportunities for children to satiate on the presented materials. To accommodate this, each themed toy set was chosen daily, dependent upon what themed toy sets were available to children in the dramatic play area of free choice.

Other materials used in this study included a video camera and tripod to collect videos for data collection, and a laptop was utilized to review the videos for paper-pencil coding and analysis. Data collection forms included dependent variable coding sheets, and fidelity of implementation checklists for intervention training sessions.

Behavioral Definitions and Measurement

The first 5-7 minutes of the dramatic play section of free choice was recorded and coded for each participant using a 10- second momentary time sampling procedure to identify engagement in pretend play actions. Coders manually recorded if an instance of pretend play occurred at each 10-second time sampling interval mark. The percent of intervals engaged in the target behavior was reported. Free choice sessions were video recorded and coded daily (for both baseline and intervention phases) using this procedure to identify engagement in pretend play actions. Momentary time sampling was used as previous studies have yielded accurate estimates of target behaviors with generally small error margins (Gardenier et al., 2004).

Pretend Play Actions. The dependent variable measured in this study was engagement in pretend play actions during free choice. Pretend play was defined as any play where attributes or characteristics were assigned to play materials, play materials were used in a way different from that of their original function, or play was conducted in the absence, or substitution, of certain play materials. Examples

of pretend play include pretending to drive a fire truck, using a wooden block as a car, pretending to take another child's temperature, using a marker as a shot when playing doctor. Non-examples of pretend play include stacking blocks, play with cause and effect toys, and engagement in self-stimulatory or challenging behavior. Instances of engagement in pretend play actions could occur alone or with other peers and/or teachers.

Experimental Design

A multiple baseline across participants design (Gast & Ledford, 2018) was utilized in this study. In accordance with What Works Clearinghouse, this methodology was designed to meet criteria for single case research design standards (Kratochwill et al., 2013). In this study, participants began intervention in a staggered manner. Further, as one participant reached steady state responding in the intervention phase, the next participate was moved from baseline to the intervention. This design allowed researchers to implement intervention for all three participants in a staggered approach and showed experimental control without removing intervention. Further, this design was used because of the irreversible learning effects of play, making it inappropriate to remove intervention supports.

Procedure

Data collection occurred in the free choice setting. A video camera was set up in the corner of the dramatic play area for all conditions. Sessions began as soon as the target participant was present in this area of free choice.

Baseline

Baseline data collection occurred in the dramatic play section of free choice in each child's preschool classroom. Children were dismissed to free choice and were able freely navigate the classroom. No interventions or supports were implemented or added to this setting, and free choice occurred as business of usual. Data collection during free choice lasted between 5-7 minutes.

TABLE 1

SLP Prompting Hierarchy

Level	*Prompting Type*
1	Present toys/materials
2	Provide a choice
3	Provide a physical model
4	Controlling Prompt-Provide hand-over-hand physical prompt

Intervention

Prompting Hierarchy Development. Prompting hierarchies were developed for each participant by the interventionist and participant's education team. These prompts were individualized to each participant's learning history. Each participant's prompting hierarchy included four levels of prompting, increasing in level of intrusiveness. Further, the last level of prompting in each hierarchy was the most intrusive prompt and served as the controlling prompt. This prompt was the highest level of prompting used to complete each play action presented.

Coincidentally, identical prompting hierarchies were developed by the interventionist and education team for all participants based upon their individual learning histories. See Table 1 for prompting levels utilized in this intervention for all three participants.

Intervention Training Sessions. Intervention training sessions occurred outside of the classroom with the participant and interventionist present. In these sessions, the participants and interventionist each had their set of toys and materials. To begin intervention, the interventionist presented the themed toy play set, their associated materials, and neutral toy items to the participant. Following presentation of these materials, a time delay of 15 seconds was used to begin implementation of the SLP prompting hierarchy. Further, if the participant did not engage with the materials presented following the initial presentation of toys and materials within 15 seconds of the direction, level 1 prompting was implemented. The duration of this time delay (15 seconds) was used to give

participants an adequate opportunity to engage in play materials before implementation of SLP.

