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Special Issue:

Social Skills Development and Strategies for Success

Editors:

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Editorial

Dear IEEJE Readers,

For some individuals, the ability to interact with others in a way that is effective, meaningful, and purposeful is as natural as walking, talking, or breathing. Indeed, those individuals to whom social skills comes naturally, may remain totally unaware that possessing those basic interactive skills may provide a significant advantage in life over those individuals to whom social skills does not come naturally. Social skills deficits may impede behavior, academic performance, relationships, mental health, safety, daily functioning, and adult life outcomes. Therefore, teaching social skills to individuals who struggle in acquiring such skills seems like it would be an apparent educational priority. Unfortunately, however, some educational systems have been slow to recognize the importance of social skills and the development of social competence.

We appealed to several educators, practitioners, and researchers, for submissions to this special edition which highlights the value of social skills. We received several quality submissions from which we selected seven articles to include in this special edition. The authors of these articles share a common passion and a common professional commitment: the belief in the value of social skills. These articles cover a wide range of topics, service delivery modalities, and life domains. Due to the importance of the topic, we have extended the traditional focus of the International Electronic Journal of Elementary Education (IEJEE) to beyond the scope of elementary education. A brief summary of the articles is below:

- The article, "Social Emotional Learning in Virtual Settings: Intervention Strategies" provides strategies to successfully incorporate Social Emotional Learning (SEL) into daily virtual lessons.

- The article, "Developing Social Skills and Social Competence in Children with Autism" discusses social development from three perspectives: (a) theories of social development, (b) constructs of social competence, and (c) several evidence-based interventions designed to enhance social skills.

- The article, "School-based social skills programming to increase employment for individuals with ASD" serves to identify soft skills needed for successful employment and ways in which school-based programming can address these skills. In addition, the author provides suggestions for addressing social skills that are key to vocational success.

- The article, " The Importance of Inclusive Spaces in Social Skills Development: Drawing on the LGBTQ Educational and Disability Studies in Education Frameworks" follows the story of Jacob, an individual whose participation in an inclusive social club provided him with much needed acceptance, guidance, and confidence.

- The article, "Using A Functional Play Intervention to Increase Joint Attention of School-aged, Non-Verbal Children with Autism Spectrum Disorder (ASD)" examines an engaging functional play intervention that significantly increases joint intention for school age children with ASD.
- The article, "Turkish Parents, Teachers, and Faculty Members' Opinions and Experiences on Safety Skills Instruction for Children with Autism Spectrum Disorder" highlights the importance and value of teaching safety skills to children with ASD.

- The article, "Adapting an In-person Transdiagnostic Social Skills Program to Online Delivery: Technology to the Rescue" chronicles the transition of the LUNCH Groups® social skills in-person program to a successful online delivery model.

Special Issue Editors

Dr. Tracey Silveira-Zaldivar / Dr. Kamil Özerk

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Acknowledgement

I am grateful to the authors for submitting their excellent works and to all the reviewers for their instrumental and thoughtful analyses. I would also like to thank the journal's editorial staff, particularly Dr. Abdullah Kaldirim, who brought this special edition to fruition and provided us with this opportunity to focus on this noteworthy subject. I send a special thank you to Dr. John Erratt for sharing his expertise and time with us. Finally, I extend sincere gratitude to my friend and esteemed colleague, Kamil Özerk and Gül Özerk, for their guidance and support during the entire process of developing this special issue.

Tracey Silveira-Zaldivar

Acknowledgment

It has been a great pressure for me to be Dr. Tracey Silveira-Zaldivar's co-editor. She is one of the most knowledgeable and hard-working school psychologist and behaviorist I ever met. She has been my teacher at Chapman University and supervisor at Orange Unified School District in California. Her tireless engagement in the education of RBTs and her research on social skills has impressed me. I express my sincere gratitude to her for materializing this special issue of IEJEE.

Kamil Özerk

About Editors

Tracey Silveira-Zaldivar, BCBA, PhD. is a school psychologist and behaviorist with over 40 years of experience working with children, young adults, and families.

Kamil Özerk, PhD. is a professor of education at the University of Oslo. Özerk has teacher background. He worked as youth leader, educational psychological counselor, educational consultant. He has published several books and articles on bilingualism, reading, teaching and learning at school and autism.

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Using A Functional Play Intervention to Increase Joint Attention of School-aged, Non-Verbal Children with Autism Spectrum Disorder (ASD)

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Abstract

The vast majority of joint attention interventions for children with autism spectrum disorder (ASD) are geared toward toddlers and preschoolers as it is an early developmental skill. However, many of the youngsters do not acquire joint attention despite these early interventions and subsequently do not exhibit joint attention later in life. In the current study, we used a multiple baseline design across three school-aged, non-verbal children with ASD, to assess the efficacy of a functional play intervention to increase joint attention. During baseline, all three children demonstrated minimal joint attention and appropriate play. Following baseline, the functional play intervention was presented, which consisted of teaching functional play through modeling. Post-intervention probes demonstrated gains in both joint attention and functional play. Furthermore, these behaviors generalized across person, setting, and stimuli. The results of this study provide evidence that functional play interventions may be a promising approach to teach and promote joint attention for older, school-aged children with ASD.

Keywords:

Joint Attention, Play, Autism Spectrum Disorder

Introduction

Children with autism spectrum disorder (ASD) typically have underdeveloped joint attention skills. Joint attention is the use of verbal (i.e., commenting, question asking) and nonverbal (i.e., eye-gazing, gesturing) forms of communication to coordinate between a social-communicative partner and an object or event of interest, with the intent of sharing that experience (MacDonald et al., 2006; Miendl & Cannella-Malone, 2011; Mundy, Sigman, & Kasari, 1994; White et al., 2011). Recognized as one of the earliest forms of communication, joint attention is considered a foundational skill associated with the development of language, play, imitation, and social behavior in both typically developing children (Baron-Cohen, 1991) and children with ASD (Mundy et al., 2007). Interventions teaching joint attention to children with ASD have primarily been conducted with toddlers and preschool-aged

children with ASD, not school-aged children (Miendl & Cannella-Malone, 2011; Murza et al., 2016; White et al., 2011). Unfortunately, joint attention often stops being a target of intervention in older, school-aged children with ASD. The literature has shown that young children with the least amount of language (e.g., nonverbal or minimally verbal) have benefitted the most from joint attention interventions (Kasari et al., 2008; Kasari et al., 2010), thus targeting joint attention in the treatment of older children with ASD needs to be addressed.

In the past few decades, interventions that specifically target joint attention have been developed for toddlers and preschool children with ASD (Miendl & Cannella-Malone, 2011; Murza et al., 2016; White et al., 2011). Three review articles have assessed a number of these interventions (Miendl & Cannella-Malone, 2011; Murza et al., 2016; White et al., 2011). These interventions vary in terms of the implementation of the procedures (e.g., parent-training, physical prompting) and the degree to which social versus non-social (i.e., tangibles) consequences were used to increase joint attention behaviors (Miendl & Cannella-Malone, 2011). The review suggested that the majority of interventions were effective in increasing joint attention skills in very young children with ASD.

Researchers have proposed that for these children with ASD, joint attention needs to be the direct target within interventions to robustly affect change (Kasari et al., 2006; Whalen & Schreibman, 2003; White et al., 2011). A variety of treatment packages have been used including least-to-most prompting, verbal prompting, with edible and social reinforcers (e.g., praise; Taylor & Hoch, 2008). Typically, joint attention interventions range from 70 to 90 sessions, including baseline and generalization probe measurements. Many of these interventions also reported increases in ancillary measures of other social behaviors such as spontaneous speech, expressive language, social-communicative behaviors, and play (Jones et al., 2006; Kasari et al., 2008; Miendl & Cannella-Malone, 2011; Whalen & Schreibman, 2003; White et al., 2011). White and colleagues (2011) reported that in 18 of the articles they reviewed, a play context was used for teaching joint attention, suggesting that joint attention and play go together. However, for children with ASD the use of nonsocial consequences, edible or other tangible reinforcers are often required (Miendl & Cannella-Malone, 2011; White et al., 2011). In Miendl and Cannella-Malone's (2011) systematic review, a large number of studies suggested the need for tangible reinforcers and/or access to preferred activities or items as consequences for joint attention. In almost all of the successful interventions targeting joint attention, direct reinforcement was used (White et al., 2011).

Taken together, the results of prior studies suggest that play should somehow be related to the teaching of joint attention (White, et al., 2011) and that direct tangible reinforcement should be an element of the intervention process (Miendl & Cannella-Malone, 2011). The present study incorporated these two findings into the current treatment. First, rather than merely using the context of play, functional play was used as the means to teach joint attention. It was thought that this would add a motivating element to the intervention (Whalen & Schreibman, 2003). Second, direct reinforcement in terms of access to the functional play item was provided. Importantly, several expansions to the literature were made in the present research including: (1) the participation of school-aged, non-verbal children with ASD, (2) the participation of various ethnicities, (3) assessment of generalization of training across person, setting, and stimuli, and (4) inclusion of measures of both functional play and joint attention.

Method

Participants

Participants included three boys attending weekly behavioral therapy session at an after-school treatment center for children with ASD. All three children received an independent diagnosis of ASD according to the Diagnostic and Statistical Manual of Mental Disorders-5th edition (DSM-5; American Psychiatric Association, 2013), attended elementary school or participated in a specialized education program, and demonstrated limited amounts of joint attention and appropriate play skills. Additional characteristics of the participants were assessed using the Childhood Autism Rating Scale-2 (CARS-2; Schopler, Van Bourgondien, Wellman, & Love, 2010), and the Vineland Adaptive Behavior Scales-Second Edition (Vineland-II; Sparrow et al., 2005). A summary of participants and their characteristics is presented in Table 1.

Kevin is a South Asian American boy, who was 6 years and 8 months old at the start of baseline. Kevin's adaptive functioning was in the low range with low scores for receptive and expressive language skills, based on parent report (Vineland-II; Sparrow et al., 2005). Kevin demonstrated a severe delay in the development of play skills, often engaging with toys inappropriately (i.e., stereotypy) or not at all. Additionally, Kevin demonstrated limited joint attention behaviors, often only making eye contact when prompted.

Jordan is a Latinx boy, who was 6 years and 9 months at the beginning of baseline. Based on parent report (Vineland-II; Sparrow et al., 2005), Jordan's adaptive functioning was in the low range, with low scores in receptive and expressive language skills. Jordan

Table 1
Partcipant Characterictics

Participant	Age	Sex	Ethnicity	VABS-3 Adaptive Level	CARS-2 ASD Classification
Kevin	6:8	Male	South Asian American	Low	Severe
Jordan	6:9	Male	Latinx	Low	Severe
Brandon	7:7	Male	Asian American	Moderately Low	Severe

demonstrated limited receptive and expressive language: he exhibited one-word, spontaneous requests for food and snack items, used full phrases to request only when prompted, and frequently exhibited echolalia rather than functional speech. Jordan lacked motivation for toys and engaged in destructive play or inappropriate mouthing of toys; he often engaged in repetitive and stereotyped behaviors with items used in the study. Jordan had limited joint attention behaviors, and would not make eye contact even when prompted.

At the start of baseline, Brandon, an Asian American boy, was 7 years and 7 months. Brandon's adaptive functioning was in the moderately low range with low scores for receptive and expressive language skills, based on parent report (Vineland-II; Sparrow et al., 2005). Brandon had some delay in the development of play skills and would not engage in play appropriately. Brandon had limited joint attention behaviors, often not engaging in joint attention and averting eye contact with others.

Materials

A group of predetermined toys selected based on a preference assessment during a free operant observation procedure (Roane, Vollmer, Ringdahl & Marcus, 1998), were chosen and used throughout the study. The 20 preselected toys were only used for the study, and were not available outside of the study to prevent bias and ensure that each child was equally exposed to the materials during the study.

Setting

Baseline sessions, functional toy play sessions, trial-based play probe sessions, and follow-up probes were conducted in a therapy room (1.5 m by 3 m) located at the after-school program. Generalization probes were conducted by an unfamiliar person in an unfamiliar room (1.5 m by 3 m) located near the after-school program. Both rooms contained a child-sized table and two child-sized chairs, with the child and therapist facing one another and a gray lapboard on the therapist's lap, which was used to present the toys and model appropriate play to the child.

Design

A single subject multiple baseline design across participants was used to assess the effects of the functional toy play intervention. Multiple baseline designs are established experimental techniques commonly used in research with children with ASD (Nock, 2002).

The children first completed baseline sessions, which were trial-based play probes sessions consisting of 8 opportunities to engage in joint attention with the therapist and to display functional play skills. After baseline, the trial-based functional toy play intervention and trial-based play probes were introduced in order to facilitate the acquisition of joint attention and functional play skills, thus the intervention included two recorded sessions. Following each functional toy play intervention session, trial-based play probes (similar to baseline sessions) were conducted. Criterion was met when the child engaged in 7 correct joint attention responses out of 8 opportunities across two consecutive trial-based play probe sessions.

Procedure

Baseline

Each child's frequency of joint attention and functional toy play occurrences was assessed during an approximately five-minute trial-based recorded play probe sessions. Each play probe consisted of eight opportunities for the child to engage in joint attention and demonstrate functional play skills. The experimenter introduced eight different toys randomly, one at a time from the box of twenty possible highly preferred toys. The experimenter showed the child the toy for approximately 2 seconds, waiting for any joint attention to be displayed. The experimenter then gave the toy to the child for 3-5 seconds. During this time, the child could interact with the toy anyway he wanted, but was reinforced for functional play with social praise (e.g., "that is good playing"). If at any point during each of these opportunities (trials), the child engaged in joint attention behaviors with the experimenter, the behavior was reinforced with an edible and praise (e.g., "That was good looking, Kevin. You looked at me, at the toy, and back at me. Good job!"). If the child did not engage in joint attention behavior, the experimenter would move on to the next trial by removing and putting away the toy, then introducing a new toy. During these sessions the child was given the opportunity to engage in both functional play and joint attention.

Generalization probes

To assess generalization of functional play and joint attention, probes were conducted during baseline and following the completion of treatment. Similar to baseline sessions, trial-based play probes were conducted in a play room not associated with the study with an unfamiliar adult and novel toys.

Functional toy play intervention

Following baseline, the functional toy play intervention was introduced, consisting of the functional toy play intervention sessions and subsequent play probes. These sessions were structured to serve as a close model of typical dyad playing, using phrases such as "Your Turn" and "My Turn" to establish these sessions as interactive play sessions, rather than as an individual play session.

During the intervention sessions, when introducing each toy, the experimenter held the toy at eye level and then put it on the lapboard, allowing the child an opportunity to engage in joint attention behaviors. Then the experimenter would model functional play with the toy three times. The child was then given the opportunity to functionally play with the toy, being prompted by the experimenter with phrases like "Do this" or "Can you make the dinosaur stomp" and "Your turn." If at any time during the trial, the child engaged in joint attention with the experimenter, joint attention was immediately reinforced with an edible, verbal praise, and immediate access to the toy (i.e., access to the toy for an additional 30 seconds). If the child did not engage in joint attention behaviors, such reinforcement did not occur, and the experimenter moved on to the next trial. To conclude a trial, the experimenter said, "My turn" and removed the toy from the lapboard and commenced with the next trial. To summarize, the intervention consisted of: 1) presentation of the toy at eye level, 2) modeling of the functional use of the toy three times consecutively, 3) handing over the toy to the child and allowing the opportunity for functional toy play and joint attention on behalf of the child, and 4) and providing the consequences for joint attention when and if it occurred. Praise for correct functional play was provided.

Play probes

Each five-minute functional toy play intervention session was immediately followed by a trial-based play probe session, mimicking baseline procedures. Similar to baseline, the child was not prompted to engage in play behaviors and joint attention but was given the opportunity to engage and immediately reinforced with an edible, verbal praise and access to the toy. Mastery criterion was set to 7 correct joint attention responses out of 8 opportunities, across two consecutive trial-based play probe sessions. Play probes were presented to assess if joint attention occurred in a non-training setting.

Dependent Measures

This study included two measures: joint attention and functional play.

Joint attention

For the present study, joint attention was operationally defined as a response in which the child exhibits eye contact with the experimenter, gazes at the toy, and regains eye contact with the experimenter within 10 seconds. Also, the child looking at the toy, then looking at the experimenter and then shifting his gaze back to the toy is included in the operational definition.

Functional play

In this study, functional play was operationally defined as the child either a) appropriately imitating the functional toy play behavior modeled by the experimenter, or (e.g. bouncing the ball), or b) using the toys to perform actions different from those modeled, but still considered a functional and appropriate use for the toy (e.g. rolling the ball).

Scoring/Reliability

During each phase of the study, an observer video recorded each session. Following data collection, two reliable raters conducted inter-observer agreement by rating 33% of videotaped sessions during baseline, generalization probes, and appropriate play intervention for each child. The two raters reviewed the operational scoring definitions and followed the same scoring procedure. Inter-observer agreement included calculating the number of agreements (i.e., occurrence and nonoccurrence) divided by the sum of observations (i.e., agreements plus disagreements) multiplied by 100. Inter-observer agreement was averaged at 97% for joint attention engagements and 87% for appropriate play behaviors across all the children across all data collection phases.

Procedural Reliability

Procedural reliability was assessed to ensure the protocol was implemented without potential bias and to ensure procedural integrity. For each participant, two observers independently rated at least 33% of videotaped sessions (i.e., baseline, treatment, play probes, generalization probes). Sessions were assessed to determine whether the intended intervention was

implemented correctly. Sessions were coded using a checklist (made available upon request) designed to measure correct and incorrect application of instructions, opportunity presentation, consistent opportunity length, and absence of additional prompting. Procedural integrity was calculated by dividing the number of correctly implemented steps by the total number of steps and multiplying by 100. Treatment fidelity was 100% across all phases and all children.

Results

All three children with ASD met learning criterion by demonstrating gains in joint attention engagements during intervention of 7 out of 8 opportunities (trials). All children demonstrated joint attention mastery during play probes.The children also demonstrated high frequencies of functional play both during intervention and within post-intervention play probes as compared to baseline. For all three of the children, these gains generalized across person and setting in post-treatment generalization probes. Figure 1 depicts the children's joint attention engagements, and Figure 2 depicts the children's functional toy play behaviors.

Joint Attention

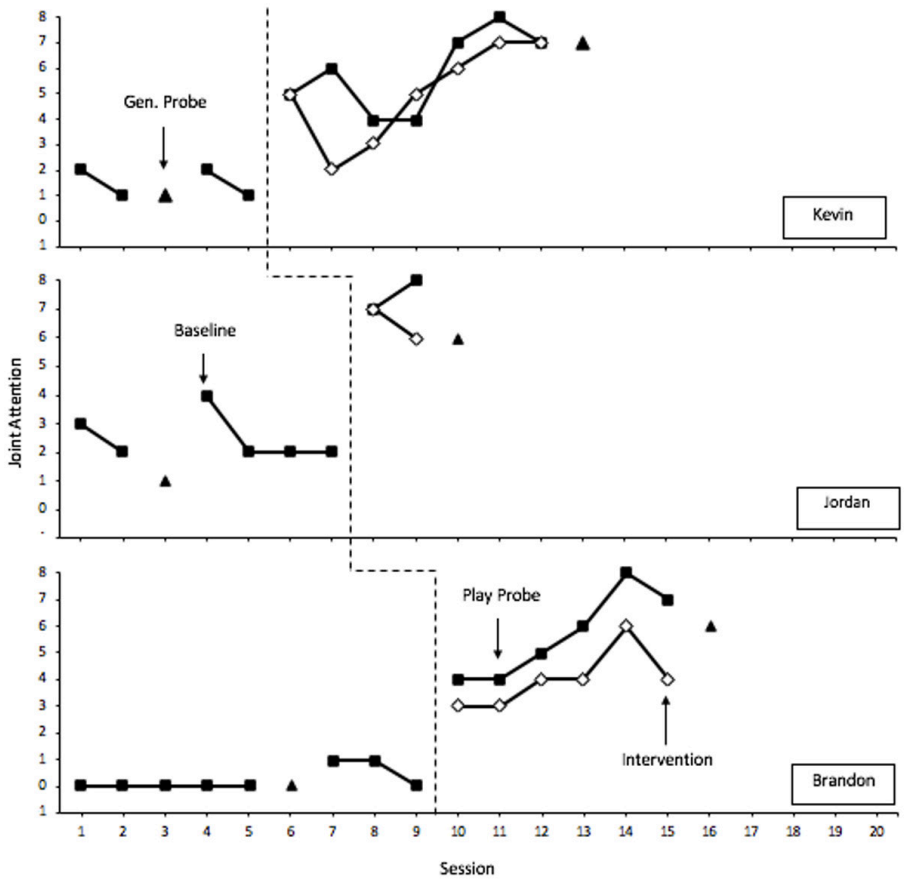
Kevin

During baseline, Kevin exhibited very little joint attention (see panel 1, Figure 1). The introduction of the functional play intervention, however, steadily increased Kevin's joint attention across the 8 opportunities during intervention and post play probe sessions. In the intervention phase, Kevin demonstrated a significant increase in joint attention in both the functional play intervention sessions and more importantly in subsequent play probes. Kevin met learning criterion (e.g., joint attention in 7 out of 8 opportunities across 2 consecutive sessions) after 7 functional play intervention sessions. In Kevin's last two intervention sessions, joint attention occurred for 7 out of 8 opportunities. Treatment gains generalized to an unfamiliar setting with an unfamiliar person and untrained stimuli.