Following the initial presentation of materials and 15 second time delay before implementation of level 1 prompting, a 5-second time delay was used to implement the SLP moving forward. As children engaged in target play behavior or skills prompted through SLP, the interventionist immediately copied the child's actions and provided high rates of behavior specific praise. For example, when a participant put a band aid on a doll while playing with the doctor themed toy set, the interventionist immediately copied the participant's actions using their identical themed toy set and also put a band aid on the doll while commenting, "I see you giving the doll a band aid, awesome job!"

Following successful engagement in a play action, a 15-second inter-trial interval was again used to provide an opportunity for participants to engage independently in play materials before implementation of SLP began. Following a non-response from the participant during this inter-trial interval, implementation of SLP began again, using a 5-second time delay and lasting for a duration of approximately 5-7 minutes. This duration was consistent with the time children typically spent in the dramatic play area of free choice.

Data Collection: Free choice. To evaluate the effects of SLP on generalized play skills, data were collected during Free Choice immediately following intervention training sessions. Further, following intervention, participants were dismissed to Free Choice with their peers. Data collection occurred within the dramatic play area of this setting.

Once in the dramatic play section of free choice, participants were presented with identical play materials present during intervention training sessions. As participants freely choose to engage in the dramatic play area with these materials, data was collected via video observations for a duration of 5-7 minutes. In some instances, data was collected for less than 5-7 minutes because the child freely choose to move to other areas in the classroom. By calculating the percentage of intervals participants engaged in pretend play skills, changes in the duration of data collection were accounted for.

Data collected in this setting demonstrated generalization of pretend play actions learned during intervention training sessions. Accommodations or modifications were not made to the free choice setting throughout the entirety of this study, with the exception of implementation of an additional visual support for Gabriel.

Visual supports. In response to minimal changes in target behaviors for Gabriel, a visual support was added to supplement intervention. This support included pictures of various actions that were taught during intervention training sessions, serving as a visual prompt. For example, when doctor was the themed play set available to students in free choice, these visuals included pictures of actions such as the following: taking someone's temperature, giving medicine, putting a band aid on, checking ears, listening to someone's heartbeat, and giving a shot. This visual was present in both intervention and data collection (free choice) settings for Gabriel.

Maintenance

One maintenance probe occurred 2 months post intervention. During this probe, all children were dismissed to free choice and able to independently navigate the classroom. Themed toy sets used during intervention were available in the dramatic play section of free choice. No additional interventions targeting play or supports were present during maintenance data collection. The duration of maintenance data collection was consistent with previous study phases, lasting a duration of 5-7 minutes.

Data Analysis

Visual analysis including both formative and summative evaluation were used to identify behavior change. Within condition visual analysis was also used for each participant, seeking to identify patterns within individual study conditions, as well as between conditions (Gast & Ledford, 2018). Functional relations were also identified. Lastly, to evaluate level change between conditions, overlap of data points were analyzed and reported.

Procedural Fidelity

Procedural fidelity data was collected daily by the interventionist for all intervention training sessions using a self-report checklist. This self- report checklist identified all components of intervention and is available from the first author upon request. Procedural fidelity data collected indicated all procedures were followed to 100% fidelity across all phases.

Interobserver Agreement (IOA)

IOA was measured independently by two research assistants who served as IOA coders. IOA coders were trained to 90% mastery criteria prior to coding. To code IOA, mean count per interval IOA (Cooper et al., 2020) procedures were used on 25% of sessions in each phase of the study with all participants. Sessions were randomly selected from each phase for IOA data collection. The average IOA was 94% across all participants and phases, ranging from 84% to 100%, meeting design standards identified in Kratochwill et al. (2013).

Social Validity

To determine teachers' perceptions of implementation of intervention, anonymous, self-report surveys were collected from the participants' classroom staff and head teacher ($n = 7$). The research team distributed the surveys to the head teacher. Next, the head teacher distributed the social validity surveys to the other classroom teachers. Identifying information was not written on the social validity surveys. This survey included an opportunity for teachers to self-report any additional feedback regarding intervention. The head classroom teacher collected the completed forms and stored them in a large folder, ensuring anonymity. Completed surveys were returned to the research team who analyzed the results.