Jordan

Jordan's joint attention (see panel 2, Figure 1), remained consistently low during baseline; however, it immediately increased upon the introduction of the

Figure 1
Joint Attention



Note. X-axis represents the number of sessions. Y-axis represents the number of trials per session. Closed squares represent the child's joint attention during baseline and during trial-based play probes following intervention sessions. Closed triangles represent the child's joint attention during generalization probes. Open diamonds represent the child's joint attention during the functional toy play intervention sessions.

play intervention. Jordan met criterion after two play intervention sessions. During intervention, Jordan's joint attention significantly increased in the functional play intervention and play probes from baseline levels. Treatment gains were generalizable to an unfamiliar setting with an unfamiliar person and untrained stimuli.

Brandon

In baseline, Brandon demonstrated very few joint attention engagements (see panel 3, Figure 1). Following the onset of the play intervention, Brandon exhibited steady gains in joint attention and met criterion (e.g., 7 out of 8 opportunities) within 6 functional play intervention sessions. During intervention, Brandon's joint attention increased in post play probes from baseline levels. For Brandon, joint attention consistently occurred at higher rates in the play probe sessions than the functional toy play intervention sessions. Brandon's increase in joint attention was also exhibited in generalization probes conducted in an unfamiliar setting with an unfamiliar adult and untrained stimuli.

Functional Play Behaviors

Kevin

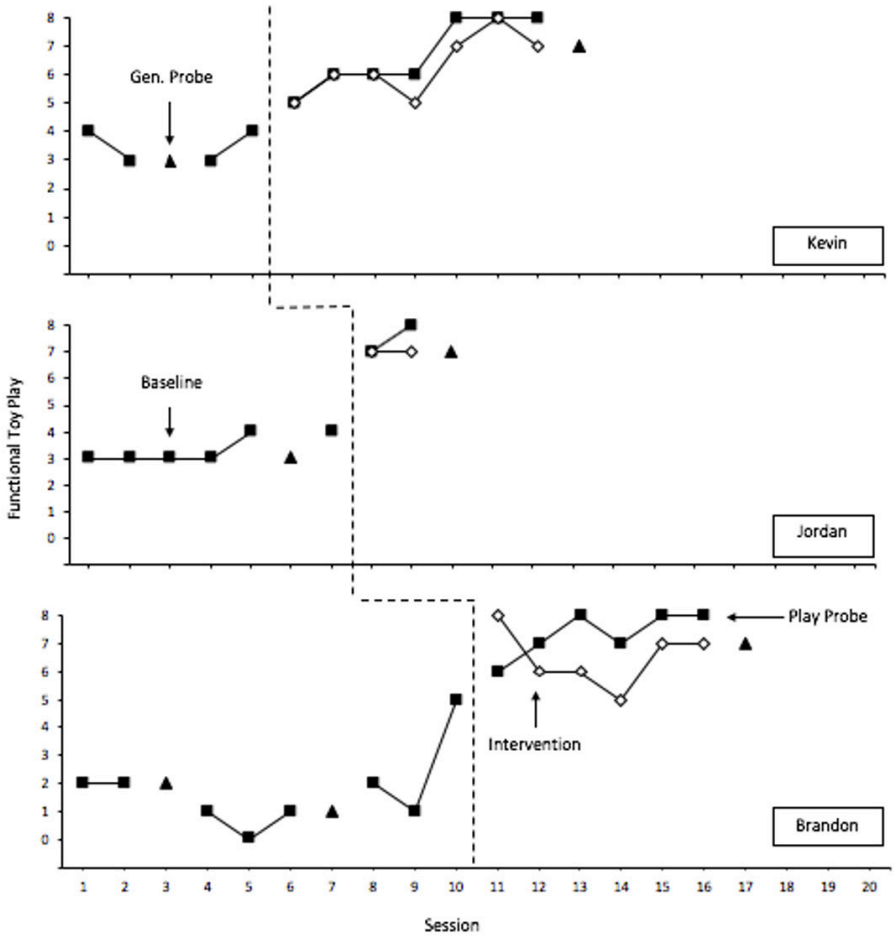
During baseline, Kevin exhibited very few functional play behaviors (see panel 1, Figure 2). With the implementation of the functional play intervention, however, Kevin's functional toy play across the 8 opportunities steadily increased. Kevin's play behaviors remained high through the intervention phase of the study. In the play probes, Kevin's play behaviors reached criterion levels (e.g., 7 out of 8 opportunities). Treatment gains generalized to an unfamiliar setting with an unfamiliar person and untrained stimuli.

Jordan

Jordan's functional play behaviors (see panel 2, Figure 2) remained consistently low during baseline, but immediately increased upon the introduction of the play intervention. Additionally, Jordan's play behaviors increased and reached criterion levels in the play probes. Treatment gains were generalizable to an unfamiliar setting with an unfamiliar person and untrained stimuli.

Figure 2

Functional Toy Play



Note. X-axis represents the number of sessions. Y-axis represents the number of trials per session. Closed triangles represent the child's functional toy play behavior during baseline and during trial-based play probes following intervention sessions. Closed squares represent the child's functional toy play behavior during generalization probes. Open circles represent the child's functional toy play behavior during the functional toy play intervention sessions.

Brandon

In baseline, Brandon demonstrated very few functional play behaviors (see panel 3, Figure 2). Following the onset of the functional play intervention, Brandon exhibited immediate gains in play behaviors, which remained consistent across his 6 play intervention sessions. Brandon's play behaviors increased from baseline levels in the play probes. For Brandon, functional toy play consistently occurred at higher rates in the play probe sessions than the functional toy play intervention sessions Brandon's increase in play behavior was also exhibited in post-intervention generalization probes conducted in an unfamiliar setting with an unfamiliar person and untrained stimuli.

Discussion

The present study supports the efficacy of a functional play intervention for increasing joint attention and, expectedly, functional toy play for children with ASD. Following the implementation of the functional play intervention, all three children with ASD showed increases in joint attention and functional play behaviors and met learning criterion by demonstrating 7 correct joint attention engagements out of 8 opportunities across two consecutive play probes that followed the functional play intervention sessions. Of the three children, one child met learning criterion by demonstrating gains in joint attention after only two play intervention sessions; the other two children met learning criterion within 6-7 intervention sessions. All three children demonstrated generalization of increased joint attention and functional play behavior with an unfamiliar person in an unfamiliar setting and novel stimuli, following the completion of treatment.

The present study diverges from the current joint attention literature in that it taught joint attention via a functional play intervention. While White and colleagues (2011) discussed that using play as a context is "best practice" for teaching joint attention skills, research had yet to assess the efficacy of teaching play as a means to acquire joint attention. Previous literature does support the use of play as the context for teaching joint attention, and there is evidence of a link between joint attention and play skills for children with ASD (Miendl & Cannella-Malone, 2011; White et al., 2011). Play is a highly motivating behavior for both children with and without ASD (Charlop, Lang & Rispoli, 2018), and therefore using play as the vehicle to teach joint attention skills was a natural conclusion (Boutot et al., 2005; Kasari et al., 2010; Whalen & Schreibman, 2003). Play provides a good means for teaching joint attention as it allows for the programming of common stimuli (i.e., familiar toys) and shared control with turn taking (White et al., 2011), includes a play partner (White et al., 2011), and provides natural social consequences. Play often requires a play partner (i.e., parent, sibling, a therapist) to model appropriate play (e.g., turn-taking, functional toy play) for the child, thus providing natural opportunities for the child to engage in joint attention with their social-communicative partner and the object of interest (i.e., the toy). As a result, play benefits generalization.

In the present study, as functional play was taught, it likely promoted the occurrence of joint attention in that joint attention was a natural part of learning functional play. During functional play, attending to both the play partner and the toy (i.e., the object of interest) is a necessary part of the functional play intervention in that it requires the child to imitate modeled play. Furthermore, the post intervention play probes demonstrated that joint attention increased as functional toy play increased after the direct functional play intervention.

Moreover, the results demonstrated generalization of both behaviors to an unfamiliar setting with an unfamiliar person and novel stimuli. Although the measurement of generalization was minimal in the present study and consisted of only one probe (generalization and not maintenance), treatment gains were generalizable across all three children. Previous literature had not seen generalizable results (e.g. Kasari et al., 2010). Thus, it appears that play may benefit the generalization of joint attention skills as it includes naturally maintaining consequences (White et al., 2011). In much of the previous literature on joint attention, the use of edible and tangible reinforcers were often used (Miendl & Cannella-Malone, 2011; White et al., 2011). However, the present study embedded the reinforcement of joint attention within a functional play intervention. While joint attention requires sharing social attention with a social-communicative partner, play requires access to toys (Warreyn et al., 2014; White, et al, 2011). Thus, within the functional play paradigm, access to the toy(s) and shared social attention with a social-communicative play partner are naturally maintaining reinforcers. As a result, learning joint attention within play may have facilitated generalizations.

The present study extends joint attention research by providing evidence that older school-aged, minimally-verbal children with ASD benefit from joint attention and play interventions. Research has long focused on teaching joint attention to toddlers and preschool-aged children with ASD (Kasari et al., 2006; Miendl & Cannella-Malone, 2011; Murza et al., 2016; White et al., 2011). To date there is no research that has included targets of joint attention for older children with minimal verbal skills as in the present study. Understandably, past research has focused on younger children because of the strong link between joint attention and early development of more complex language, play and social behaviors (Baron-Cohen, 1991; Charman et

al., 2000; Charman et al., 2003; Charman et al., 1997; Delinicolas & Young, 2007; Mundy et al., 2007; Murray et al., 2008; Rollins & Snow, 1998; Schertz & Odom, 2004; Tomasello & Farrar, 1986). However, older children might also benefit from joint attention interventions; more specifically, with increased joint attention skills, these children may see increases in more complex social and language behaviors. These results highlight the continued benefits of targeting joint attention, an important yet complex skill, in older children with ASD. In summary, the present study also demonstrated that joint attention can successfully be taught via a functional play intervention to children who were considered minimally verbal or "non-verbal" such that they did not exhibit speech at the time of the study and did not communicate reliably via an alternative/augmentative communication device. The children demonstrated interfering behaviors such as stereotypy, inattentiveness, aggression, tantrums, and other problem behaviors. Accordingly, they would be considered a challenging group of participants in need of intervention for both functional play and joint attention.

The present study also included participants from three divere ethnicities. It is rare in the ASD literature that children from a variety of communities are identified. Such cross cultural identification. and inclusion is important as we move forward as a field in the 21st century.

The results of the present study also suggest that it is "not too late" to target joint attention in older, school-aged children. The results of this study raise some suggestions for future research. First, it is necessary to replicate these findings, and perhaps determine if older persons (i.e., adolescents, adults) with ASD can increase and acquire joint attention behavior. This is especially important given the heavily cited relationship between joint attention, play, and language (e.g., Kasari et al., 2006; Miendl & Cannella-Malone, 2011; Murza et al., 2016; White et al., 2011). While there was no direct data available from the present study, it was anecdotally noted that all three participants did improve their language skills after participation in the study. Second, research could further investigate the generalization and maintenance of these skills and behaviors more extensively. Third, there is a need for research using natural play partners, including parents, siblings and peers. This might benefit generalization and may provide more opportunities for the child with ASD to practice these skills throughout the day, and not just during intervention sessions (Spector & Charlop, 2017). In conclusion, the present study provides promising results and empirical support of a functional play intervention to increase joint attention for school-aged, non-verbal children with ASD.

References

American Psychiatric Association (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington , DC: Author.

Bakeman, R., & Adamson, L. B. (1984). Coordinating attention to people and objects in mother–infant and peer–infant interaction. *Child Development, 55*, 1278– 1289.

Baron-Cohen (1991). Precursors to a theory of mind: Understanding attention in others. In A. Whiten (Ed.), *Natural theories of mind: Evolution, development and simulation of everyday mindreading* (p. 233–251). Basil Blackwell.

Bates, E., Benigni, L., Bretherton, I., Camaioni, L. & Volterra, V. (1979). The emergence of symbols: Cognition and communication in infancy. New York: Academic Press.

Boutot, E., Guenther, T., & Crozier, S. (2005). Let's Play: Teaching play skills to young children with autism. *Education and Training In Developmental Disabilities, 40*(3), 285-292.

Charlop, M.H, Lang, R. & Rispoli, M. (2018). *Evidence-based approaches to teaching play and social skills to children with autism spectrum disorder.* Springer.

Carpenter, M., Pennington, B. F., & Rogers, S. J. (2002). Interrelations among social-cognitive skills in young children with autism. *Journal of Autism and Developmental Disorders, 32*, 91–106.

Charman, T., Baron-Cohen, S., Swettenham, J., Baird, G., Drew, A., & Cox, A. (2000). Testing joint attention, imtation, and play as infancy precursors to langauge and theory of mind. *Cognitive Development, 15*(4), 481-498.

Charman, T., Baron-Cohen, S., Swettenham, J., Baird, G., Drew, A., & Cox, A. (2003). Predicting language outcome in infants with autism and pervasive developmental disorder. I*nternational Journal of Language and Communication Disorders, 38*, 265– 285.

Charman, T., Swettenham, J., Baron-Cohen, S., Cox, A., Slonims, V., Wheelwright, S., et al. (1997). Infants with autism: An investigation of empathy, pretend play, joint attention, and imitation. *Developmental Psychology, 33*, 781-789.

Kasari, C., Freeman, S., & Paparella, T. (2006). Joint attention and symbolic play in young children with autism: A randomized controlled intervention study. *Journal of Child Psychology and Psychiatry, 47*(6), 611-620.

Kasari, C., Freeman, S., Paparella, T., & Jahromi, L.B. (2008). Language outcome in autism: Randomized comparison of joint attention and play interventions. *Journal of Child Psychology and Psychiatry, 76*(1), 125-137.

Kasari, C., Gulsrud, A.C., Wong, C., Kwon, S. & Locke, J. (2010). Randomized controlled caregiver mediated joint attention engagement intervention for toddlers with autism. *Journal of Autism and Developmental Disorders, 40*, 1045-1056.

MacDonald, R., Anderson, J., Dube, W.V., Geckeler, A., Green, G., Holcomb, W., et al. (2006). Behavioral assessment of joint attention: A methodological report. *Research in Developmental Disabilities, 27*, 138-150.

Miendl, J.N. & Cannella-Malone, H.I. (2011). Initiating and responding to joint attention bids in children with autism: A review of the literature. *Research in Developmental Disabilities 32*, 1441-1454.

Mundy, P., Sigman, M. & Kasari, C. (1994). Join attention, developmental level and symptom presentation in autism. *Development and Psychopathologym, 6*, 389-401.

Mundy, P. (1995). Joint attention and social-emotional approach behavior in children with autism. *Development and Psychopathology, 7*, 63-82.

Mundy, P., Sigman, M., Ungerer, J. & Sherman, T. (1986). Defining the social deficits of autism: The contribution of nonverbal communication measures. *Journal of Child Psychology and Psychiatry, 27*, 657-669.

Nock, M. K. (2002). A multiple-baseline evaluation of the treatment of food phobia in a young boy. *Journal of Behavior Therapy And Experimental Psychiatry, 33*(3-4), 217-225.

Pierce, K. & Schreibman, L. (1995). Increasing complex social behaviors in children with autism: Effects of peer-implemented pivotal response training. *Journal of Applied Behavior Analysis, 23*, 285-295.

Osterling, J., & Dawson, G. (1994). Early recognition of children with autism: A study of first birthday home videotapes. *Journal of Autism and Developmental Disorders, 24*, 247–256.

Spector, V. & Charlop, M. H. (2017). A Sibling-Mediated Intervention for Children with Autism Spectrum Disorder: Using the Natural Language Paradigm (NLP). *Journal of Autism and Developmental Disorders*, 1-15.

Taylor, B. A., & Hoch, H. (2008). Teaching children with autism to respond to and initiate bids for joint attention. *Journal Of Applied Behavior Analysis, 41*(3), 377-391. doi:10.1901/jaba.2008.41-377

Tomasello, M. & Farrar, M. (1986). Joint attention and early language. *Child Development, 57*, 1454-1463.

Warryen, P., Van Der Paelt, S., & Roeyers, H. (2014). Social-communicative abilities as treatment goals for preschool children with autism spectrum disorder: The importance of imitation, joint attention, and play. *Developmental Medicine and Child Neurology, 56*, 712-716.

Whalen, C. & Schreibman, L. (2003). Joint attention training for children with autism using behavior modification procedures. *Journal of Child Psychology and Psychiatry, 44*, 456-468.

White, P.J., O'Reilly, M., Streusand, W., Levine, A., Sigafoos, J., Lancioni, G., Fragale, C., Pierce, N. & Aguilar, J. (2011). Best practices for teaching joint attention: A systematic review of the intervention literature. *Research in Autism Spectrum Disorders, 5*(4), 1283-1295.

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School-Based Social Skills Programming to Increase Employment for Individuals with ASD

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Abstract

There is an increased number of individuals with Autism Spectrum Disorder who are reaching the age where they should be entering the workforce, however, 50-70% are unemployed and these percentages are higher than any other disability group. Although school-based programming attempts to prepare students to transition into the workplace, current literature suggests there are additional social skills that need to be addressed for successful employment and job retention. The purpose of this analysis and interpretation of the literature was to identify soft skills needed for successful employment and ways in which school-based programming can address these skills. Suggestions related to the types of social skills to address, and how social skills for vocational settings should be taught, are provided.

Keywords:

Autism Spectrum Disorder, Social Skills, Employment, School-Based Programming, Soft Skills

Introduction

In the United States, over the last 15 years, the prevalence of individuals diagnosed with Autism Spectrum Disorder (ASD) has increased from 1 in 150 (Center for Disease Control (CDC), 2000-2002) to 1 in 54 (CDC, 2020). With these increasing prevalence rates, there has been more research focused on interventions and supports for this population. The majority of this research, however, has focused on children with ASD; with research focused specifically on adults with ASD comprising only 2% of the autism research spending in 2015 (Interagency Autism Coordinating Committee (IACC), 2017).

This need for research to shift and focus on adults with ASD is important because, typically, when a child receives a diagnosis of autism, it is a lifelong developmental disorder that continues through adulthood (Helt et al., 2008). Assistance, in the form of training and support, continues to be required, but needs to focus more on day to day functioning as the individual ages (Shattuck et al., 2007). This shift to focus more on quality of life and increased independence has led researchers to identify employment as an area of research need.

Employment for Individuals with ASD

Research reports indicate that 50-70% of adults with ASD are unemployed (Hendricks, 2010); which is significantly higher than any other disability group (Roux et al., 2013) and the current national unemployment rate of 6.9% (Bureau of Labor Statistics, 2020). Within the percentage of individuals with ASD who are employed, research indicates that only 6% are employed full time (Chappel & Somers, 2010) and many are underemployed; meaning they are working less than they would like to work or working full time but not making a living wage (Migliore et al., 2012). In addition, 53% of young adults with ASD identify that they had never worked outside of the home after graduating from high school (Roux et al., 2013). With a growing number of individuals with ASD graduating from high school, and limited opportunities for employment (Roux et al., 2013), skills necessary to prepare these students for the workplace after graduation need to be identified and addressed.

When examining skills necessary to be successful in the workplace, it is important to consider that ASD falls on a continuum and presents differently from person to person. The core deficits associated with ASD include social communication, social interaction across multiple contexts, and restricted and repetitive patterns of behavior, interests, or activities (American Psychiatric Association, 2013). These symptoms manifest themselves in difficulty with social-emotional reciprocity, nonverbal communication, developing and maintaining relationships, stereotyped or repetitive motor movements, insistence on sameness, inflexible adherence to routines, highly fixated interests, or hypo- or hyper-reactivity to sensory input. With three levels of severity ranging from level 1 (requiring support) to level 3 (requiring substantial support), each individual with ASD will exhibit different behaviors and require individualized supports in the workplace (American Psychiatric Association, 2013).

In a literature review focused on predictors of work participation in individuals with ASD, cognitive ability was the only significant predictor identified that impeded employment, however, when examining a cohort of more "cognitively able" participants (verbal intellectual quotients (IQ) of over 70) McCauley et al. (2020) identified lower verbal IQ, being racially diverse, caregiver education below college completion, higher levels of internalizing symptoms, and a higher celebrated severity score as impacting employment. In addition, other studies have identified challenges to success in the workplace for individuals with average to above-average IQs typically relate to social communication skills and executive functioning.

Hedley et al. (2018) asked adults with ASD, their co-workers, and families to identify factors that influenced the success of the individual with ASD in the workplace. Individuals with ASD mentioned their ability to manage their time, organizational skills, concentrating and maintaining attention, and coping with change. The co-workers included workplace etiquette (the most commonly mentioned challenge from co-workers), including waiting for their turn (e.g. the elevator) and taking inconveniences at work personally (including network issues). Finally, family members identified the ability to manage work-related stress and having an abrasive communication style that others perceived as offensive. These findings suggest that individuals with ASD were more focused on personal challenges related to executive functioning; while co-workers and family members were focused on symptomatic social and communication difficulties.

Julian and Barron (2019) found that individuals with autism showed a great deal of pride in their work and were very productive, but also identified areas of self-improvement related to interviewing styles, decoding workplace politics, and environmental barriers. Within the interview process, individuals with ASD found the process of having multiple people in the room while interviewing and people taking notes while they were trying to answer questions increased their anxiety. They also misinterpreted some of the interview questions because they were taken literally or because they became distracted by noises in the environment. If the interview process was successful, employees then reported difficulty understanding team dynamics and workplace politics as a barrier to promotion or continued employment. The social skills necessary to join, respond, and maintain conversations, as well as read social cues, were also overwhelming. In addition, the physical environment, which included noises from nearby coworkers and fluorescent lights, added to the workplace discomfort.

The identification of communication and social areas of need are important for young workers with ASD because job retention is often impacted due to a lack of social skills and etiquette (Rao et al., 2008). Employees with ASD have many qualities that allow them to excel in the workplace including high levels of competency; however, when evaluated, employers often identify them as lacking flexibility and not being team players (Parr & Hunter, 2014; Scott et al., 2015). Employees with ASD can also exhibit frustration and loss of emotional control due to impairments in executive functioning that impact their ability to address new work-related challenges (Hendricks,

2010). Executive functioning, which refers to being able to plan, organize, and regulate emotions (Ryan & Marshall, 2018), has also been found to influence communication and socialization and impact cognitive flexibility as well (Landa & Goldberg, 2005).

To address the skills identified by individuals with ASD and their employers that would assist with workplace satisfaction and increased employment opportunities, the United States Department of Labor's Office of Disability Employment Policy (ODEP, 2012) identified six categories of soft skills, which are described below. Specific social skills recognized within the literature were also included in each category to assist in identifying what should be addressed in school to support the transition to employment after graduation. In addition, the need for school-based programming as well as resources and strategies to enhance this programming is provided.

Soft Skills

Soft skills, as defined by Muir (2004), are "attitudes and behaviors displayed in interactions among individuals that affect the outcomes of such encounters" (p. 96). ODEP (2012) has identified six soft skills essential for individuals with disabilities to acquire and maintain employment. These skills include communication, enthusiasm and attitude, teamwork, networking, problem-solving and critical thinking, and professionalism. Within Table 1, each of these six categories, a brief description of each category, and social skills identified from the literature as areas of need for adults with ASD in the workplace are provided.

The information within this table can be used as a starting point for the focus of school-based programming to ensure students with ASD can more

Table 1

Socials Skills for School Based Programming based on ODEP (2012) Soft Skill Categories

6 Soft Skills Identified by ODEP	ODEP Description /form of Soft Skills	Social Skills to Focus on within School Programming
Communication	o Verbal (sounds/language/tone of voice) o Listening skills (receptive language) o Nonverbal skills (facial expressions/body language/posture) o Written (texts/directions/signs) o Visual (sign/symbols/pictures)	• Developing succinct resumes (Muller et al., 2003) • Knowing what information to include on a job application (Muller et al., 2003) • How to answer interview questions including amount of detail to provide (Muller et al., 2003) • Small talk during an interview including greetings (Hurlbutt & Chamber, 2004) • Understanding sarcasm, in order to engage with coworkers (Hendricks, 2010) • Following workplace directions (Ryan & Marshall, 2018) • Asking questions to clarify information (Ryan & Marshall, 2018) • Communication style including tone of voice and directness (Hedley et al., 2018) • Joining, maintaining, and responding to conversations (Julian & Barron, 2019) • Reading social cues/body language (Julian & Barron, 2019)
Enthusiasm and Attitude	o Positive/negative attitude (understanding/ demonstrating)	• Strategies to regulate emotions (Ryan & Marshall, 2018)
Teamwork	o Working cooperatively o Contributing/collaborating in a group o Interactive communication o Demonstrating responsibility o Understanding differences in opinions/ individual preferences/culture/customs o Ability to participate in group deci-sion-making	• Working together with simultaneously with a team (Ryan & Marshall, 2018) • Accepting the ideas of others (Ryan & Marshall, 2018) • Understanding team dynamics (Julian & Barron, 2019)
Networking	o Finding/locating jobs	• How to look for a job (Muller et al., 2003) • Initiating job contact (Muller et al., 2003) • Following up once contact is made (Muller et al., 2003)
Problem-solving/ Critical thinking	o Understanding praise/criticism/feedback (giving and receiving)	• Strategies to handle unexpected change (Hedley et al., 2018; Parr & Hunter, 2013) • Strategies to handle overstimulation/sensory overload (Parr & Hunter, 2013) • Organizing tasks and prioritizing (Ryan & Marshall, 2018; Hedley et al., 2018)
Professionalism	o Punctuality o Managing time o Grooming/cleanliness o Appearance/attire o Quality of work o Integrity	• Strategies for time management (Hedley et al., 2018) • Workplace etiquette (Hedley et al., 2018)

successfully transition into the workforce. Having school-based programming that acknowledges the need for a focus on transitioning to adulthood and employment as well as specific skills needed to make this transition successful will positively impact job attainment and retention for adults with ASD (Shogren & Wittenburg, 2020).

Need for School-Based Programming

Given the identified areas of need and burgeoning adult-age population, a shift in focus for social skills training is warranted. Currently, school-based programs continue to focus on year-long objectives and short-term goals, as per federal mandates related to the development of Individual Education Programs (IDEA, 2004). This limits the variety of educational services offered to students, as well as the development of supports and resources related to long term or life course goals (Shogren & Wittenburg, 2020). These limitations suggest there is a necessity for programs to change to improve employment and educational outcomes for individuals with ASD (Lee et al., 2019). The National Collaborative on Workforce and Disability (NCWD, 2016) cites school-based preparedness as well as career-based experiences as crucial factors impacting post-secondary success, thus placing an emphasis on education programs as well as ways to enhance social skills instruction, resources, and experiences for school-based populations.

To date, there is no right to employment, nor supports guaranteed for individuals during adulthood, rendering social skills instruction and interventions primarily focused on relevant skills for school-based settings (Shogren & Wittenburg, 2020). When considering expanding and enhancing school-based programs, two facets should be considered: a) the types of social skills taught, and b) how social skills for vocational settings are taught. As such, the evidence-based practices for social skills identified by the National Professional Development Center (NPDC, 2016) on Autism Spectrum Disorder have been used to target skills in the domains of behavior, functional communication, play skills, social interactions with peers, and school readiness. This research has subsequently impacted the development of evidence-based social skills curricula, which target the development of socially appropriate behavior for classrooms, use of functional-communication, and facilitation of appropriate peer-based interactions (Colorado Department of Education, 2017).

While the merit of this type of training cannot be disputed, not all of the skills taught in classrooms readily translate to a vocational setting. For example, turn-taking and sharing are commonly emphasized social skills for the classroom (Wong et al., 2015), but are not identified as paramount skills for workplace settings (ODEP, 2012). Moreover, certain skills, such as networking and interviewing have no relevance in a school-based setting, yet are critical to acquiring and sustaining employment (Sung et al., 2018). In addition, more specificity in the types of social skills for employment-related settings is needed. Consider skills related to appearance; school-based clothing is markedly different than workplace dress codes, wherein professional attire or uniforms may be required. And while many school-based settings incorporate programs such as community-based instruction to increase skills relevant to independent functioning as an adult, the primary goal of these programs is to successfully navigate communities and gain experience in daily living activities, such as shopping, banking, and utilizing transportation (Boggs Center, 2020). However, these skills are distinct from essential skills needed for entry-level employment, which the NCWD (2011) identifies as communication, interpersonal skills, decision-making, and lifelong learning skills. Moreover, Lee et al. (2019) identified core components of preparedness for the workplace as recognizing and understanding individual strengths and areas of interest, development of specific workplace skills, awareness of abilities, collaboration amongst team members, and identifying clear steps towards employment.

Resources and Strategies for Enhancing School-Based Programs

While expanding focus to soft skills may seem a daunting task, there are several resources and strategies that could be used to enhance existing programs in schools, as well as provide effective instruction on workplace-related social skills. Notably, the United States Department of Labor (2012) published a curriculum entitled 'Soft Skills to Pay the Bills,' a critical resource guiding soft skills development for adults with disabilities. Not only does this resource identify specific and critical areas of support needed to prepare individuals for employment, but it also describes activities that can be conducted to help acquire the six soft skills identified by ODEP (2012): communication, attitude, teamwork, networking, problem-solving and professionalism. Most of the activities are designed for facilitation in a group-based setting, making it conducive to school-based programs, and include explicit instruction, role-play exercises, and opportunities for performance and feedback. In addition, numerous extension activities and materials are available online, making it easy for families to carry over these skills at home (ODEP, 2012). This curriculum also fulfills a mandate identified by the NCWD (2016) for schools to conduct training on pertinent social communication skills needed for the workplace, as well as create opportunities for students to learn and practice these skills in school.

Next, it is important to re-consider the way social skills instruction is taught. A plethora of research points to numerous strategies for teaching social skills, which include: social narratives, video modeling, pivotal response training, scripting, technology-aided interventions, priming procedures, prompting, and self-monitoring (Bellini et al., 2008). While few of these studies specifically explored social communication skills for the workplace, each strategy is effective as a means of social skills instruction (Wong et al., 2015). Therefore, these strategies could be used to target the same types of skills, but with a distinct focus on social communication for the workplace. A helpful resource in understanding and incorporating social skills instruction in the classroom are online modules. These research-based resources can be used to enhance practitioner understanding of social skills instruction and training, as well as ways to enhance student programming in the classroom (Sam et al., 2017). To date, these modules are the Iris Peabody Center modules, which are published by Vanderbilt University (n.d.), the Autism Focused Intervention Resource Modules (AFIRM), which are published by the National Professional Development Center on Autism at University of North Carolina Chapel Hill (n.d.), and the Autism Intervention Modules (AIMS), which are published by the Ohio Center for Autism and Low Incidence Disabilities at Ashland University (n.d) (Sam et al., 2017). The value of these learning tools is just beginning to emerge; however, the applicability to school-based settings is evident as well as the utility for teachers (Sam et al., 2017).

Recently, there have been two empirical studies specifically focusing on effective strategies for teaching social skills for the workplace to individuals with autism. The first study was conducted by Sung et al. (2018) and used a didactic approach combined with video modeling to teach each of the core soft skills identified by the ODEP. Findings indicate that significant improvements were made in the areas of social communication, social cognition, social motivation, and social awareness. The second study was conducted by Walsh et al. (2018) and evaluated the effectiveness of teaching a social skills curriculum via video modeling. This study also found this approach was effective in increasing social skills for workplace inclusion. These studies both incorporated technology-based means (e.g., video modeling) as a strategy for providing repeated opportunities to view and practice specific social skills.

Technology-based interventions or visual representation of skills via modeling has been proven helpful for individuals with ASD in understanding and practicing social skills in relation to specific contexts (DiGennaro-Reed et al., 2010). Video modeling, specifically, has enabled individuals with autism to gain or increase novel social skills (Bellini & Akullian, 2007), as well as master more complex social communication skills (Bernard-Ripoll, 2007). In 2013, Strickland et al. began building upon this research, creating a transition to employment program emphasizing video modeling, as well as the use of virtual reality practice and visual aids. This National Institute of Health-funded program, called JobTIPS, is freely available online and offers a series of video models exemplifying social skills for the workplace, as well as virtual reality practice for interviewing, networking, and interactions with co-workers and supervisors.

In addition, it includes employment-related social skills assessments designed to define specific areas of need, as well as align vocational interests with social communication abilities. These strategies could be used as part of a stand-alone curriculum focusing on social skills for workplace preparedness, or as part of a community-based instruction program, wherein specific skills could be practiced alongside relevant vocational experiences used to enhance the application of instruction within employment settings. And while this type of program, as well as some of the previously mentioned strategies and approaches, are not necessarily designed for K-12 settings, schools offer an advantageous environment for social skills instruction, as it can formally be included into the daily schedule of an individual with ASD and supported by instructional figures.

Finally, it would be imperative to either design or adapt curricula, incorporating this vocational aim, in order to guide instruction and ensure educators, practitioners, and families have a clear focus and systematic process. Moreover, this would be an essential step for any individual with ASD who was learning these skills directly. In doing so, schools may offer the opportunity for better programs, feasibility, adherence, efficacy, and thus effectiveness.

Conclusion

This paper highlights an emerging area of need for individuals with autism. Given the projected influx of individuals with autism into the workforce, as well as obstacles faced in acquiring necessary soft skills for employment, the expansion of school-based social skills programming is paramount in ensuring optimal outcomes for the ASD population. Not only do current programs need to re-frame their approach for transition-aged populations, but supports and services need to be developed with consideration for life-long goals.

Helpful resources, such as curricula from the ODEP (2012), and tools, such as video models, and virtual reality sites, can be used to target skills across the domains of communication, attitude, teamwork, networking, problem-solving, and professionalism.

While these resources cannot overcome limitations in the array of school-based services (Lee et al., 2019), they can significantly enhance the type of instruction offered, as well as provide opportunities to practice soft skills prior to employment. Moreover, incorporating these strategies into Individual Education Programming (IEP) demonstrates a shift in focus of school-based supports for transition-aged individuals, as well as a proactive approach to increasing workplace readiness for students with ASD. This approach, which is essential to promoting positive change, may also be integrated prior to transition-age, as some individuals may benefit from increased time in acquiring the necessary life skills and emotional control. This would be especially important for those with more severe internalizing or externalizing behaviors. In these types of circumstances, it is important to discuss other types of treatment that may be used to augment social skills instruction. Similarly, it would be important to discuss vocational accommodations as dictated by the Americans with Disabilities Act (ADA) regulations and guidelines. Many families, as well as employers, are unaware of the kinds of accommodations that would be helpful, and some, such as mentoring and frequent check-ins regarding work performance, could help maintain employment.

While this paper offers suggestions for improving specific programming and practices related to social communication skills for work settings, a substantial gap remains in the literature. To date, only two empirical studies focusing on this topic have been conducted (Sung et al., 2018; Walsh et al., 2018), leaving critical areas of concern, such as strategies for generalization and maintenance of skills, as well as accessible ways of providing meaningful instruction to individuals who have already aged out of the school system, open for future studies. Future research could also focus on actionable steps for schools, such as the process of incorporating different programs into an IEP, ways to adapt and enhance existing social skills curricula, or procedures for implementing this type of instruction with students. Given the pressing needs related to this population, this topic must receive further investigation by researchers to inform the field of ways to enhance autism-focused social skills services and supports for the workplace.

References

Autism Focused Intervention Resources & Modules (n.d.) *AFIRM modules*. https://afirm.fpg.unc.edu/afirm-modules

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC.

Bellini, S., & Peters, J. K. (2008). Social skills training for youth with autism spectrum disorders. *Child and Adolescent Psychiatric Clinics of North America, 17*(4), 857-873. https://doi.org/10.1016/j.chc.2008.06.008

Bellini, S., Peters, J. K., Benner, L., & Hopf, A. (2007). A meta-analysis of school-based social skills interventions for children with autism spectrum disorders. *Remedial and Special Education, 28*(3), 153-162. https://doi.org/10.1177/07419325070280030401

Bernard-Ripoll, S. (2007). Using a self-as model video combined with social stories to help a child with Asperger syndrome understand emotions. *Focus on Autism and Other Developmental Disabilities, 22*(2), 100-106. https://doi.org/10.1177/10883576070220020101

Boggs Center on Developmental Disabilities. (2020). *Community-Based Instruction* [Brochure]. Retrieved from: https://rwjms.rutgers.edu/boggscenter/training/CBI.html

Bureau of Labor Statistics (BLS) [Labor force statistics from the current population survey on the Internet]. Washington DC: [updated 2020 October; cited 2020 November]. Available from: www.bls.gov

Center for Disease Control and Prevention. (2016). Prevalence and characteristics of autism spectrum disorder among children aged 8-years: Autism and developmental disabilities monitoring network, 11 sites, United States, 2012. *Surveillance Summaries, 65*, 1-23.

Chappel, S. L., & Somers, B. C. (2010). Employing persons with autism spectrum disorders: A collaborative effort. *Journal of Vocational Rehabilitation, 32*(2), 117-124. Doi:10.3233/JVR-2010-0501

Colorado Department of Education (2017). *Social skills* [Brochure]. Retrieved from: https://www.cde.state.co.us/cdesped/ta_socialskills

Digennaro-Reed, F. D., Codding, R., Catania, C. N., & Maguire, H. (2010). Effects of video modeling on treatment integrity of behavioral interventions. *Journal of Applied Behavior Analysis, 43*(2), 291-295.

Hedley, D., Cai, R., Ulijarevic, M., Wilmot, M., Spoor. J. R., Richdale, A., & Dissanayake, C. (2018). Transition to work: Perspectives from the autism spectrum. *Autism, 22*, 528-541.

Helt, M., Kelley, E. A., Kinsbourne, M., Pandey, J., Boorstein, H., Herbert, M. R., & Fein, D. (2009). Can children with autism recover? If so, how?. *Neuropsychology Review, 8*(4), 339-366.

Hendricks, D. (2010). Employment and adults with autism spectrum disorders: Challenges and strategies for success. *Journal of Vocational Rehabilitation, 32*(2), 125-134. Doi:10.3233/JVR-2010-0502

Holwerda, A., van der Klink, J. J., Groothoff, J. W., Brouwer, S. (2012). Predictors for work participation in individuals with an autism spectrum disorder: A systematic review. *Journal of Occupational Rehabilitation, 22*, 333-52.

Hurlbutt, K., & Chalmers, L. (2004). Employment and adults with Asperger syndrome. *Focus on Autism and Other Developmental Disabilities, 19*(4), 215-222.

Individuals with Disabilities Education Act, 20 U.S.C. 1400 et seq. (1975, as amended, 1997).

Interagency Autism Coordinating Committee (2017). IACC Strategic plan for autism spectrum disorder research. [Online]. Available at https://iacc.hhs.gov/publications/strategic-plan/2017/strategic_plan_2017.pdf. [Accessed 27 November 2020].

IRIS Center (n.d.) *Iris Center Resource Locator*. https://iris.peabody.vanderbilt.edu/resources/iris-resource-locator/

Julian, A., & Barron, R. (2019). Employees with Asperger's syndrome and their experiences within the work environment. *DBS Business Review, 3*, 30-48.

Landa, R. J., & Goldberg, M. C. (2005). Language, social, and executive functions in high functioning Autism: A continuum of performance. *Journal of Autism and Developmental Disorders, 35*(5), 557-573. doi:10.1007/s10803-005-0001-1

Lee, E. A. L., Black, M. H., Tan, T., Falkmer, T., & Girdler, S. (2019). "I'm destined to ace this": Work experience placement during high school for individuals with autism spectrum disorder. *Journal of Autism and Developmental Disorders, 49*, 3089-3101.

McCauley, J. B., Pickles, A., Huerta, M., & Lord, C. (2020). Defining positive outcomes in more and less cognitively able autistic adults. *Autism Research, 13*, 1548-1560.

Migliore, A., Timmons, J., Butterworth, J., & Lugas, J. (2012). Predictors of employment and postsecondary education of youth with autism. *Rehabilitation Counseling Bulletin, 55*(3), 176-84.