Results

Implementation of SLP showed an overall increase in independent appropriate play actions during free choice for all 3 study participants. Data collected 2 months post intervention indicated maintained effects of engagement in independent play actions across all 3 participants. This intervention showed effect with limited overlapping data points. Results for all three participants are presented in Figure 1.

Gabriel

Gabriel did not engage in any instances of appropriate pretend play actions during baseline, demonstrating 0% of intervals. Upon intervention, Gabriel showed a small, immediate increase in the percentage of intervals in which he engaged in the target behavior, ranging from 8% to 31% of intervals. He demonstrated a small but increasing trend in the intervention phase. Overlap did not occur between baseline and intervention sessions, demonstrating an overall higher level of engagement in pretend play actions during intervention than preceding baseline data collection phases.

Although Gabriel demonstrated an increase in pretend play actions during intervention, this increase was minimal. To bolster the effects of intervention, the interventionist and education team met to identify additional supports that may increase the effects of the SLP to establish a change in behavior of significance. Thus, a visual support was added to the existing SLP intervention for Gabriel on day 9 of intervention. Upon implementation of the visual support, Gabriel showed an immediate increase in the percentage of intervals in which he engaged in the target behavior, ranging from 43% to 56% of intervals. He demonstrated increases in level and trend in this phase. Overlap did not occur between intervention + visual and preceding baseline and intervention data collection phases. Maintenance data taken 2 months post intervention suggested maintained effect. Further, Gabriel continued to engage in pretend play actions at 58% of intervals during this probe. Lastly, experimental control and a functional relation were demonstrated in the intervention and intervention + visual phases.

Lee

Lee engaged in pretend play actions during baseline, ranging from 0%–15% of intervals. Upon intervention, Lee showed an immediate increase in the percentage of intervals in which

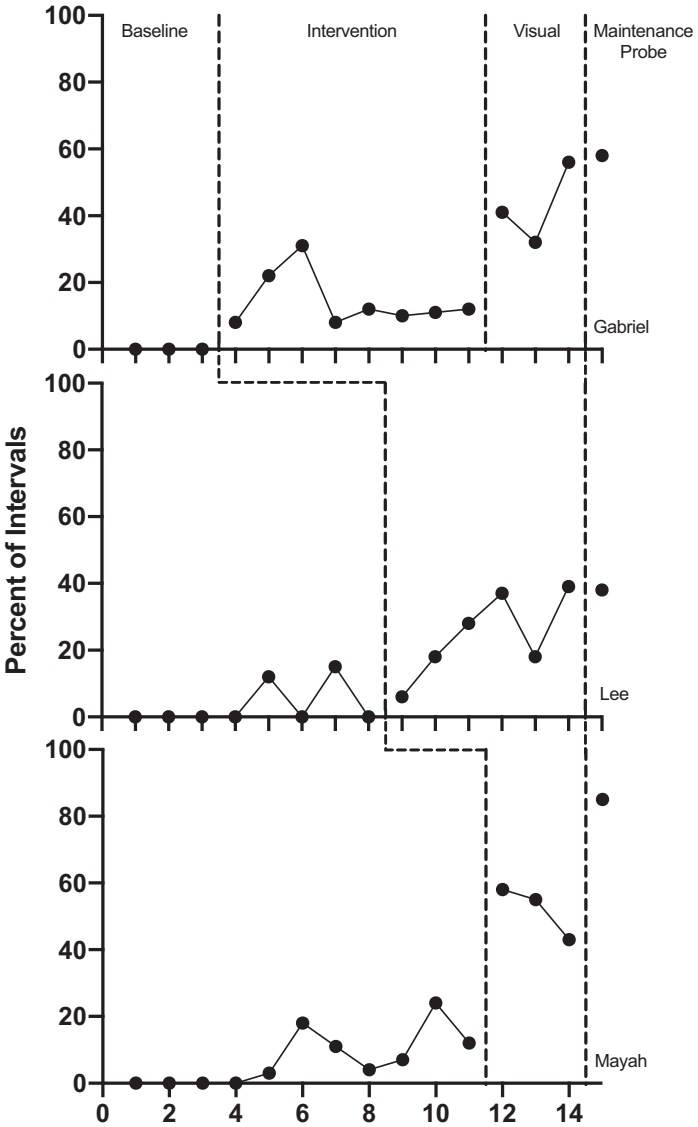

Figure 1. Percent of intervals engaged in pretend play during Free Choice.