Muir, C. (2004). Learning soft skills at work: An interview with Annalee Luhamn. *Business Communication Quarterly, 67*(1), 95-101. Doi: 10.1177/1080569903261973

Muller, E., Schuler, A., Burton, B. A., & Yates, G. B. (2003). Meeting the vocational support needs of individuals with Asperger syndrome and other autism spectrum disabilities. *Journal of Vocational Rehabilitation, 8*(3), 163-75.

National Collaboration on Workforce Development (2016). *Guideposts for success* [Brochure]. Retrieved from: http://www.ncwd-youth.info/wp-content/uploads/2018/03/Guideposts-for-Success-English-Print-Quality-1.pdf

National Collaboration on Workforce Development (2011). *Helping youth develop soft skills for job success: Tips for parents and families* [Brochure]. Retrieved from: http://www.ncwd-youth.info/wp-content/uploads/2016/11/infobrief_issue28_0.pdf

National Professional Development Center on Autism Spectrum Disorder. (2016). *Matrix of Evidence-based Practices by Outcome and Age* [Brochure]. Retrieved from: https://autismpdc.fpg.unc.edu/implementation

Ohio Center for Autism and Low Incidence Disabilities (n.d.) *Autism internet modules.* https://autisminternetmodules.org/

Rao, P. A., Beidel, D. C., & Murray, M. J. (2008). Social skills interventions for children with Asperger's syndrome or high-functioning autism: A review and recommendations. *Journal of Autism and Developmental Disorders, 38*(2), 353- 361. Doi:10.1007/s10803-007-0402-4

Roux, A. M., Shattuck, P. T., Cooper, B. P., Anderson, K. A., Wagner, M., & Narendorf, S. C. (2013). Postsecondary employment experiences among young adults with an autism spectrum disorder RH: Employment in young adults with autism. *Journal of the American Academy of Child Adolescent Psychiatry, 52*(9), 931-939. doi:10.1016/j.jaac.2013.05.019.

Ryan, T. G., & Marshall, J. (2018). Pedagogical preparedness: Understanding executive functioning and high functioning autism. *Journal of Pedagogical Research, 2*, 91-101.

Sam, A. M., Kucharczyk, S., & Waters, V. (2017). Online tools to support the delivery of evidence-based practices for learners with ASD. *Teaching Exceptional Children, 50*(3), 141-152. doi. org/10.1177/0040059917745654

Scott, M., Falkmer, M., Girdler, S., Falkmer, T. (2015). Viewpoints on factors for successful employment for adults with autism spectrum disorder. *PLoS ON, 10*, e0139281. https://doi.org/10.1371/journal.pone.0139281

Shattuck, P. T., Seltzer, M.M., Greenberg, J.S., Orsmond, G. I., Bold, D., Kring, S., Lounds, J., & Lord, C. (2007). Change in autism symptoms and maladaptive behaviors in adolescents and adults with an autism spectrum disorder. *Journal of Autism and Developmental Disabilities, 37*, 1735-1747.

Shogren, K. A., & Wittenburg, D. (2020). Improving outcomes of transition-age youth with disabilities: A life course perspective. *Career Development and Transition for Exceptional Individuals, 43*(1), 18-28. https://doi.org/10.1177/2165143419887853

Strickland, D. C., Coles, C. D., & Southern, L. B. (2013). JobTIPS: A transition to employment program for individuals with autism spectrum disorders. *Journal of Autism and Developmental Disorders, 43*(10), 2472-2483. https://doi.org/10.1007/s10803-013-1800-4

Sung, C., Connor, A., Chen, J., Lin, C. C., Kuo, H. J., & Chun, J. (2019). Development, feasibility, and preliminary efficacy of an employment-related social skills intervention for young adults with high-functioning autism. *Autism, 23*(6), 1542-1553. https://doi.org/10.1177/1362361318801345

Walsh, E., Holloway, J., & Lydon, H. (2018). An evaluation of a social skills intervention for adults with autism spectrum disorder and intellectual disabilities preparing for employment in Ireland: a pilot study. *Journal of Autism and Developmental Disorders, 48*(5), 1727-1741. https://doi.org/10.1007/s10803-017-3441-5

Wong, C., Odom, S. L., Hume, K. A., Cox, A. W., Fettig, A., Kucharczyk, S., ... & Schultz, T. R. (2015). Evidence-based practices for children, youth, and young adults with autism spectrum disorder: A comprehensive review. *Journal of Autism and Developmental Disorders, 45*(7), 1951-1966. https://doi.org/10.1007/s10803-014-2351-z

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Developing Social Skills and Social Competence in Children with Autism

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Abstract

Social development is one of the most critical developmental areas for human beings. Deficits in social skills may negatively impact several essential domains including academic achievement, interpersonal relationships, behavior, mental health, and adult life outcome. Individuals with autism present with core deficits in social skills. Without supports and effective interventions to enhance social skills, children with autism often struggle to obtain social competence, and may experience challenges in the school, home, and community settings. With effective interventions, children with autism can learn essential social skills that can help to mitigate deficits and strengthen social competence. After a brief review of various theories of social development, this article seeks to present the constructs of social competence, social skills, and adaptive skills in relatable and clear language for educators. Finally, the article will review several evidence-based interventions designed to enhance social skills.

Keywords:

Social Competence, Social Development, Social Skills, Evidence-Based Practices, Children, Autism

Introduction

Interest in the role of social interaction for human development has occupied theoreticians in the last century. John Dewey (1938) considered all learning as an activity that is social in nature. Dewey theorized that effective education is derived from social interaction, cooperation, and collaboration. Dewey, therefore, progressively argued for the creation of educational environments that included developmentally appropriate and engaging social learning experiences for children. Dewey's contemporary social psychologist George Herbert Mead (1934) contended that one cannot learn to be social in a vacuum and that social interaction was a prerequisite for learning. Similarly, Jerome Bruner proposed, "The infant's principal "tool" for achieving his ends is another familiar human being." (Bruner 1983, p. 26). Bruner interpreted social interaction as both self-propelling and self-rewarding. The Russian educational psychologist Lev S. Vygotsky (1978) distinguished between 'inter-psychological processes' and 'intra-psychological processes.' The former has to do with social interaction, cooperation, and collaboration which takes place between

people, and the latter with cognitive processes within a person. Vygotsky (1978) touted that every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level (p. 57). Vygotsky considered play (particularly role-play and collaboration with competent peers and/or adults) as critical for social development. In a social role-play scenario, a child simulates an older person in a particular profession or engaging in a particular task (such as a pretending to be a doctor or pretending to drive a car). In Vygotsky's social role play, an adult would use their language and social skills to stimulate the development of a child. Vygotsky theorized that a child could improve their level of social development via assistance from a more competent partner and through rehearsal of inter-psychological processes. Like other social educators of his time, Vygotsky professed that every child's individual learning has a social basis, "Human learning presupposes a specific social nature and a process by which children grow into the intellectual life of those around them" (p. 88). Similar to Dewey and Vygotsky, Piaget postulated that one's social interaction in the early years has implications for future social development (1977). Two core principles underlie the theories of progressive social educators:

1. Providing children with appropriate conditions for social learning is critical for their overall development.

2. Significant others play a crucial role in the process of social development.

These core principles will guide our discussion of the importance of social skills and the need to implement evidence-based social skills interventions for children who present with social deficits.

The psychological and educational ideas that underline the importance of social interaction and social development by influential scholars is just as relevant today as they were at the time they were formulated. During the past two decades, the topics of social skills, social development, and social competence have received increased attention. Not surprisingly, the increased focus on the importance of social development has corresponded with the rising rate of autism. Currently, nearly 1 in 54 children has been identified with autism spectrum disorder (ASD) according to estimates from the Center for Disease Control's (CDC) Autism and Developmental Disabilities Monitoring (ADDM) Network (ADDM, 2020) compared to 1 in 150 in the year 2000. As the prevalence of autism has surged, public school systems have seen a similar upwelling in the population of school children with autism. Per the Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5), a hallmark criterion of autism is persistent deficits in social communication and social interaction across multiple contexts (APA, 2013). The International Classification of Diseases 11th edition (ICD-II), a guide developed by the World Health Organization in 2018, has described autism as follows:

> *"Autism spectrum disorder is characterised by persistent deficits in the ability to initiate and to sustain reciprocal social interaction and social communication, and by a range of restricted, repetitive, and inflexible patterns of behaviour, interests or activities that are clearly atypical or excessive for the individual's age and sociocultural context." (WHO, Version 9/2020)*

As Kasari and Patterson (2012) postulated, "Social impairment may be the most complex and impenetrable core challenge facing children with autism" (p. 713). As challenges in social communication, social interaction, and the ability to initiate and sustain reciprocal social interaction are primary characteristics of children with autism spectrum disorder (ASD), the need to target the area of social development for children with autism is paramount to their success.

The Purpose Of The Article

The purpose of this article is threefold. This article seeks to elaborate upon the impact of social skills deficits for individuals with autism, underlining the importance of social skill development for students with autism. Secondly, the article seeks to present the constructs of social competence, social skills, and adaptive skills, in practical and relatable terms for practitioners and educators. Finally, the article will review evidence-based practices that are suitable for the development of social skills for children and adolescents with ASD and other conditions.

The Impact of Social Skills

As described in the DSM5 and ICD-II, social interaction and communication deficits are key characteristics of autism. There are several connections between these two types of impairments (APA, 2013; Hansen et al., 2014; Tager-Flusberg, 2003). Students with autism often have difficulties with pragmatics, commonly referred to as social language (Carter, et al., 2005; Miller et al., 2015; Staikova et al., 2013). Difficulties in pragmatics can be manifested by any of the following behaviors: eye contact, reciprocal conversation, turn taking, topic maintenance, greetings, speech prosody, understanding figurative language, and/or understanding emotions and non-verbal body cues (Shaked & Yirmiya, 2003; Tager-Flusberg, 2003; Tierney et al., 2014). Social communication deficits contribute to the likelihood of social isolation and reduce prospects for social engagement (Miller et al., 2015; Wetherby et al., 2007). Challenges in the functional use of communication have been linked to behavioral difficulties. When students are stymied when attempting to express wants and/or needs and/or emotions (Carter et al., 2005; Jones et al.,

2017) maladaptive behavior may result. Difficulties in joint attention (the involvement of shared attention or shared experiences) may impede the development of appropriate and reciprocal play (Hwang & Hughes, 2000; Ingersoll & Schreibman, 2006; Kasari et al., 2015; Pierce-Jordan & Lifter, 2005; Silveira-Zaldivar, 2019). Kasari and Patterson (2012) concluded that the challenges that children with autism encounter when engaging jointly with others adversely impacts the quantity and quality of interaction with others. Furthermore, many children with ASD exhibit a lack of awareness of others that further contributes to difficulties in social interaction. According to several studies (Calder et al., 2013; Carter et al., 2014; Kasari et al., 2012; Reichow et al., 2012) social demands tend to increase for children with ASD for each passing year and grade, resulting in amplified social challenges.
For young individuals with autism, deficits in social skills and communication underscore a myriad of challenges and lost opportunities across a lifetime (Cidav et al., 2012; Ingersoll et al., 2001). Social difficulties may negatively impact academic achievement and school attendance, mental health, and behavior (Lauderdale-Litten et al., 2013; Mazurek et al., 2013; Munkhaugen et al., 2017; Patton et al., 2016; Rabiner et al., 2016). Furthermore, deficits in social skills can dramatically impact future life success across various domains including relationships, employment, health, and higher education (Denham & Brown, 2010; Montroy et al., 2014; Zins, et al., 2004; Silveira-Zaldivar, 2019).

Deficits in social skills have been demonstrated to negatively impact interpersonal relationships. Children with ASD have fewer friends and report a lower quality of friendships than typical peers (Calder et al., 2013; Cook et al., 2017; Kasari et al., 2011). Children with ASD tend to experience greater isolation and loneliness than peers (Goldsteinet et al., 1992; Kasari et al., 2011; Locke et al., 2010). On average, students with autism spend 30% of recess time alone, while typical peers spend 9% of recess alone (Locke et al., 2016). While research shows that many children with ASD experience social isolation, this is not always due to lack of motivation for contact with others (Rumsey et al. 1985; Orsmond et al. 2004; Kasari & Patterson, 2012), but, rather, due to poor social skills (Koegel & Koegel, 2006; Kasari & Patterson, 2012; Schreibman et al., 2015). Students with autism also experience greater rejection and bullying from others (Hebron et al., 2015; Schroeder et al., 2014). Furthermore, individuals with autism are less satisfied with their own social functioning and interpersonal relationships than typical peers (Friend & Bursack, 2009; Magiati et al., 2013). Children with autism report higher levels of co-morbid mental health concerns. Compared to children diagnosed with just anxiety alone, those with comorbid autism and anxiety experience more specific phobias, higher levels of total anxiety and social anxiety, more frequent panic attacks, and an overall lower quality of life (Van Steensel et al., 2012). In addition to anxiety, many individuals with autism from young children to adults, struggle with depression (Berney, 2004; Gotham, Brunwasser, & Lord, 2015; Hillier et al., 2011). Anxiety and depression may be considered a biproduct of the difficulties that young individuals with autism experience with emotional regulation (Santomauro et al., 2016).

The social skill deficits of a child with autism may not only negatively impact the child, but parent caregivers, educators, community members, peers, and service providers, as well. Zablotsky, Bramlett, and Blumberg (2015) found that parent ratings of the severity of their child's autism correlated directly with the impact of the child's condition on the family in terms of the parents' financial stress and the parents' ability to maintain employment. Caring for a child with ASD can significantly increase parental anxiety and depression, while simultaneously decreasing financial resources and one's overall quality of life (Meadan et al., 2010; Nik Adib et al., 2019; Taylor & Henninger, 2015). Nealy et al. (2012) interviewed several mothers of children with autism and found the mothers experienced commonalities: (a) autism leaves an emotional impact (such as undertones of stress, guilt, and anxiety); (b) autism may leave a social impact (such as reduced time for friends, tense spousal relations, and strained child-parent bonds with other siblings); and (c) autism often leaves a negative financial impact. Like many of their parents, siblings of children with autism report heightened levels of stress and worry (Petalas et al., 2012). Furthermore, teachers and other caregivers, such as day care providers, have reported increased anxiety levels and stress working with children with autism (Corona et al., 2017; Witherell, 2013). Inclusion has been linked to higher rates of teacher burnout, particularly for inclusion regular education teachers who have not had the benefit of the training that their special education teacher counterparts have experienced (Boujut et al., 2016; Lindsay et al., 2013).

The long-term effect of deficits in social competence can be profound. Teachers and parents have rated social skills, goal directedness, and emotional stability as more likely to lead to school and life success than variables such as IQ and aptitude (Getzels & Jackson, 1961, Jones et al., 2015). Jones, Greenberg, and Cowley (2015) reviewed teacher assessments of the social competence of nearly 1,000 kindergarten students and followed them from between 13 to 19 years later to assess the impact of social competency on multiple measures. The results showed statistically significant associations between kindergarten social skills and young adult outcomes in (a) employment, (b) higher education, (c) criminality, (d) chemical dependency, and (e) mental health. Adults with autism experience greater levels of anxiety and depression (Hillier et

al., 2011; Van Steensel et al., 2012), and they are more dependent upon government assistance than typical peers (Mordre et al., 2012). An overwhelming 50% of young adults with autism (ages 19-23) have not held a job or attended postgraduate education after leaving high school (Shattuck et al., 2012). Given two individuals with autism of at least average to above average cognition, studies have found that the individual who is most likely to succeed in life is the individual who is more socially competent (Mordre et al., 2012; Szatmari et al., 2003). Students with milder social deficits tend to have smoother transitions to middle school (Makin et al., 2017) than those with more severe deficits and students with milder social deficits are more likely to be mainstreamed than their peers (Brown & McIntosh, 2012; Fulton et al., 2014).

According to Baron-Cohen (1995; 2001) the primary social challenges that affect children with ASD is related to their lack of perspective taking. Baron-Cohen (2001) elaborates that challenges in perspective taking can lead to a lack of empathy or a state of mind-blindness.

From the social constructionist perspective (Mead, 1934; Vygotsky, 1986), we ascertained that social role-playing (the changing of one's behavior to assume a role) is an important social skill which contributes to the development of the ability of perspective taking and language skills. It is possible to conclude, therefore, that difficulties in perspective taking may naturally impede an individual's ability to engage in social role play, which is considered by many to be a critical component in the development of social skills. Research has also shown that irregularities in the brain's Amygdala and Cerebral cortex may contribute to social-skills-related problems for children with ASD (Jansen & Holck, 2020, Rutter & Pine, 2015; Tsilioni, 2020). Whatever the origin of the social challenges, the social deficits experienced and manifested by individuals with ASD are undeniable and can profoundly impact the success of the individual with autism. Fortunately, studies have shown that by investing in evidence-based practices that enhance social development, individuals can effectively teach social skills to children and adolescents with ASD (Leaf et al., 2017; Reichow & Volkmar, 2010). By implementing appropriate interventions targeting social development for children with autism, educators, caregivers and professionals, can collectively mitigate many of the sobering potential negative outcomes associated with social deficits. Our educational-psychological approach to social skills development is based on a 'continuum'-perspective. Social and adaptive skills (skills relating to one's daily functioning in many domains) can be learned and improved gradually. By continuously refining educational measures and practices, we can strengthen social and adaptive skills of children with ASD.

Social Competence – A Broad Construct

Social competence is broad construct. One of the earlier studies on the concept of competence as a social-relevant construct was done by Thorndike (1927). Thorndike (1927) compared social competence to "social intelligence." White (1959) portrayed social competence as "an organism's capacity to interact effectively with its environment" (p. 297). O'Malley (1977) defined social competence as follows:

> *... productive and mutually satisfying interactions between a child and peers or adults. Productive interactions attain personal goals of the child, whether immediately or in the long run, which are adaptive in classroom settings. Interactions will be satisfying to the child when goals are attained, and to the others if actions in pursuit of the goals are received in either a benign or positive manner (p. 29).*

O'Malley (1977) provides three reasons for studying social competence:

> 1. Social or interpersonal competence is a necessity for participation in society.
>
> 2. Social competence is associated with greater academic success.
>
> 3. Social competence is comprised of essential interrelated components.

In his studies of social or ecological factors that have an impact on the socialization of children and adolescents, learning and development, Garbarino (1985) defines socially relevant competence as:

> *...a set of skills, attitudes, motives, and abilities needed to master the principal setting that individuals can reasonably expect to encounter in the social environment of which they are a part, while at the same time maximizing their sense of well-being and enhancing future development (p. 80)*

Garbarino argues further that competence is "...the ability to succeed in the world" and that it must be "the goal of socialization and development" (p. 81). In the following years, Garbarino's concept of 'social competence' garnered critical importance (Ogden & Hagen, 2019). In line with Garbarino's views of social competence, Guralnick (1990) proposed that social competence is an important ability "of young children to successfully and appropriately select and carry out their interpersonal goals" (p. 4). Social competence has been described as the knowledge and skills which persons develop in order to deal effectively with life's many choices, challenges, and opportunities (Han & Kemple, 2006; Leffert et al., 1997).

Many other researchers proport that satisfying and effective social interactions are the core component social competence. Katz and McClellan (1997) describe socially competent young children as "those who engage in satisfying interactions and activities with adults and peers" (p. 1). Similarly, Schneider (1993) viewed social competence as relational competence:

"the ability to implement developmentally-appropriate social behaviors that enhance one's interpersonal relationships without causing harm to another" (p. 19). These types of interpersonal relationships necessitate social skills that ensure a person's appropriate "emotional responses to others" (Clausen, 1991, p. 808). Han and Kemple (2006) emphasized that, "Social competence is indexed by effectiveness and appropriateness in human interaction and relationships" (p. 241). Gresham and his colleagues (Gresham et al., 2001) defined social competence as, "The degree to which students are able to establish and maintain satisfactory interpersonal relationships, gain peer acceptance, establish and maintain friendships, and terminate negative or pernicious interpersonal relationships" (p. 331). Orpinas (2010) also views social competence as the ability to handle social interactions effectively. According to Orpinas (2010, p. 1923), social competence refers to "(a) getting along well with others, (b) being able to form and maintain close relationships, and (c) responding in adaptive ways in social settings."

Orpinas (2010) viewed social competence as a product of cognitive abilities, emotional processing, behavioral skills, social awareness and family and cultural values regarding interpersonal relationships.

As social competence involves such a broad set of skills and knowledge, some researchers describe the concept as ambiguous (Nangle et al., 2010). McFall (1982) elaborated that the term social competence has become so ubiquitous that it "strains our credibility and arouses our suspicions" (p. 2). Despite the various descriptions of social competence, researchers still judiciously distinguish social competence from social skills (Dodge & Murphy, 1984; McFall, 1982). Social competence refers to an evaluative judgement by outside observers as to the adequacy of performance in a social task, whereas "social skills refer to the specific abilities or behaviors that allow for effective responding in a social task" (Nangle et al., 2010, p. 6). Walker et al. (2004) explained, succinctly, that social skills refer to specific behaviors while social competence refers to judgments from others of one's social proficiency. Still others describe social skills as the precursor, the necessary prerequisite components, of social competence (Gresham, 1986).

Adaptive Behavior and Skills

In his early conceptualization of social competence Gresham (1986) suggested that social competence was comprised of three subdomains: (a) adaptive behavior, (b) social skills, and (c) peer acceptance. According to Whitcomb (2018), social skills are necessary for the development of adaptive behavior. The American Association on Intellectual and Developmental Disabilities (AAIDD, 2008, p. 2) considers adaptive behavior as "the conceptual, social, and practical skills that people have learned to be able to function in their everyday lives." Adaptive behaviors are dependent on the necessary skills for independent and responsible behavior which is appropriate in a given cultural context. Several researchers relate adaptive behaviors to functional living skills. In addition to 'functional living skills' or 'adaptive skills', these skills are also known as 'skills for self-help' and 'practical life skills' where the main intention of developing these skills is to maximize the capacity of an individual for safe independent living. The possession of rudimentary social skills is crucial for the development of independent safety skills. For example, if one is lost in an unfamiliar city without a map or cell phone, one would need to know how to appropriately ask another individual for directions. Therefore, safety skills and social skills are often considered to be entwined. According to Özerk and Özerk (2020) the following skills are important in daily functioning:

-Identify the address, phone number, buses, trains and/or subways for traveling in and out of the community -Locate public bathrooms to use for washing and toileting -Carry identification in the wallet -Follow pedestrian signs and conventions. -Be able to use appropriate transportation. -Visit relatives, friends and neighbors	-Follow safety rules -Read and follow safety signs -Use menus to order meals -Raise and care for flowers/houseplants -Raise and care for a pet -Attend movies, concerts and plays -Plan and participate in picnics, excursions, etc. -Be aware of social distance and respect personal space

As we expand upon the construct of social skills, the interconnectedness of social competence, adaptive skills and social skills will become more apparent.

Social Skills

Gresham and colleagues (2006) asserted, "Social skills represent a set of competencies that (1) facilitate initiating and maintaining positive social relationships, (2) contribute to peer acceptance and friendship development, (3) result in satisfactory school adjustment, and (4) allow individuals to cope with and adapt to the demands of the social environment" (p. 364). Gresham & Elliot (1990) further proposed that social skills involved five dimensions: Cooperation, assertion, responsibility, empathy, and self-control. These dimensions comprise the well-known social skills rating scale system Social Skills Rating System (SSRS) and revised Social Skills Improvement System (SSIS), and can be described as follows:

Cooperation: An important aspect of cooperation is to follow rules and messages. Collaboration involves sharing, helping others and being interdependent. Cooperation should be practiced in realistic contexts, and it must be valued and actively pursued.

Assertion: The ability to assert oneself is often crucial to being able to participate actively in social communities. This also includes the ability to say no to what you, for example, should preferably not participate in. Assertion includes asking others for help, being able to stand for something yourself and reacting to the actions of others.

Responsibility: Responsibility is about perfor-ming tasks and showing respect for one's own and others' assets and work. Development of responsibility will be related to gaining responsibility through co-determination and taking the consequences of responsibility. Responsibility is also about the ability to communicate with adults.

Empathy: It is important in order to establish friendships and close relationships with others, and will also act as a counterweight to, for example, bullying and violence. Empathy is situational and can therefore be developed and changed. If students are to develop empathy, they should meet empathic friends and teachers.

Self-control: Self-control is about adapting to the community and taking others into account. It means being able to wait your turn, be compromise-oriented and respond to teasing and comments from others without retaliating, getting angry or fighting. Awareness of one's own feelings and ability to understand oneself is essential here.

Norwegian preschool researcher Kari Lamer (1997), inspired by Gresham and Elliot's (1990) Social Skills Rating System (SSRS), developed the Lamer Social Competence in Preschool Scale (LSCIP). Later in 2006, Lamer (2006) categorized social competence into six areas: (1) Assertiveness (2) Self-control, (3) Empathy and role-taking, (4) Prosocial behavior, (5) Adjustment, and (6) Fairness. The following figure (Figure 1) shows the socials skills necessary for the development of social competence in preschool children.

A comprehensive evaluation of the Lamer Social Competence in Preschool Scale (Løkken et al., 2018) revealed that LSCIP is a valuable tool to be used to monitor children's development of social competence. However, the researchers also found that in preschools, the domain of Play, joy and humor should not be considered separate dimensions as play activities require literally all dimensions of social competence" (Løkken et al. 2018, p. 13). Løkken et al (2018) added Fairness as a separate dimension of social competence and described fairness of being

Figure 1

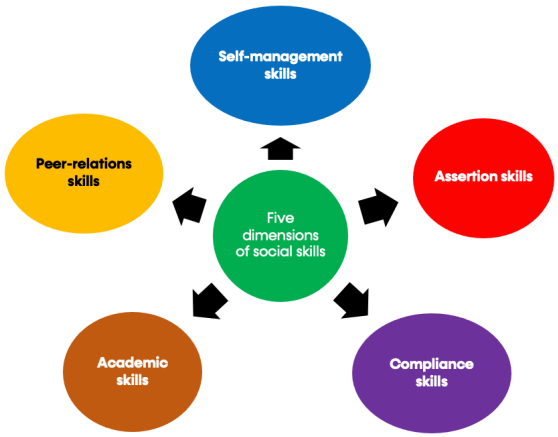
Lamer Social Competence in Preschool Scale (LSCIP)

AREA OF SOCIAL COMPETENCE	COMPRISING SOCIAL SKILLS
Assertiveness	1. Initiates contact (in an OK manner) 2. Wants to participate in play or other group activities. 3. Speaks when several others are present (in an OK manner) 4. On his/her own initiative joins other children's play or activities. 5. Meets new people with openness, makes eye contact. 6. Initiates play. 7. Involves him/herself completely in social role play. 8. Makes friends easily
Self-Control	1. Accepts that his/her wishes will not always be fulfilled. 2. Waits for his/her turn in games and other activities. 3. Can control anger in conflicts with other children. 4.. Compromises in conflict situations (e.g., by changing own opinions or adjusting own wishes) 6. Can control his/her anger in conflict with adults. 7. Can share toys and stuff with others
Empathy and Role-taking	1. Shows that he/she sees that others are happy. 2. Shows that he/she sees that others are sad. 3. Shows that he/she sees that others are angry. 4. Shows that he/she sees others are afraid. 5. Recognizes, and can express in words, others' feelings
Prosocial Behavior	1. Helps other children without being asked. 2. Helps you without being asked. 3. Supports and encourages other children. 4. Helps other children in conflict situations. 5. Says something nice, gives compliments to other children
Adjustment	1. Does as he/she is asked. 2. Completes tasks he/she is assigned. 3. Completes tasks he/she is given within the designated time. 4. Cleans up after him/herself when play/activities are terminated
Fairness	1. Reacts critically to rules that are perceived as unfair. 2. Can resist group pressure. 3. Speaks out clearly when he/she conceives something as unfair

comprised of the following social skills: reacting critically to rules that are perceived as unfair, resisting group pressure, and speaking out clearly when he/she conceives something as unfair.

Several researchers (Caldarella & Merrell, 1997; Gresham, Sugai, & Horner, 2001) propose the following dimensions of social skills depicted below:

Figure 2.
Five Dimensions of Social Skills (Based on the works of Caldarella & Merrell, 1997, p. 264-278; Gresham, Sugai, & Horner, 2001, p. 333-334).



The five dimensions can be described as follows:

> Peer relations skills include complimenting others, offering help, inviting others to interact, being sought out by others, turn taking, and exhibiting leadership ability, empathy, has many friends, stands up for others, sense of humor.
>
> Self-management skills include controlling one's temper, following rules, compromising in conflict situations, accepting criticism, cooperating with others, organizing, and ignoring criticism and distraction.
>
> Assertion skills include initiating conversations, acknowledging compliments, inviting peers to play, displaying self-confidence and self-advocacy, making friends, expressing feels and joining in ongoing activities with others.
>
> Compliant skills include following directions, following rules, using free time appropriately, sharing with others, responding appropriately to criticism, finishing tasks, keeping things clean, and putting things away.
>
> Academic skills include completing work independently, listening to teacher directions, following academic directions, displaying appropriate work habits, producing acceptable work, maintaining time on task, and using free time advantageously.

Elliott and Gresham (2007) asked teachers (kindergarten, preschool, elementary and middle school) to rate more than 80 social skills on a 3-point scale (0 = not important, 1 = important, 2 = critical). Teachers identified the following 10 social skills as being the most critical social skills for classroom success:

1. Listens to others,
2. Follows directions,
3. Follows the rules,
4. Ignores peer distractions,
5. Asks for help,
6. Takes turns in conversations,
7. Cooperates with others,
8. Controls temper in conflict situations,
9. Acts responsibly when with others, and
10. Shows kindness to others

Other researchers describe the following skills as the key components of social skills:

> -showing an interest in others,
>
> -participate in group play and organized group activities,
>
> -initiating social interaction,
>
> -accepting others initiative to social interaction,
>
> -sustaining interactions,
>
> -responding appropriately to peers' inappropriate behaviors, and
>
> -be able to contribute to solve social problem (Odom et al., 1999; Jamison et al., 2012).

Social skills are critical for the development of positive relationships with peers, "which satisfy the need to belong, protect against victimization, and promote cognitive and social development" (Szumski et al., 2019 p. 2823). Human beings utilize and require social skills to communicate, interact and socialize with each other. We humans conduct our social interaction verbally and non-verbally. We use body language, eye contact, facial expressions, words, gestures, and several body movements to communicate out thoughts, feelings, desires, and dislikes. Social skills enable us to make friends, to collaborate, to cooperate and to learn. Adequate social skills are required to successfully meet our needs in appropriate ways. Well-developed and well-practiced social skills help us to establish harmonious relationship with others around us. We use our social skills to clarify disagreements and manage relationships. We accomplish tasks, provide mutual support, and expand our social networks by the reliance on social skills.

Appropriate social and adaptive skills (listening, eye-contact, sharing, turn taking, empathy, cooperation, collaboration, compliance, initiation, following the rules, functional communication, inclusion, helping each other, solving problem together, handling conflicts together etc.) can result in the following:

a) improved social-awareness and healthier peer relationships

b) improved perspective taking skills and improved empathy
c) increased social acceptance and higher quality of friendships

d) increased learning opportunities

e) increased capability to better personal hygiene

f) heightened self-care and safety skills

g) reduced stress

h) greater success in school (Silveira-Zaldivar 2019; Silveira-Zaldivar & Cortis, 2019)

Early, intensive, and continuous interventions by competent practitioners are important when focusing on teaching of children with ASD (Howlin et. al., 2009; Klintwall & Eikeseth, 2014; Rogers & Dawson, 2010). A study conducted by Jones, Greenberg and Crowley (2015) revealed that five-year-old children who displayed positive social skills, such as listening, sharing, cooperation and following of rules, were more likely to attend higher education and obtain a full-time job in early adulthood. Hence, targeting social skills interventions for children who present with social deficits is critical for their success in many life domains.

Evidence-Based Practices for the Development of Social Skills for Children with Autism

Social skills deficits are commonly described as comprising of two categories: skill acquisition deficits and skill performance deficits. Acquisition deficits refer to skills that a student has yet to develop – skills that are not currently in an individual's repertoire. Performance deficits refer to skills that an individual possesses, but that are not consistently or appropriately implemented. To be most effective, social skills interventions for children with autism should be tailored to the type of deficit (performance or acquisition) that the child is exhibiting. Furthermore, researchers suggest that interventions for children with autism, should target and develop behaviors that are socially valid (Elliott et al., 2008). Socially valid behaviors can be described as, "...those behaviors that society considers important, encourages, and reinforces" (Gresham & Elliottt, 2014, p. 159). Fortunately, several evidence-based social skills interventions have been developed to enhance the development and successful implementation of social skills, bolster social competence, and perpetuate socially valid behaviors (Gresham, 2016; Reichow & Volkmar, 2010; Whalon et al. 2015). Furthermore, evidence-based programs have been designed to specifically target the social skills of individuals with autism. Wolstencroft et al. (2018) conducted a systematic review of group social skills interventions for children with high functioning autism, focusing on studies that included the parent-report Social Responsiveness Scale (SRS) as the criterion for success. The results of the meta-analysis of 10 studies showed improvement in the overall SRS score, as well as an increase in the social communication SRS subscale and reductions in the reduced restricted interests and repetitive behaviors subscales (Wolstencroft et al., 2018). The utilization of evidence-based social skills programs provides a means to effectively address the inherent social skills deficits of individuals with autism. White and Keonig (2007) reviewed studies of group social skills interventions between 1985 and 2006 and identified several effective strategies for teaching social skills training for children with ASD. A summary of White and Koenig's findings is depicted in Figure 3. A recent comprehensive study by the National Clearinghouse on Autism Evidence and Practice (Steinbrenner et al., 2020) identified the following 26 social skills evidence-based practices for children, youth, and young adults with autism (see Figure 3).

All of the mentioned 26 methods, practices, and procedures have demonstrated a positive effect on the development of social skills for individuals with ASD. The abbreviations DRA, DRI and DRO stand respectively for Differential Reinforcement of Alternative behaviors, Differential Reinforcement of Incompatible behaviors and Differential Reinforcement of Other behaviors. PRT refers to Pivotal Response Training. As the table suggests, some EBPs for social skills are more valid for a particular age group than other EBPs. While several EBPs exist specifically for students with autism to enhance social skills development, the Frank Porter Graham Child Development Institute, at UNC-Chapel Hill (Wong et al., 2015) suggest that some of the most effective and most widely utilized programs to enhance social competence include: peer mediated interventions (PMI), social narratives, social skills training (SST), structured play group (SPG), Pivotal Response Training (PRT), and video modeling (VM).

Peer Mediation Interventions

Since more students with autism now spend more time in regular education inclusive settings with their typical peers than ever before, it would be beneficial for educators to concentrate on ways to facilitate and enhance social interaction between students with ASD and their typical peers, especially since research has demonstrate that interaction between these two groups tends to be limited naturally (Chamberlain et al., 2007; Humphrey & Symes, 2013). Peer Mediated Interventions have demonstrated efficacy in enhancing the social skills of students with autism (such as peer initiation, frequency and length of peer responses, and the quality of peer interaction) as well as academic time on task, reading comprehension, and communication

Figure 3
Goals for Promising Social Skills Interventions and Promising Teaching Strategies

GOAL FOR PROMISING SOCIAL SKILLS INTERVENTIONS: Increase social motivation.	
PROMISING TEACHING STRATEGIES	**-Foster self-awareness and self-esteem -Develop nurturing, fun environment -Intersperse new skills with previously mastered -skills -Start with simple, easily learned skills (errorless teaching)**
GOAL FOR PROMISING SOCIAL SKILLS INTERVENTIONS: Increase social initiations.	
PROMISING TEACHING STRATEGIES	-Make social rules clear and concrete (e.g., stay one arm's length from another person) -Model age-appropriate initiation strategies -Use natural reinforcers for social initiations (e.g., follow child's conversation lead/interest) -Teach simple social 'scripts' for common situations
GOAL FOR PROMISING SOCIAL SKILLS INTERVENTIONS: Improve appropriate social responding.	
PROMISING TEACHING STRATEGIES	-Teach social response scripts -Reinforce response attempts -Use modeling and role-play to teach skills
GOAL FOR PROMISING SOCIAL SKILLS INTERVENTIONS: Reduce interfering behaviors	
PROMISING TEACHING STRATEGIES	-Make teaching structured & predictable -Differentially reinforce positive behaviors -Keep behavior charts (e.g., checkmarks or stars) for positive behavior -Review socially appropriate and inappropriate behaviors of the participants as a group, via video or audiotape segments
GOAL FOR PROMISING SOCIAL SKILLS INTERVENTIONS: Promote skill generalization	
PROMISING TEACHING STRATEGIES	-Orchestrate peer involvement (e.g., prompting & initiating social interactions, physical proximity) -Use multiple trainers & individuals with which to practice skills -Involve parents in training -Provide opportunities to practice skills in safe, natural settings (e.g., field trips) -Use time between session to practice skills (e.g., via homework')

(Chang & Locke, 2016; Cole & McCurdy, 2014; Kasari et al., 2012; Rodríguez-Medina et al., 2016; Wolfberg et al., 2015; Zagona & Mastergeorge, 2016). Many researchers consider the PMI essential components of modeling, prompting, and reinforcement to be the most successful procedures for teaching social skills and enhancing social competence (Cole & McCurdy, 2014; Kamps et al., 2015). Whalon et al. (2015) critically reviewed 37 school based single-case design studies involving more than 105 children ages three to 12 and found that, "peer-mediated, multi-component, adult-mediated interventions garnered more evidence for the promotion of peer interactions in school settings than other interventions" (p. 1528). Students with ASD who benefit the most from PMI interventions, share certain characteristics, such as average cognition, interest in peer interaction, and compliant behavior (Chang & Locke, 2016). In addition to their peers with autism, typical peers also benefit from PMI interventions (Kamps et al., 2015; Schlieder et al., 2014). Typical peers who participate in PMI programs have demonstrated enhanced social skills of their own including higher quality friendships, a greater understanding of their peers with autism, and reduced feelings of isolation (Locke et al., 2012). One of the benefits of PMI interventions is that PMI interventions can be implemented successfully in short periods of time and in a variety of settings, such as small groups, play periods such as recess, via whole class intervention, or after school programs (Chang & Locke, 2016; Corbett et al., 2015; Zagona & Mastergeorge, 2016). Kasari et al., 2012) achieved positive social outcomes for students with autism in a PMI intervention implemented just twice a week for 20-minute sessions over only six weeks (12 sessions total). Some research has indicated that recess interventions allow for greater maintenance and generalization of skills than interventions implemented in other settings. Peer-Mediated Intervention (PMI) at recess or lunch has been demonstrated to increase social interaction skills as well as reduce negative, inappropriate behaviors (Harper, Symon, & Frea, 2008; Rodríguez-Medina et al., 2016; Zagona & Mastergeorge, 2016). Some PMI unstructured activities capitalize on the student with autism's interests for success (Koegel et al., 2013). Additional optional components to the

Figure 4
The Age Groups that EBP with Positive Impact on Social Skills

Evidence-Based Methods, Practices/ and Procedures	SOCIAL SKILLS (Skills needed to interact with others)					
	0-2 years	3-5 years	6-11 years	12-14 years	15-18 years	19-22 years
Antecedent-Based Intervention		■	■	■		
Augmentative and Alternative Communication	■	■	■			
Behavioral Momentum Intervention		■	■			
Cognitive Behavioral/ Instructional Strategies		■	■	■	■	■
DRA, DRI and DRO		■	■	■		
Discrete Trial Training	■	■	■	■	■	■
Exercise and Movement		■	■	■	■	
Extinction		■	■	■		
Functional Communication Training		■	■			
Modeling	■	■	■	■	■	■
Music-Mediated Intervention		■	■	■		
Naturalistic Intervention/PRT	■	■	■	■	■	■
Parent-Implemented Intervention	■	■	■	■	■	
Peer-Based Instruction and Intervention		■	■	■	■	
Prompting	■	■	■	■	■	
Reinforcement	■	■	■	■	■	■
Response Interruption/ Redirection		■	■			
Self-Management		■	■	■		
Sensory Integration®		■	■	■		
Social Narratives /Social Stories™		■	■	■	■	
Social Skills Training / PEERS®	■	■	■	■	■	■
Task Analysis			■			
Technology-Aided Instruction and Intervention		■	■	■	■	■
Time Delay	■	■	■	■		
Video Modeling		■	■	■	■	■
Visual Supports		■	■	■	■	■

PMI recess/lunch package include direct instruction of social skills, token-economy, priming and/or group contingencies (McFadden et al., 2014).

Pivotal Response Training

Pivotal Response Training (PRT) is a comprehensive intervention package for students with autism targeting "pivotal behaviors" include motivation, initiation, initiation of social interaction, self-management, and understanding and utilizing multiple environmental cues (Koegel & Koegel, 2006; Schriebman et al., 1996). The PRT technique is child-centered – yet adult-facilitated, and PRT utilizes applied behavior analysis (ABA) procedures to provide support in naturalistic settings (Koegel & Koegel, 2006; Platos & Wojaczek, 2017). PRT has been demonstrated to be effective in enhancing and augmenting social skills and functional communication (Cadogan & McCrimmon, 2015; Koegel et al., 2014). PRT can be utilized in the classroom, home, community, and/or recreational

settings such as lunch/recess. PRT typically involves an experienced trainer working in a 1:1 capacity with a focus student in the natural setting to promote and enhance those pivotal behaviors. Interventionists implementing PRT utilize the student's natural interests and preferences to trigger learning.