he engaged in the target behavior, ranging from 6% to 39% of intervals. He demonstrated increases in level and trend in the intervention phase. Minimal overlap occurred between baseline and intervention sessions (one session), demonstrating an overall higher level of engagement in pretend play actions during intervention than preceding baseline data collection phases. Maintenance data taken 2 months post intervention suggested maintained effect. Further, Lee continued to engage in pretend play actions at 38% of intervals during this probe. Lastly, experimental control and a functional relation were demonstrated.

Mayah

Mayah engaged in the highest rates of pretend play actions during baseline, ranging from 0%–24% of intervals. Upon intervention, Mayah

showed an immediate increase in the percentage of intervals in which she engaged in the target behavior, ranging from 43% to 58% of intervals. She demonstrated increases in level, but a decreasing trend in the intervention phase. Overlap did not occur between baseline and intervention sessions, demonstrating an overall higher level of engagement in pretend play actions during intervention than preceding baseline data collection phases. Maintenance data taken 2 months post intervention suggested maintained effect. Mayah engaged in higher rates of pretend play actions during this probe in comparison to baseline and intervention phases. Lastly, experimental control and a functional relation were demonstrated.

Social Validity

Social validity results indicated that all teachers found the intervention to be very effective in increasing pretend play across participants during free choice, while also acknowledging an increase in the overall duration of independent engagement of play skills. Teachers also rated this intervention as highly effective in reported increases in peer interactions during free choice among students and peers. Lastly, teachers rated this intervention as having high ease of implementation for potential consumers, expressing interest in future implementation of this intervention in inclusive general education preschool settings.

Discussion

Results from this study demonstrated implementation of individualized intervention designed in accordance with each participant's learning history in mind resulted in increased engagement in generalized pretend play actions. Effects of this intervention on generalization of target skills maintained following completion of intervention. Teachers identified this intervention had high acceptability, suggesting continued implementation and sustainability of intervention in classrooms settings. Lastly, results of this study suggest that this naturalistic approach to teaching pretend play skills is effective for children with ASD, and can be easily supplemented with additional interventions as needed.

Results of this intervention are consistent with findings indicated in research examining the effects of SLP by prominent scholars in the field (i.e., Barton & Wolery, 2010; Cihak et al., 2010; Qui et al., 2019), and ultimately extends this literature base by demonstrating a strong generalized effect of this intervention in a novel setting.

These results suggest this intervention has wide reaching effects beyond the intervention setting, highlighting the lasting impact of intervention for young children. Demonstration of skills outside of the teaching context is the ultimate goal of all interventions for individuals with disabilities (Burt & Whitney, 2018; Cooper et al., 2020; Hitchcock et al., 2015). Research indicates a need for children to be taught play skills outside of clinical, one-on-one settings (Jung & Sainato, 2013). This study did just that, indicating that through thoughtful, individualized implementation of intervention, independent engagement in play activities with other children in classrooms, play courts, and community settings is attainable. In this study, generalization of target skills was reached by programming common stimuli (Cooper et al., 2020; Stokes & Baer, 1977), and then providing these stimuli in a different setting (free choice). Incorporating these toys and materials in the classroom setting ultimately led to development of generalization of skills from the onset of intervention, bolstering the effects of this intervention as a whole.