Social Skills Group Training

Social skills group training (SSGT) is the most commonly utilized school intervention for children with autism. SSGT typically involve several students of similar ages participating in a small group setting with a trained adult facilitator, such as a teacher, counselor, or speech therapist, or behaviorist. An adult facilitator tends to guide the participants to interact. Social skills groups conducted in the school setting can be classified into three types: (a) skills based (didactic instruction provided by an adult facilitator); (b) engagement based (peers engage in one another in play and/or constructive projects, such as building Legos); and (c) mixed (a combination of direct didactic instruction followed by a period of active peer engagement). Didactic models often involve instruction, modeling, practice, and feedback. Engagement groups (such as those employing PMI) tend to capitalize on shared interest between children at schools (Koegel et al., 2013; Wolfberg et al., 2015). Some SSGT involve homework with the goal of enhancing skill generalization. SSGT topics include such activities as giving a compliment to another, asking for help, greeting others, initiating, and sustaining a conversation. Ongoing collaboration with a parent and/or teacher and behavior monitoring is often key to the success of a solid SSGT. Meta-analysis of the use of SSGTs with students with autism have showed promising positive gains in social skills (Gates, Kang, & Lerner, 2017).

LEGO therapy (LeGoff, 2004) is a research based SSGT for youth that uses Legos to increase social competence in a structured environment in which the participants are assigned clearly defined roles and share an interest in Legos. Lego Therapy has demonstrated efficacy with students with autism as well as student with other conditions, such as attention deficit hyperactivity disorder (ADHD). LEGO club therapy originated using typical peers as models in the group. Lego Club Therapy is research demonstrated to enhance friendship making skills, peer social interaction, peer to peer communication and problem-solving skills (Owens et al., 2008). LEGO therapy is designed to be administered twice a week for ten weeks for approximately 45 minutes to an hour, but the program allows for flexibility in both time and settings. While originally designed for students age seven and up, students as young as kindergarten age have benefited from the program.

The Program for the Education and Enrichment of Relational Skills (PEERS) is an evidence- based SSGT program specifically designed to enhance social interaction skills for individuals with autism (Laugeson, 2014). The PEERS program expands the foundation of the Children's Friendship Training (CFT) (Frankel and Myatt, 2003). The primary aim of the PEERS program is to enhance the friendship making skills of individuals with autism. Currently, the PEERS program includes a preschool program, an adolescent program, and a young adult program. Of seventy-three middle school students with ASD along with their parents and teachers who participated in one of the adolescent PEER program for 14 weeks, the PEERS treatment group significantly improved social functioning in the areas of teacher-reported "social responsiveness, social communication, social motivation, social awareness, and decreased autistic mannerisms, with a trend toward improved social cognition on the Social Responsiveness Scale." (Laugerson, 2014, p. 1). Since its debut, the PEERS program has expanded to over 80 countries worldwide and over a dozen foreign languages. Furthermore, the program has demonstrated utility in improving the social skills of individuals with other conditions, such as ADHD and/or anxiety disorders (Laugeson, 2012). PEERS has been developing an online delivery model in addition to the traditional in person delivery. The PEERS program is comprised of the following essential components: a) relevant portions of social skills curriculum; (b) the use of parent-assistance (or other designated individual acting as a coach); and (c) structural elements of the lesson format (Laugeson et al., 2009, 2010).

Positive Behavior Reinforcement Interventions

Positive Behavior Reinforcement Interventions are the most-commonly used strategy for reducing maladaptive behaviors and increasing appropriate pro social behaviors (Matson & Boisjoli, 2008). Adding positive behavior interventions to other evidence-based social skills interventions (such as peer mediated interventions or video modeling), has been demonstrated to increase the efficacy of those programs (Camargo et al., 2014; Mason et al.,2012). Positive reinforcement is the presentation of a stimulus, such as a tangible object, a token, or verbal praise, immediately after a behavior, which then increases the likelihood that the behavior will recur (Cooper et al., 2007). Variations of delivering positive reinforcement include the use of token economies, differential reinforcement of other behaviors (DRO) – reinforcing a child for going periods of time without engaging in a particular maladaptive behavior target; and differential reinforcement of alternative behaviors (DRA) – reinforcing for alternative behaviors that are more socially appropriate and meet the same function of the maladaptive behavior (such as reinforcing a child for asking for a break when he desires to escape an unpleasant situation as opposed

to engaging in a tantrum when presented with the unpleasant stimuli) (Cooper et al., 2007).

Social Narratives

Social narratives are one of the most widely utilized and researched methods for the enhancement of social skills. The concept of social narratives is derived from the well-known intervention strategy of Social Stories™ developed by Carol Gray in 1993. Social Stories™ (Gray et al., 1993) are short, personal stories, written in the first person to teach children with autism how to navigate a challenging social situation. Social stories are most beneficial for students with autism to reduce a targeted problem behavior or to inform children of an effective social response (Gray, 2010, 2021; Hutchins & Prelock, 2013; Pane et al., 2015). As such, social stories are often used as a supplemental program or within a broader social skills intervention package for enhancing social skills (Kokina & Kern, 2010). Carol Gray is in the process of releasing Social Stories 10.3, the fourth version of the Social Story Criteria. Carol Gray defines . Social Stories™ 10.3 as follows:

> *Recognizing that every human experience and perspective is unique and valid, and that social impairments and their solutions are shared, a Social Story accurately describes a personally relevant topic (often a context, skill, achievement, or concept) according to ten defining criteria. These criteria guide Story research, development, and implementation to ensure an overall patient and supportive quality and a format, voice, content, and learning experience that is descriptive, meaningful, respectful, and physically, socially, and emotionally safe for the Story audience (a child, adolescent, or adult). (Gray, 2021, p. 19, power point handout).*

Gray (2004) has recommended that all social stories include a variety of descriptive, perspective, affirmative and cooperative sentences, for every directive or control sentence. While a variety of individuals may author social stories (i.e., parents, teachers, psychologists, daycare providers, behavior therapists, etc.), parent involvement is essential for a story to be considered a valid Social Story™ (Gray, 2021). To develop a successful social story, authors consider external and internal contexts and their interaction (Gray, 2021). Social narratives are primarily designed for those with reading skills, but individuals with limited decoding skills but strong auditory comprehension skills may also benefit (Gray, 2010). Social stories may incorporate visuals to augment social comprehension. Social stories are most effective when implemented appropriately and with fidelity by trained personnel (Mayton et al., 2013).

Video Modeling

Research suggests that video modeling is as effective as peer mediation in enhancing social skills (Wang et al., 2011). Video Modeling is particularly effective for teaching novel social behavior (Charlop-Christy, Le, & Freeman, 2000; Plavnick et al., 2015). Video modeling may be implemented formally via a structured program or informally by a provider to a targeted student. Video modeling requires little adult support or direction (Hume et al., 2009) – making it a convenient intervention choice for schools. Indirectly, video modeling incorporates elements of peer mediation and modeling. Social skills trainings are delivered in a form that is comfortable and attractive to children: children watch videos of expected and/or desired behavioral scenarios and then practice the behavior themselves.

While the National Clearinghouse on Autism Evidence and Practice (Steinbrenner, et al.,2020) has been integral in identifying EBPs designed to enhance the social functioning of students with autism, two additional resources are available in the United States to help educators find evidence-based social skills training suitable to meet the needs of their setting: The Collaborative for Academic, Social, and Emotional Learning (CASEL) group and the Positive Environment Network of Trainers (PENT). (CASEL was formed in 2003 to establish evidence-based SEL practices in the public-school setting (Schonert-Reichl & Hymel, 2007). The CASEL guide for evidence-based social emotional practices has been revised several times since 2003, with the most recent revision in 2013. The 2013 CASEL Guide provides information on 23 select social skills programs spanning preschool to high school. CASEL researchers (CASEL, 2013) have asserted that global social emotional learning enhances academic achievement and behavior, while simultaneously reducing maladaptive behaviors and emotional difficulties. The PENT association, with the support of the Renowned Educational Psychologist and Behavior Psychologist Dr. Clayton Cook, (2015) distinguishes between interventions for skill deficits and interventions for performance deficits. Dr. Cook (2015) has recommended the following evidence-based social skills training program for students who present with deficits in social skills (Figure 5).

Next Steps

Despite the availability of many diverse evidence-based Social Skills interventions, many are not utilized by educators in the public-school settings (Locke et al., 2016; Owens et al., 2014; Stahmer et al.,2015) and/or they are not utilized with efficacy (Deris & Di Carlo, 2013; Kasari & Smith, 2013). A review from 2007 that included 14 studies on SSGT highlighted the following research challenges: small sample size in studies, inadequate measurement tools for social functioning, and the need for various improvements (Williams et al., 2007). Furthermore, the literature gap illuminates

Figure 5
Training Programs for Students with Deficits in Social Skills (Cook, 2015)

CURRICULUM	AUTHORS/MAKERS
Skillstreaming	Arnold Goldstein and Ellen McGinnis (http://www.skillstreaming.com)
PEERS	Elizabeth Laugeson http://www.semel.ucla.edu/peers & http://www.amazon.com/The-PEERS-Curriculum-School-Based-Professionals/dp/041562696X
The Social Skills Improvement System–Intervention Guide	Frank Gresham and Stephen Elliott http://www.pearsonclinical.com/psychology/products/100000355/social-skills-improvement-system-ssisintervention-guide.html
ACCEPTS Program	Hill A.Walker: http://www.proedinc.com/customer/productView.aspx?ID=62
Prepare Program	Arnold Goldstein https://www.researchpress.com/books/818/preparecurriculum

that the generalizability social skills addressed during interventions has been neglected (Jonsson, et al., 2016; Kasari et al, 2014; Williams et al., 2007). In a recent study exploring the gap between educators and the successful implementation of evidence-based social skills interventions in the school setting, the researchers identified six key barriers: lack of training, lack of support, lack of time, prioritization conflicts, lack of resources, and staff mindset (Silveria-Zaldivar & Curtis, 2019). To adequately address the critical need of those with autism to develop enhanced social skills, Carter et al. (2014) suggested five intervention areas:

> *1. Additional research should focus on social skills intervention that consider the functioning level of the individual.*
>
> *2. Schools need to find ways to involve peers in interventions and to deliver interventions at school settings.*
>
> *3. Peers and/or family members should be involved in interventions.*
>
> *4. More technological based interventions should be explored, and*
>
> *5. Research should create more appropriate social emotional assessments and interventions that focus primarily on the needs of an adolescent with autism.*

Silveria-Zaldivar (2019) proposed the following suggestions for school districts to build the social competence of students with autism by implementing EBPs for social skills:

> o Motivate administrators and other stakeholders to incorporate social skills in the school setting by sharing with them research regarding the relevance of the development of effective social skills.
>
> o Increase education of evidence-based social emotional and behavioral practices in graduate school programs for educators and service providers, such as psychologists, counselors, and speech therapist.
> o Build a district team comprised of various stakeholders to model and teach school sites how to implement EBPs for students with autism.
>
> o Increase and enhance training to all staff related evidence-based social skills interventions. Include direct modeling, practical experience, and field experience in the training.
>
> o Offer parent training of EBPs to enhance the generalization of social skills.
>
> o Consider the utilization of typical peers as agents of change.
>
> o Increase collaborative opportunities amongst staff and stakeholders.
>
> o Increase access to resources, sufficient personnel, and materials to implement for social skills.
>
> o Incorporate the best-fit model (the consideration of cost, efficacy, and effort when determining the appropriate EBPs program or programs for a particular site or district).
>
> o Have each school site develop a monitoring system to ensure that each student with autism on their campus has access to EBPs for social skills.

Addressing the social needs of students with autism in school settings is likely to yield advantages that exceed the students' school environment. The successful implementation of EBPs for social skills for students with autism will undoubtedly extend benefits to the society at large.

Conclusion

This article sought to explain the constructs of social competence, social skills, and adaptive skills in a manner accessible and relatable to educators. Appropriate social skills are a prerequisite for social competence. Hence, successful interventions that improve social skills theoretically should improve social competency as well. Deficits in social skills have a profound and lasting impact on academic achievement, school behavior, social and emotional well-being including friendship and family relations, and adult outcomes for those with autism (Baumeister & Leary, 1995; Kok et al., 2013; Seppala et al., 2013). Children with ASD have significant social skills impairments. Evidence-based social skills interventions are paramount in counteracting the negative effects of social deficits that are inherent in a diagnosis of autism. Social and adaptive skills are of pivotal nature. However, social, and adaptive skills are teachable and learnable skills. Children with ASD have difficulty learning these skills through natural social interaction without explicit guidance. Children with ASD require well-planned and well-implemented interventions to develop appropriate social and adaptive skills. Ultimately, the development of appropriate social and adaptive skills may be critical to the success of the individual with autism. Fortunately, there are more than two dozen evidence-based methods, practices, strategies, and procedures for improving social and adaptive skills of children with ASD. The challenge remains, however, in implementing those interventions for social skills in various settings and with regularity and fidelity.

References

American Association on Intellectual and Developmental Disabilities (2008). Frequently asked questions on intellectual disability and the AAIDD definition. Washington, DC: AAIDD Information.

American Psychiatric Association (APA) (2013). Diagnostic and Statistical Manual of Mental Disorders (DSM-5). Washington, D.C.: American Psychiatric Association.

Baron-Cohen, S. (1995). Mindblindness: an essay on autism and theory of mind. Boston, MA: MIT Press/Bradford Books

Baron-Cohen, S. (2001). Theory of mind in normal development and autism. *Prisme, 34*, 174–183.

Boujut, E., Dean, A., Grouselle, A., & Cappe, E. (2016). Comparative study of teachers in regular schools and teachers in specialized schools in France, working with students with an autism spectrum disorder: Stress, social support, coping strategies and burnout. *Journal of Autism and Developmental Disorders, 46*(9), 2874-2889. doi:10.1007/s10803-016-2833-2

Baumeister, R., & Leary, M. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*(3), 497-529.

Berney, T. (2004). Asperger syndrome from childhood into adulthood. *Advances in Psychiatric Treatment, 10*, 341-351.

Brown, J. A., & McIntosh, K. (2012). Training, inclusion, and behaviour: Effect on student-teacher and student-SEA relationships for autistic students with autism spectrum disorders. *Exceptionality Education International, 22*(2), 77-88.

Caldarella, P. & Merrell, K. (1997): Common dimensions of social skills of children and adolescents: A taxonomy of positive behaviors. *School Psychology Review, 26*(2), 264-278.

Calder, L., Hill, V., & Pellicano, E. (2013). 'Sometimes I want to play by myself': Understanding what friendship means to children with autism in mainstream primary schools. *Autism, 7*(3), 296–316.

Camargo, S. P., Rispoli, M., Ganz, J., Hong, E. R., Davis, H., & Mason, R. (2014). A review of the quality of behaviorally based intervention research to improve social interaction skills of children with ASD in inclusive settings. *Journal of Autism and Developmental Disorders, 44*, 2096-2116. doi:10.1007/s10803-014-2060-7.

Carter, A. S., Davis, N. O., Klin, A., & Volkmar, F. R. (2005). Social development in autism. Handbook of Autism and Pervasive Developmental Disorders, 1, 312-334.

Carter, E., Common, E., Sreckovic, M., Huber, H., Bottema-Beutel, K., Gustafson, J., Dykstra, J., ... Hume, K. (2014). Promoting social competence and peer relationships for adolescents with autism spectrum disorders. *Remedial and Special Education, 35*(2), 91-101.

CASEL. (2013). Effective social and emotional learning programs. Retrieved from https://casel.org/wp-content/uploads/2016/01/2013-casel-guide-1.pdf

Chamberlain, B., Kasari, C., & Rotheram-Fuller, E. (2007). Involvement or isolation? The social networks of children with autism in regular classrooms. *Autism and Developmental Disorders, 37*(2), 230-42.

Chang, Y-C., & Locke, J. (2016). A systematic review of peer-mediated interventions for children with autism spectrum disorder. *Research in Autism Spectrum Disorders, 27*, 110. doi:10.1016/j.rasd.2016.03.010

Charlop-Christy, M.H., Le, L. and Freeman, K.A. (2000): A comparison of video modeling with in vivo modeling for teaching children with autism. *Journal of Autism and Developmental Disorders, 30*, 537–552.

Cidav, Z., Marcus, S. C., & Mandell, D. S. (2012). Implications of childhood autism for parental employment and earnings. *Pediatrics, 129*(4), 617-623. doi:10.1542/peds.2011-2700

Clausen,J. S. (1991). Adolescent Competence and the Shaping of the Life Course. *American Journal of Sociology, 96*(4), 805-842.

Cole, C., & McCurdy, E. (2014). Use of a peer support intervention for promoting academic engagement of autistic students with autism in general education settings. *Journal of Autism and Developmental Disorders, 44*(4), 883-893. doi:10.1007/s10803-013-1941

Cook, A., Ogden, J., & Winstone, N. (2017). Friendship motivations, challenges and the role of masking for girls with autism in contrasting school settings. *European Journal of Special Needs Education, 32*(4), 1-15. doi:10.1080/08856257.2017.1312797

Cook, C. (2015). Group-Based Interventions for Student's with "Can't Do" Problems. Handouts presented at the *Annual Conference of the Southern California PENT Cadre Members, San Bernardino*, CA.

Cooper, J. O., Heron, T. E., & Heward, W. L. (2007). *Applied behavior analysis* (2nd ed.). Upper Saddle River, NJ: Pearson.

Corbett, B. A., Key, A. P., Qualls, L., Fecteau, S., Newsom, C., Coke, C., & Yoder, P. (2015). Improvement in social competence using a randomized trial of a theatre Intervention for children with autism spectrum disorder. *Journal of Autism and Developmental Disorders, 46*(2), 658-672. doi:10.1007/s10803-015-2600-9

Corona, L. L., Christodulu, K. V., & Rinaldi, M. L. (2017). Investigation of school professionals' self-efficacy for working with students with ASD: Impact of prior experience, knowledge, and training. *Journal of Positive Behavior Interventions, 19*(2), 90–101.

Denham, S. A., & Brown, C. (2010). "Plays nice with others": Social-emotional learning and academic success. *Early Education and Development, 21*(5), 652-680.

Deris, A., & Di Carlo, C. (2013). Back to basics: Working with young children with autism in inclusive classrooms. *Support for Learning, 28*(2), 52-56. doi:10.1111/1467-9604.12018

Dewey, J. (1938). *Experience and Education*. New York: Macmillan, 1959; copyright, 1938, by Kappa Delta Pi).

Dodge, K. A. & Murphy, R. R. (1984). The assessment of social competence in adolescents. In P. Karoly & J. Steffen (Eds.). *Adolescent behavior disorders: Faundations and contemporary concerns. Advances in child behavioral analysis and therapy. Vol.* 3, p 61-96. Lexington, MA: Lexington Books.

Elliott, S.N., & Busse, R. (2004). Assessment and evaluation of students' behavior and intervention outcomes: The utility of rating scale methods. In R. Rutherford, M. Quinn, & S. Mathur (Eds.), *Handbook of research in emotional and behavioral disorders* (pp. 123–142). New York (NY): Guilford Press.

Elliott, S. N., & Gresham, F. M. (2007). *SSIS Classwide Intervention Program.* Bloomington, MN: Pearson Assessments.

Elliott, S. N., Gresham, F. M., L. Frank, J. L., & Beddow, P. A. (2008). Intervention Validity of Social Behavior Rating Scales. Features of Assessments That Link Results to Treatment Plans. *Assessment for Effective Intervention, 34(1),* 15-24.

Frankel, F., & Myatt, R. (2003). Children's friendship training. Brunner-Routledge Friend, M., & Bursack, W. D. (2009). *Including students with special needs: A practical guide for classroom teachers* (5th ed.) (pp. 1-33). Upper Saddle River, NJ: Pearson Education Inc.

Garbarino, J. (1985). *Adolescent development: An ecological perspective*. Columbus, OH: Charles E. Merrill.

Gates, J., Kang, E., & Lerner, M. (2017). Efficacy of group social skills interventions for youth with autism spectrum disorder: a systematic review and meta-analysis. *Clinical Psychology Review, 52*, 164-181.

Getzels, J. W. & Jackson, P. W. (1961). *Creativity and Intelligence*. New York: Wiley.