Aiding in the strong effects of generalization of target skills demonstrated in this study is the naturalistic approach of indiscriminable contingencies (Cooper et al., 2020; Stokes & Baer, 1977). By presenting contingencies that were embedded within each play activity, as opposed to artificial contingencies not related to the ongoing activity at hand, generalization of skills was promoted. The inherent opportunity for natural reinforcement in this intervention is an important implication for practitioners working with young children with ASD, as this intervention built on the similarity of contingencies that occur throughout other various play activities and settings. These outcomes are meaningful, as engagement in strong play skills enable children to engage with their peers, form

relationships, and become active members of their classroom community. Strong play skills serve as a foundational skill set for young children, as these skills create opportunities and means to focus other important outcomes. For example, engaging in play with peers require skills from multiple areas of development, such as play skills and social skills. However, if play skills are not in a child's repertoire, focusing solely on the social aspects of play will be very difficult, as two skills sets are in acquisition simultaneously. Engagement in strong play skills allows young students to focus on other areas of development and skills, ultimately serving as a gateway to other valued outcomes.

This intervention included individualized instruction, ensuring treatment met the needs of each unique participant. Prompting hierarchies were developed with each participant in mind. Individualized supports were also easily added to supplement intervention, bolstering the effects of intervention and aiding in higher responding, exemplifying the individualization of this intervention as a whole.

In addition to the individualized instruction that SLP provides, this study also addressed issues of prompt dependency within intervention. This intervention provided practitioners with concrete, practical procedures that removed opportunities for more intrusive prompting when it was not warranted. In some regard, the procedures of this intervention served as an antecedent strategy for teachers, eliminating the possibility of implementation of higher level prompting without trying less intrusive prompts first.

Limitations and Implications of Future Research

Although positive outcomes were achieved in this study, some limitations exist. First, due to the nature of free choice, students participated in each area of free choice with different peers every day. It is probable that some independent, appropriate play actions could have been imitated from a peer model, and not specifically as a result of implementation of the intervention training sessions prior to free choice.

Second, play sets and materials were changed often, dependent upon the classroom theme of the week. As a result, intervention targeted different themed toy sets that corresponded to what was available in the dramatic play section of free choice. A set master criterion was not reached before moving on to new materials because of this. Additionally, for each participant, some materials were novel, and ultimately more preferred. This may have attributed to variability in levels of engagement in play skills through intervention and maintenance data collection. Changing the materials that were available to the children in the classroom was part of the classroom routine and was not controlled by the interventionist.

Next, for Gabriel, addition of a visual support to supplement the SLP altered intervention provided to him. In turn, it is probable that effects shown during the intervention + visual and maintenance phases were not a sole result of SLP itself, and could be attributed to the addition of the visual support.

Lastly, although fidelity of implementation data determined intervention was implemented with 100% fidelity, classroom staff assigned to the dramatic play section of free choice changed daily. This inconsistency may attribute to any variability demonstrated in participants' data, as some classroom staff were more preferred than others for each participant. The practice of rotating staff members within each section of free choice daily was part of the classroom routine and was not controlled by the interventionist. It should also be noted that fidelity of implementation was reported through a self-report checklist. It is possible biases and introspective ability could play a role in reporting of fidelity of implementation.

Future studies should include data collected from intervention training sessions, in addition to generalization and maintenance data. As this was an initial investigation into the generalization of this intervention in a classroom setting, data demonstrating the effectiveness of the SLP procedure in trainings sessions was not included in this study. Additionally, because this study took place in a school setting, opportunities for continued data collection were limited due to summer break. Future research could consider additional data collection, including increased opportunities for continued maintenance data collection.

Conclusion

SLP demonstrated effectiveness in teaching pretend play actions to young children diagnosed with ASD in a classroom setting. Results indicated engagement in generalized pretend play skills during free choice, and that the effects of SLP maintained post intervention. Through intervention, pivotal play skills were targeted while building upon and expanding current skill repertoires. Play often serves as a gateway to target skills in associated developmental domains, emphasizing the importance of meaningful play in EI and ECSE settings. Further, this intervention created opportunities for a variety of other skills to be targeted within this context such as social interactions with peers. Teachers found this intervention easy to implement in the context of a classroom and identified that the results of this intervention lead to not only increased play repertoires, but also increased interactions and play with peers. Play skills set the stage for important play with peers, fostering friendships and community membership- a meaningful outcome in EI and ECSE programs across the country.

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