Goldstein, H., Kaczmarek, L., Penningon, R., & Shafer, K. (1992). Peer-mediated intervention: Attending to, commenting on, and acknowledging the behavior of preschoolers with autism. *Journal of Applied Behavior Analysis, 25*, 289-305.

Gotham, K., Brunwasser, S. M., & Lord, C. (2015). Depressive and anxiety symptom trajectories from school age through young adulthood in samples with autism spectrum disorder and developmental delay. *Journal of the American Academy of Child and Adolescent, 54*, 369-376.

Gray, C. (2004). Social stories 10.0: The new defining criteria & guidelines. *Jenison Autism Journal, 15*(4), 2-21.

Gray, C. (2010). *The new social story book*. Arlington, TX: Future Horizons.

Gray, C. (2021). Carol Gray Social Stories 10.3 Online – a Presentation by Carol Gray [PowerPoint slides]. Virtual Presentation, February 11, 2021

Gray, C., Broek, E., Cain, S. L., Dutkiewicz, M., Fleck, C., Gray, B., Gray, ... Moore, L. (1993). The social story book. Jenison, MI: Jenison Public Schools.

Gresham, F. M. (1986). Conceptual and Definitional issues in the Assessment of Children's Social Skills: Implications for Classifications and Training. *Journal of Clinical Child Psychology, 15*(1), 3-15, DOI: 10.1207/s15374424jccp1501_1

Gresham, F. M. (2016). Social skills assessment and intervention for children and youth. *Cambridge Journal of Education, 46*(3), 319–332. http://dx.doi.org/10.1080/0305764X.2016.1195788

Gresham, F. M. & Elliott, S. N. (2014). Social Skills Assessment and Training in Emotional and Behavioral Disorders. In H. M. Walker & F. M. Gresham (Eds.). *Handbook of evidence-based practices for emotional and behavioral disorders: Applications in schools*. New York: Guilford, Inc. (p. 152-172)

Gresham, F. M., & Elliott, S. N. (1990). *The social skills rating system*. Circle Pines, MN: American Guidance Service.

Gresham, F. M., Sugai, G., & Horner, R. H. (2001). Interpreting outcomes of social skills training for students with high-incidence disabilities. E*xceptional Children, 67*(3), 331-344.

Gresham, F. M., Van, M. B., & Cook, C.R. (2006). Social skills training for teaching replacement behaviors: Remediating acquisition deficits in at-risk students. *Behavioral Disorders, 31*(4), 363-377.

Guralnick, M. J. (1990). Social competence and early intervention. *Journal of Early Intervention, 14*(1), 3–14.

Han, H.S. & Kemple, K.M. (2006). Components of Social Competence and Strategies of Support: Considering What to Teach and How. *Early Childhood Education Journal, 34*, 241–246. https://doi.org/10.1007/s10643-006-0139-2

Hansen, S., Blakely, A., Dolata, J., Raulston, T., & Machalicek, W. (2014). Children with autism in the inclusive preschool classroom: A systematic review of single-subject design interventions on social communication skills. *Review Journal of Autism Developmental Disorders, 1*, 192–206. doi:10.1007/s40489-014-0020-y

Harper, C. B., Symon, J. B. G., & Frea, W. D. (2008). Recess is time-in: Using peers to improve social skills of children with autism. *Journal of Autism Developmental Disorders, 38*(5), 815-826. doi:10.1007/s10803-007-0449-2

Hebron, J., Humphrey, N., & Oldfield, J. (2015). Vulnerability to bullying of children with autism spectrum conditions in mainstream education: a multi-informant qualitative exploration. *Journal of Research in Special Educational Needs, 15*(3), 185-193.

Hillier, A. J., Fish, T., Siegel, J. H., & Beversdorf, D. Q. (2011). Social and vocational skills training reduces self-reported anxiety and depression among young adults on the autism spectrum. *Journal of Developmental and Physical Disabilities, 23*, 267 – 276. doi:10.1007/s10882-011-9226-4

Howlin, P., Magiati, I., Charman, T. & MacLean, Jr. W.E. (2009). Systematic Review of Early Intensive Behavioral Interventions for Children with Autism. *American Journal on Intellectual Developpmental Disability, 114*(1). 23–41.

Hume, K., Loftin, R., & Lantz, J. (2009). Increasing independence in autism spectrum disorders: A review of three focused interventions. *Autism and Developmental Disorders, 39*(9), 1329-1338.

Humphrey, N., & Symes, W. (2013). Inclusive education for pupils with autistic spectrum disorders in secondary mainstream schools: Teacher attitudes, experience and knowledge. *International Journal of Inclusive Education, 17*(1), 32-46. doi:10.1080/13603116.2011.580462

Hutchins, T. L., & Prelock, P. A. (2013). The social validity of Social Stories™ for supporting the behavioural and communicative functioning of children with autism spectrum disorder. *International Journal of Speech-Language Pathology, 15*(4), 383- 395.

Hwang, B., & Hughes, C. (2000). The effects of social interactive training on early social communicative skills of children with autism. *Journal of Autism and Developmental Disorders, 30*(4), 331-343. doi:10.1023/a:1005579317085.

Ingersoll, B., Schreibman, L., & Stahmer, A. (2001). Brief report: Differential treatment outcomes for children with autistic spectrum disorder based on level of peer social avoidance. *Journal of Autism and Developmental Disorders, 31*, 343-349

Ingersoll, B., & Schreibman, L. (2006). Teaching reciprocal imitation skills to young children with autism using a naturalistic behavioral approach: Effects on language, pretend play, and joint attention. *Journal of Autism and Developmental Disorders, 36*(4), 487-505. doi:10.1007/s10803-006-0089-y

Jamison, K. R., Forston, L. D., & Stanton-Chapman, T. L. (2012). Encouraging social skill development through play in early childhood special education classrooms. *Young Exceptional Children, 15*, 3–19.

Jansen, J. & Holck, P. (2020). Hippocampus. Store medisinske leksikon. Hentet fra https://sml.snl.no/hippocampus [Hippocamous. Comprehensive Medical Lexicon, accessed 09. September 2020, https://sml.snl.no/hippocampus]

Jones, D.E., Greenberg, M., & Crowley, M. (2015). Early social-emotional functioning and public health: the relationship retween kindergarten social competence and future wellness. *American Journal of Public Health, 105*(11), 2283-2290. doi:10.2105/ajph.2015.302630

Jones, R., Pickles, A., & Lord, C. (2017). Evaluating the quality of peer interactions in children and adolescents with autism with the Penn Interactive Peer Play Scale (PIPPS). *Molecular Autism, 8*(28), 1-9. doi:10.1186/s13229-017-0144-x

Jonsson, U., Olsson, N. C., & Bölte, S. (2016). Can findings from randomized controlled trials of social skills training in autism spectrum disorder be generalized. The neglected dimension of external validity. *Autism: The International Journal of Research and Practice, 20*, 295–305, https://doi.org/10.1177/1362361315583817

Kamps, D., Thiemann-Bourque, K., Heitzman-Powell, L., Schwartz, I., Rosenberg, N., Mason, R., & Cox, S. (2015). A comprehensive peer network intervention to improve social communication of children with autism spectrum disorders: A randomized trial in kindergarten and first grade. *Journal of Autism and Developmental Disorders, 45*(6), 1809-1824. http://doi.org/10.1007/s10803-014-2340-2

Kasari, C., Freeman, S., & Paparella, T. (2006). Joint attention and symbolic play in young children with autism: a randomized controlled intervention study. *Journal of Child Psychology and Psychiatry, 47*, 611–620.

Kasari, C., & Smith, T. (2013). Interventions in schools for children with autism spectrum disorder: Methods and recommendations. *Autism, 17*, 254–267. [PubMed: 23592848].

Kasari, C., Locke, J., Gulsrud, A., & Rotheram-Fuller, E. (2011). Social networks and friendships at school: Comparing children with and without ASD. *Journal of Autism and Developmental Disorders, 41*(5), 533-544. doi:10.1007/s10803-010-1076-x

Kasari, C., Rotheram-Fuller, E., Locke, J., & Gulsrud, A. (2012). Making the connection: Randomized controlled trial of social skills at school for children with autism spectrum disorders. *Journal of Child Psychology and Psychiatry, and Allied Disciplines, 53*(4), 431-439. doi:10.1111/j.1469-7610.2011.02493

Kasari, C., & Chang, Y. C. (2014). Play development in children with Autism Spectrum Disorders : Skills, object play, and interventions. In F. R. Volkmar, R. Paul, S. J. Rogers, & K. A. Pelphrey (Eds.), *Handbook of autism and pervasive developmental disorders* (pp. 263-277). Hoboken, NJ: John Wiley & Sons

Kasari, C., Dean, M., Kretzmann, M., Shih, W., Orlich, D., Whitney, R., Landa, R., ... King, B. (2015). Children with autism spectrum disorder and social skills groups at school: A randomized trial comparing intervention approach and peer composition. *Journal of Child Psychology and Psychiatry, 57*(2), 171-179.

Katz L. G., McClellan D. E., (1997). *Fostering children's social competence: The teacher's role*. Washington, DC: NAEYC

Klintwall, L. & Eikeseth, S. (2014). Early and Intensive Behavioral Intervention (EIBI) in Autism. I V.B. Patel, V.R. Preedy & C.R. Martin (eds.), *Comprehensive Guide to Autism* (s. 117–138). New York: Springer.

Koegel R.L. & Koegel L.K. (2006). *Pivotal Response treatments for autism: Communication, social & academic development.* Baltimore, MD: Paul H. Brookes.

Koegel, R. L., Kim, S., Koegel, L., & Schwartzman, B. (2013). Improving socialization for high school students with ASD by using their preferred interests. *Journal of Autism and Developmental Disorders, 43*, 2121-2134

Koegel, L. K., Koegel, R. L., Ashbaugh, K., & Bradshaw, J. (2014). The importance of early identification and intervention for children with or at risk for autism spectrum disorders. *International Journal of Speech-Language Pathology, 16*(1), 50-56. doi:10.3109/17549507.2013.861511

Kok, B. E., Coffey, K. A., Cohn, M. A., Catalino, L. I., Vacharkulksemsuk, T., Algoe, S. B., Brantley, M., ... Fredrickson, B. L. (2013). How positive emotions build physical health: Perceived positive social connections account for the upward spiral between positive emotions and vagal tone. *Psychological Science, 24*(7), 1123-1132. doi:10.1177/0956797612470827

Kokina, A., & Kern, L. (2010). Social story interventions for students with autism spectrum disorders: A meta-analysis. *Journal of Autism and Developmental Disorders, 40*(7), 812-826

Lamer, K. (1997). *Du og jeg og vi to: Teoriboka: Om å fremme barns sosiale kompetanse teoriboka* [You and me and the two of us: The theory book: About increasing children's social competence]. Oslo, Norway: Universitetsforlaget.

Lamer, K. (2006). Evaluering og videreutvikling av Du og jeg og vi to [Evaluation and further development of you and me and the two of us]. In K. Lamer, & S. Hauge (Eds.), *Fra rammeprogram til handling. Implementering av rammeprogrammet* [From framework plan to action] (HiO Report 28). Oslo, Norway: Oslo and Akershus University College of Applied Sciences.

Lauderdale-Litten, S., Howell, E., & Blacher, J. (2013). Educational placement for children with autism spectrum disorders in public and non-public school settings: The impact of social skills and behavior problems. *Education and Training in Autism and Developmental Disabilities, 48*(4), 469 - 478.

Laugeson, E. A., Frankel, F., Mogil, C., & Dillon, EN. R. (2009).Foreldreassistert sosial ferdigheter opplæring til forbedre vennskap iungdommer med autisme spektrum forstyrrelser. *Tidsskrift av Autisme og Utviklingsmessig Forstyrrelser, 39*(4), 596–606

Laugeson, E. A., & Frankel, F. (2010). *Social skills for teenagers with developmental and autism spectrum disorders: The PEERS treatment manual.* Routledge.

Laugeson, E. A., Frankel, F., Gantman, A., Dillon, A. R., & Mogil, C. (2012). Evidence-based social skills training for adolescents with autism spectrum disorders: The UCLA PEERS program. *Journal of Autism and Developmental Disorders, 42*(6), 1025-1036.

Laugeson, E. A., & Park, M. N. (2014). Using a CBT approach to teach social skills to adolescents with autism spectrum disorder and other social challenges: the PEERS® method. *Journal of Rational-Emotive & Cognitive-Behavior Therapy, 32*(1), 84-97.

Leaf, J.B., Leaf,J.A., Milne, C., Taubman, M., Oppenheim-Leaf, M., Torres, N., Townley-Cochran, D., Leaf, R., McEachin, J., Yoder, P. (2017). Autism Partnership Foundation. An Evaluation of a Behaviorally Based Social Skills Group for Individuals Diagnosed with Autism Spectrum Disorder. Journal of Autism and Developmental Disorders. 47(2):243-259. doi: 10.1007/s10803-016-2949-4. PMID: 27807755.

Leffert, N., Benson, P. L., & Roehlkepartan J. L., (1997). *Starting out right: Developmental assets for children*. Minneapolis, MN: Search Institute.

LeGoff, D. B. (2004). Use of LEGO© as a therapeutic medium for improving social competence. *Journal of Autism and Developmental Disorders, 34*(5), 557–571.

Lindsay, S., Proulx, M., Thomson, N., & Scott, H. (2013). Educators' challenges of children with autism spectrum disorder in mainstream classrooms. *International Journal of Disability, Development and Education, 60*(4), 347-362. doi:10.1080/10349 12x.2013.846470.

Locke, J., Ishijima, E. H., Kasari, C., & London, N. (2010). Loneliness, friendship quality and the quality and the social networks of adolescents with high-functioning autism in an inclusive school setting. *Journal of Research in Special Educational Needs, 10*(2), 74-81.

Locke, J., Rotheram-Fuller, E., & Kasari, C. (2012). Exploring the social impact of being a typical peer model for included children with autism spectrum disorder. *Journal of Autism Developmental Disorders, 42*(9), 1895-1905. doi:10.1007/s10803-011-1437-0

Locke, J., Beidas, R. S., Marcus, S., Stahmer, A., Aarons, G. A., Lyon, A. R., . . . Mandell, D. S. (2016). A mixed methods study of individual and organizational factors that affect implementation of interventions for children with autism in public schools. *Implementation Science, 11*(135). doi:10.1186/s13012-016-0501-8

Løkken, I. M., Broekhuizen, M. L., Moser, T., Bjørnestad, E., & Hegna, M. M. (2018). Evaluation of the Lamer Social Competence in Preschool Scale. *Tidsskrift for Nordisk Barnehageforskning, 17*(9), 1-22. DOI: 10.7577/nbf.2424

Magiati, I., Tay, Z., & Howlin, P. (2013). Cognitive, language, social and behavioural outcomes in adults with autism spectrum disorders: A systematic review of longitudinal follow up studies in adulthood. *Clinical Psychology Review, 34*(1), 73-86.

Makin, C., Hill, V., & Pellicano, E. (2017). The primary-to-secondary school transition for children on the autism spectrum: A multi-informant mixed-methods study. *Autism and Developmental Language Impairments, 2*, 1-18. doi:10.1177/2396941516684834.

Mason, R., Ganz, J., Parker, R., Burke, M., & Camargo, S. (2012). Moderating factors of video modeling with other as model: A meta-analysis of single-case studies. *Research in Developmental Disabilities, 33*(4), 1076-1086.

Matson, J. L., & Boisjoli, J. A. (2008). The token economy for children with intellectual disability and/or autism: A review. *Research in Developmental Disabilities, 30*, 240-248. doi:10.1016/j.ridd.2008.04.00

Mayton, M. R., Menendez, A. L., Wheeler, J. J., Carter, S. L., & Chitiyo, M. (2013). An analysis of Social Stories™ research using an evidence-based practice model. *Journal of Research in Special Educational Needs, 13*(3), 208-217.

Mazurek, M. O., Kanne, S. M., & Wodka, E. L. (2013). Physical aggression in children and adolescents with autism spectrum disorders. *Research in Autism Spectrum Disorders, 7*(3), 455-465. doi:10.1016/j.rasd.2012.11.004

McFadden, B., Kamps, D., & Heitzman-Powell, L. (2014). Social communication effects of peer-mediated recess intervention for children with autism. *Research in Autism Spectrum Disorders, 8*(12), 1699-1712. doi:10.1016/j.rasd.2014.08.015

Mead, G. H. (1934). *Mind, Self and Society*. Chicago: University of Chicago Press.

Meadan, H., Halle, J. W., & Ebata, A. T. (2010). Families with children who have autism spectrum disorders: Stress and support. *Exceptional Children, 77*, 7-36.

Miller, M., Young, G. S., Hutman, T., Johnson, S., Schwichtenberg, A. J., & Ozonoff, S. (2015). Early pragmatic language difficulties in siblings of children with autism: Implications for DSM-5 Social Communication Disorder? *Journal of Child Psychology and Psychiatry, and Allied Disciplines, 56*(7), 774-781. http://doi.org/10.1111/jcpp.12342

Montroy, J. J., Bowles, R. P., Skibbe, L. E., & Foster, T. D. (2014). Social skills and problem behaviors as mediators of the relationship between behavioral self-regulation and academic achievement. *Early Childhood Research Quarterly, 29*(3), 298-309.

Mordre, M., Groholt, B., Knudsen, A. K., Sponheim, E., Mykletun, A., & Myhre, A. M. (2012). Is long-term prognosis for pervasive developmental disorder not otherwise specified different from prognosis for autistic disorder? Findings from a 30-year follow-up study. *Journal of Autism and Developmental Disorders, 42*(6), 920–928.

Munkhaugen, E., Gievik, E., Pripp, A., Sponheim, E., & Diseth., T. (2017). School refusal behaviour: Are children and adolescents with autism spectrum disorder at a higher risk? *Research in Autism Spectrum Disorders, 41-42*, 31-38.

Nangle, D. F., Grover, R. L., Holleb, L., Cassano, J., M., & Fales, J. (2010). Defining competence and identifying target skills. In D. W. Nangle, D. J. Hansen, C. A. Erdley & P. J. Norton (Eds.), *Practitioner's guide to empirically based measures of social skills.* New York, NY: Springer. (p. 3-19).

Nealy, C. E., Ohare, L., Powers, J. D., & Swick, D. C. (2012). The impact of autism spectrum disorders on the family: A qualitative study of mothers' perspectives. *Journal of Family Social Work, 15*(3), 187-201. doi:10.1080/10522158.2012.675624

Nik Adib, N. A., Ibrahim, M. I., Ab Rahman, A., Bakar, R. S., Yahaya, N. A., Hussin, S., & Wan Mansor, W. (2019). Perceived Stress among Caregivers of Children with Autism Spectrum Disorder: A State-Wide Study. *International Journal of Environmental Research and Public Health, 16*(8), 1468. https://doi.org/10.3390/ijerph16081468

Odom, S. L., McConnell, S. R., McEvoy, M. A., Peterson, C., Ostrosky, M., Chandler, L. K., Spicuzza, R. J., Skellenger, A., Creighton, M., & Favazza, P. C. (1999). Relative effects of interventions supporting the social competence of young children with disabilities. *Topics in Early Childhood Special Education, 19*(2), 75-91.

Ogden, T. & Hagen, K. A. (2019). *Adolescent Mental Health Prevention and Intervention.* 2nd edition. Routledge.

Orpinas, P. (2010). Social competence. In W. Edward Graighead & I. B. Weiner (Eds.) *The Corsini Encyclopedia of Psychology.* 4th ed. John Wiley & Sons (p 1623-1625)

Orsmond, G. I., Krauss,M. W., & Seltzer, M. M. (2004). Peer relationships and social and recreational activities among adolescents and adults with autism. Journal of Autism and Developmental Disorders, 34(3),245-56.

Owens, G., Granader, Y., Humphrey, A. & Baron-Cohen, S. (2008). LEGO® therapy and the Social Use of Language Programme: an evaluation of two social skills interventions for children with high functioning autism and Asperger syndrome. *Journal of Autism and Developmental Disorders, 38*(10), 1944–1957.

Owens, J. S., Lyon, A. R., Brandt, N. E., Warner, C. M., Nadeem, E., Spiel, C., & Wagner, M. (2014). Implementation science in school mental health: Key constructs in a developing research agenda. *School Mental Health, 6*(2), 99–111.

Özerk, M. & Özerk, K. (2020). *Autisme og Pedagogikk* [Autism and pedagogy]. Oslo: CappelenDamm Akademisk Forlag.

Pane, H. M., Sidener, T. M., Vladescu, J. C., & Nirgudkar, A. (2015). Evaluating function-based social stories™ with children with autism. *Behavior Modification, 39*(6), 912-931. doi:10.1177/0145445515603708

Patton, D. U., Hong, J. S., Patel, S., & Kral, M. J. (2016). A systematic review of research strategies used in qualitative studies on school bullying and victimization. *Trauma, Violence, & Abuse, 18*(1), 3-16. doi:10.1177/1524838015588502

Petalas, M. A., Hastings, R. P., Nash, S., Reilly, D., & Dowey, A. (2012). The perceptions and experiences of adolescent siblings who have a brother with autism spectrum disorder. *Journal of Intellectual and Developmental Disability, 37*(4), 303-314. doi :10.3109/13668250.2012.734603.

Piaget, J. (1977/1995). *Sociological studies.* London: Routledge.

Pierce-Jordan, S., & Lifter, K. (2005). Interaction of social and play behaviors in preschoolers with and without pervasive developmental disorder, *Topics in Early Childhood Special Education, 25*, 34-47.

Plavnick, J. B., Kaid, T., & MacFarland, M. C. (2015). Effects of a school-based social skills training program for adolescents with autism spectrum disorder and intellectual disability, *Journal of Autism and Developmental Disorders, 45*(9), 2674-2690. doi:10.1007/s10803-015-2434-5

Platos, M., & Wojaczek, K. (2017). Broadening the scope of peer-mediated intervention for individuals with Autism Spectrum disorders. *Journal of Autism and Developmental Disorders, 48*(3), 747-750.

Rabiner, D., Godwin, J., & Kenneth, A. (2016). Predicting academic achievement and attainment: The contribution of early academic skills, attention difficulties, and social competence. *School Psychology Review, 45*(2), 250 –267.

Reichow, B., & Volkmar, F. R. (2010). Social skills interventions for individuals with autism: Evaluation for evidence-based practices with a best evidence synthesis framework. *Journal of Autism and Developmental Disorders, 40*, 149-166. doi:10.1007/s10803-0090842-0

Reichow, B., Barton, E. E., Boyd, B. A., & Hume, K. (2012). Early intensive behavioral intervention (EIBI) for young children with autism spectrum disorders (ASD). *The Cochrane Database of Systematic Reviews, 10*, CD009260. doi:10.1002/14651858.CD009260.pub2

Rodríguez-Medina, J., Martín-Antón, L. J., Carbonero, M. A., & Ovejero, A. (2016). Peer-mediated intervention for the development of social interaction skills in high-functioning autism spectrum disorder: A pilot study. *Frontiers in Psychology, 7*, 1-11. doi:10.3389/fpsyg.2016.01986

Rogers, S.J. & Dawson, G. (2010). *Early start Denver model for young children with autism: Promoting language, learning, and engagement.* New York: The Guilford Press.

Rumsey, J., Rapoport, J., & Sceery, W. (1985). Autistic children as adults: Psychiatric, social, and behavioral outcomes. *Journal of the American Academy of Child Psychiatry, 24*, 465–473.

Rutter, M. & Pine, D.S. (2015). Diagnosis, diagnostic formulations, and classification. In A. Thapar, D. S. Pine, J.E. Leckman, S. Scott, M.J. Snowling & E. Taylor (Red.), *Rutter's Child and Adolescent Psychiatry* (s. 17–30). Hoboken, NJ: John Wiley & Sons Ltd.

Santomauro, D., Sheffield, J., & Sofronoff, K. (2016). Investigations into emotion regulation difficulties among adolescents and young adults with autism spectrum disorder: A qualitative study. *Journal of Intellectual & Developmental Disability, 42*(3), 275-284. doi:10.3109/13668250.2016.1236240

Schlieder, M., Maldonado, N., & Baltes, B. (2014). An investigation of "Circle of Friends" peer mediated intervention for students with autism. *The Journal of Social Change, 6*(1), 27-40. doi:10.5590/JOSC.2014.06.1.0

Schneider, B. H. (1993). *Children's social competence in context: The contributions of family, school and culture.* Oxford: Pergamon Press.

Schonert-Reichl, K. A., & Hymel, S. (2007). Educating the heart as well as the mind: why social and emotional learning is critical for students' school and life success. *Education Canada, 47*, 20-25.

Schriebman, L., Stahmer, A., & Pierce, K. (1996). Alternative applications of pivotal response training: Teaching symbolic play and social interaction skills. In: L. Koegel, R. Koegel, & G. Dunlap, G., (Eds.). *Positive behavioral support: Including people with difficult behavior in the community,* (pp. 353-371). Baltimore, MD: Paul H. Brookes.

Schroeder, J. H., Cappadocia, M. C., Bebko, J. M., Pepler, D. J., & Weiss, J. A. (2014). Shedding light on a pervasive problem: A review of research on bullying experiences among children with autism spectrum disorders. *Journal of Autism and Developmental Disorders, 44*(7), 1520-1534. doi:10.1007/s10803-013-2011-8

Seppala, E., Rossomando, T., & Doty, J. (2013). Social connection and compassion: Important predictors of health and well-being. *Social Research, 80*(2), 411-430. Retrieved from http://www.jstor.org/stable/24385608

Shaked, M., & Yirmiya, N. (2003). Understanding social difficulties. In M. Prior (Ed.), *Learning and behavior problems in Asperger syndrome* (pp.126-147). New York, NY: Guilford Press.

Silveira-Zaldivar, T. (2019). *Utilizing participatory action research to implement evidence-based social skills interventions for elementary students with high functioning autism in inclusive classroom settings.* Ph.D. Dissertation. Northwest Nazarene University.

Silveira-Zaldivar, T. & Curtis, H. (2019). "I'm not trained for this!" Barriers to evidence-based social skills interventions for elementary students with high functioning autism in inclusion: social skills interventions for elementary students. *International Electronic Journal of Elementary Education, 12*(1), 53-66.

Stahmer, A., Reed, S., Lee, E., Reisinger, E. M., Connell, J. E., & Mandell, D. S. (2015). Training teachers to use evidence-based practices for autism: Examining procedural implementation fidelity. *Psychology in the Schools, 52*(2), 181–195. doi:10.1002/pits.21815

Staikova, E., Gomes, H., Tartter, V., McCabe, A., & Halperin, J. M. (2013). Pragmatic deficits and social impairment in children with ADHD. *Journal of Child Psychology and Psychiatry, and Allied Disciplines, 54*(12), 1275-1283. doi:10.1111/jcpp.12082.

Steinbrenner, J. R., Hume, K., Odom, S. L., Morin, K. L., Nowell, S. W., Tomaszewski, B., Szendrey, S., McIntyre, N. S., Yücesoy-Özkan, S., & Savage, M. N. (2020). *Evidence-based practices for children, youth, and young adults with Autism.* The University of North Carolina at Chapel Hill, Frank Porter Graham Child Development Institute, National Clearinghouse on Autism Evidence and Practice Review Team.

Szatmari, P., Bryson, S. E., Boyle, M. H., Streiner, D. L., & Duku, E. (2003). Predictors of outcome among high functioning children with autism and Asperger syndrome. *Journal of Child Psychology and Psychiatry, 44*, 520-528. doi:10.1111/1469-7610.00141.

Szumski, G., Smogorzewska, J., Grygiel, P., & Orlando, A-M. (2019) Examining the Effectiveness of Naturalistic Social Skills Training in Developing Social Skills and Theory of Mind in Preschoolers with ASD. *Journal of Autism and Developmental Disorders, 49*, 2822–2837 https://doi.org/10.1007/s10803-017-3377-9.

Tager-Flusberg, H. (2003). Effects of language and communicative deficits on learning and behavior. In M. Prior (Ed.), *Learning and behavior problems in Asperger syndrome* (pp. 85-103). New York, NY: Guilford Press.

Taylor, J. L., & Henninger, N. A. (2015). Frequency and correlates of service access among youth with autism transitioning to adulthood. *Journal of Autism Developmental Disorders, 45*(1), 179-19. doi:10.1007/s10803-014-2203-x.

Tierney, C. D., Kurtz, M., Panchik, A., & Pitterle, K. (2014). 'Look at me when I am talking to you': Evidence and assessment of social pragmatics interventions for children with autism and social communication disorders. *Current Opinion in Pediatrics, 26*(2), 259-264. doi:10.1097/mop.0000000000000075.

Thorndike, E. L. (1927). *The measurement of intelligenze.* New York: Columbia University, Teachers College, Bureau of Publications.

Tsilioni, I., Pantazopoulos, H., Conti, P., Leeman, S.E. & Theoharides, T.C. (2020). IL-38inhibits microglial inflammatory mediators and is decreased in amygdala of childrenwith autism spectrum disorder. *Proceedings of the National Academy of Sciences, 117*(28), 16475–16480.

Van Steensel, F., Deutschman, A., & Bogels, S. (2012). Anxiety and quality of life: Clinically anxious children with and without autism spectrum disorders compared. *Journal of Clinical Child & Adolescent Psychology, 41*(6), 731-738. doi:10.1080/15374416.2012.698725

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes.* Cambridge, MA: Harvard University Press.

Vygotsky, L. (1986). *Thought and language* (Edited by A. Kozulin). Cambridge: MIT.

Walker, L. O., Freeland-Graves, J. H., Milani, T., Hanss-Nuss, H. , George, G., Sterling, B. S., Kim, M., Timmerman, G. M., Wilkinson, S., Arheart, K. L., & Stuifbergen, A. (2004) Weight and behavioral and psychosocial factors among ethnically diverse, low income women after childbirth: i. methods and context. *Women & Health, 40*(2), 1-17, DOI:10.1300/J013v40n02_01

Wang, S. Y., Cui, Y., & Parrila, R. (2011). Examining the effectiveness of peer-mediated and video-modeling social skills interventions for children with autism spectrum disorders: A meta-analysis in single-case research using HLM. *Research in Autism Spectrum Disorders, 5*(1), 562-569. doi:10.1016/j.rasd.2010.06.023

Wetherby, A. M., Watt, N., Morgan, L., & Shumway, S. (2007). Social communication profiles of children with autism spectrum disorders late in the second year of life. *Journal of Autism and Developmental Disorders, 37*, 960-975.

Whalon, K., Conroy, M., Martinez, J., & Werch, B. (2015). School-based peer-related social competence interventions for children with autism spectrum disorder: A meta-analysis and descriptive review of single case research design studies. *Journal of Autism & Developmental Disorders, 45*(6), 1513-1531. doi:10.1007/s10803-015-2373-1.

Whitcomb, S. A. (2018). *Behavioral, social, and emotional assessment of children and adolescents*. Fifth Edition. London: Roudledge.

White, R. W. (1959). Motivation reconsidered. The concept of competence. *Psychological Review. 66*, 297-333.

White, S. W., Keonig, K., & Scahill, L. (2007). Social skills development in children with autism spectrum disorders: A review of the intervention research. *Journal of Autism and Developmental Disorders. 37*, 1858–1868

Williams White, S., Keonig, K., & Scahill, L. (2007). Social skills development in children with autism spectrum disorders: A review of the intervention research. *Journal of Autism Disorders, 37*(10), 1858-1868. doi:10.1007/s10803-006-0320-x.

WHO (2020). *Manual of the international statistical classification of diseases, injuries, and causes of death*. Genève: World Health Organization.

Witherell, S. L. (2013). *"Work-related stress and mental health of child care center workers"* Wayne State University Dissertations. Paper 718.

Wolfberg, P., De Witt, M., Young, G., & Nguyen, T. (2015). Integrated play groups: Promoting symbolic play and social engagement with typical peers in children with ASD across settings. *Journal of Autism and Developmental Disorders, 45*(3), 830-845. doi:10.1007/s10803-014-2245-0.

Wolstencroft, J., Robinson, L., Srinivasan, R., Kerry, E., Mandy, W., & Skuse, D. (2018). A systematic review of group social skills interventions, and meta-analysis of outcomes, for children with high functioning ASD. *Journal of Autism and Developmental Disorders, 48*(7), 2293-2307. doi:10.1007/s10803-018-3485-1.

Wong, C., Odom, S. L., Hume, K., Cox, A. W., Fettig, A., Kucharczyk, S., ... Schultz, T. R. (2015). Evidence-based practices for children, youth, and young adults with autism spectrum disorder: A comprehensive review. *Journal of Autism and Developmental Disorders, 45*(7), 1951-1966.

Zablotsky, B., Bramlett, M., & Blumberg, S. J. (2015). Factors associated with parental ratings of condition severity for children with autism spectrum disorder. *Disability and Health Journal, 8*(4), 626-634. doi:10.1016/j.dhjo.2015.03.006.

Zagona, A., & Mastergeorge, A. (2016). An empirical review of peer-mediated interventions. *Focus on Autism and Other Developmental Disabilities, 33*(3), 131-141. doi:10.1177/1088357616671295.

Zins, J., Weissberg, R., Wang, M., & Walberg, H. (2004). *Building academic success on social and emotional learning.* New York, NY: Teachers' College Press.

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Social Emotional Learning in Virtual Settings: Intervention Strategies

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Abstract

In mid-March of 2020, schools in the United States shut down in-person learning due to the COVID-19 outbreak. Due to this unprecedented situation, school education has since shifted to a heavy reliance on various forms of remote learning, and teachers and students have been forced to practice completely new ways of teaching and learning. Virtual learning requires students to draw from a different skill set than what is used in face-to-face settings, such as self-regulation for navigating online learning, or balancing learning and life at home. These new and challenging experiences coincide with limited opportunities for social engagement and an increased potential for isolation. These factors are continuing to contribute to children experiencing high levels of stress as the sense of normalcy is lost from their lives and they are bombarded with new expectations and responsibilities. Children need social and emotional support now more than ever. In this paper, we discuss how integrating Social and Emotional Learning (SEL) in daily lessons can benefit children now working in virtual settings, with sample activities organized around cognitive regulation, emotional regulation, and social skills. We address both explicit SEL instruction methodologies and ongoing teaching practices designed to promote SEL.

Keywords:

Social and Emotional Learning, Virtual Settings, Remote Teaching, SEL Activities

Introduction

In mid-March of 2020, schools in the United States shut down in-person learning due to the COVID-19 outbreak. Since then, schools have been operating using various forms of remote learning. This scale of nation-wide school closure and implementation of virtual learning has never happened before, and everyone involved in school education has been forced to practice completely new ways of teaching and learning without having any training, planning, or preparation time or opportunities. As the superintendent of L.A. schools, Austin Beutner once described in the early phase of the COVID19 crisis, "even in the best of times, launching a comprehensive online learning program ... would be a monumental task, akin to landing on the moon, ... It would take years of careful planning, investment,

training and engagement with the entire school community. During extended school closures due to the coronavirus, Los Angeles Unified is doing it in a matter of weeks, because students most in need are counting on us." (Blume, 2020, para. 4). Educators, families, and children are trying their best to navigate this difficult situation. Unfortunately, this challenging time may continue until an effective vaccination for COVID-19 is widely available and distributed.

As this crisis continues, children are experiencing high levels of stress as the sense of normalcy is lost from their lives. Social interaction with their friends are no longer available, and learning from interacting with peers and teachers is restricted. On top of that, children may be worried about getting sick themselves, or they may experience family members becoming ill or dying. Families may also experience financial worries due to the COVID-19 recession. Even after society reopens, the PTSD-like effects may remain within us and children, and children will need social and emotional support more than ever. Social and emotional learning support and instruction is crucial for children to be able to navigate this difficult time.

What is Social and Emotional Learning and Why is it important?

Social Emotional Learning (SEL) has been defined in various ways by various experts. For instance, Durlak and his colleagues (2011) described SEL competencies including identifying and managing emotions, healthy attitudes toward self and others, positive goal setting, interpersonal problem solving, maintaining positive relationships with others, and making responsible decisions. More recently, Frey and her colleagues (2019) employed integrated a SEL model including five broad categories: identity and agency (e.g., strengths recognition, self-confidence, growth mindset, grit, or resiliency), emotional regulation (e.g., impulse control, delaying gratification, stress management, or coping), cognitive regulation (e.g., metacognition, attention, goal setting, problem solving, or decision making), social skills (e.g., sharing, teamwork, communication, or empathy), and public spirit (e.g., ethical responsibility, civic responsibility, or social justice). The Collaborative for Academic, Social, and Emotional Learning (CASEL) defines SEL as improving five intrapersonal and interpersonal competencies:

· Self-awareness – The ability to accurately understand one's own emotions, thoughts, and values and how they influence behavior.

· Self-management – The ability to regulate one's emotions, thoughts, and behaviors effectively in different situations and to achieve goals and aspirations.

· Social awareness – The ability to take the perspective of and empathize with others, including those from diverse backgrounds, cultures, and contexts.

· Relationship skills – The ability to establish and maintain healthy and supportive relationships by communicating clearly, listening well, and cooperating with diverse individuals and groups.

· Responsible decision-making – The ability to make caring and constructive choices about personal behavior and social interactions based on ethical standards and safety concerns across diverse situations (CASEL, 2020).

Based on these SEL definitions, in this paper, we discuss SEL in virtual settings as organized into three domains: cognitive regulation, emotional competencies, and social skills. Cognitive regulation includes metacognition, regulating attention, positive goal setting, problem solving, organizing thoughts and tasks, and responsible decision making. Emotional regulation involves skills such as self-awareness and regulation of one's own emotions, maintaining positive self-perception, self-esteem, controlling impulse, perseverance, grit, and stress management. Lastly, social skills consist of understanding the perspectives of others, interpersonal problem solving, empathy, and ethical responsibility.

Cognitive regulation, emotional competences, and social skills are fundamentally intertwined in the learning process, and academic learning can happen most effectively when each one of these three dimensions are well supported (Jones & Kahn, 2017). A rigorous body of evidence has shown that students learn more and have high academic achievement, and classrooms run more effectively when students have cognitive regulation, emotional competencies, and social skills to regulate their emotions, motivation, attention, grit, and the ability to successfully navigate relationships with others and problem solve (Duckworth & Seligman, 2005; Jones & Doolittle, 2017; Osher et al., 2017; Sorensen et al., 2016). Social and emotional competencies also affect children's life beyond their school years. In their longitudinal research, Jones and his colleagues (2015) reported that social and emotional skills of kindergarteners were significantly and uniquely predictive of whether they graduated from high schools on time, completed a college degree, and obtained stable full time employment years later. Social and emotional skills in kindergarteners were also positively correlated with their personal well-being and inversely predictive of involvement in crime and substance use (Jones et al., 2015).

The good news to school professionals is that it is possible for us to teach students social and emotional skills successfully. A meta-analysis of 213 school-based universal social emotional learning (SEL) programs involving 270,034 students in K-12 settings reported that not only could classroom teachers implement SEL programs successfully, but also the most effectively when compared to other school staff and outside

professionals, resulting in significant improvement in academic performance of students (Durlak et al., 2011). This indicates that SEL programs could be integrated into daily educational practices by a classroom teacher and do not require an outside professional in order to deliver it effectively. This study also addressed that school-based SEL improved students' academic performance and SEL skills (e.g., identifying emotions, perspective taking, interpersonal problem solving, goal setting, and decision making) while reducing emotional distress (e.g., depression, stress, or social withdrawal) and conduct problems such as aggression, bullying, school suspensions, and delinquent acts at all grade levels and regardless of geographical location (Durlak et al., 2011).

A more recent meta-analysis of school-based universal SEL interventions addressed its long lasting benefits in the areas of academic achievement, conduct problems, emotional distress, sexual behaviors, and drug use up to 18 years (Taylor et al., 2017). Students who received school-based SEL interventions continued to demonstrate strong social and emotional skills such as positive attitudes toward self and others, positive social behavior, and social relationship regardless of their race, socioeconomic status, or school location (Taylor et al., 2017). Effective SEL programs and instructions can also lead to safe, caring, well-functioning schools and classrooms characterized by supportive culture and climate, positive relationships, effective classroom management and teaching practices, deeper learning, and reduced behavior problem (Merritt et al., 2012). Quality SEL provides students with a sense of belonging and enhanced motivation through active participation in the learning community (Berman et al., 2018). In such a learning community, students feel valued, respected, and competent, which mediates better academic performance and positive behaviors. School education always has social, emotional, and academic components, and SEL has always been a part of hidden curriculum in education (Frey et al., 2019). Although even supplemental SEL programs are effective to help students develop social emotional skills (Harrington et al., 2001), SEL is not just adding one extra program or standalone lessons once a week. Rather it is how teachers integrate the principles of SEL into the fabric of their teaching practices (Frey et al., 2019). As Frey and her colleagues described, "the ways in which teachers behave, what we say, the values we express, the materials we chose, and the skills we prioritize all influence how the children and youth in our classroom think, see themselves, interact with others, and assert themselves in the world" (Frey et al., 2019, p. 17). Intentional incorporation of effective SEL in daily practices and instruction can make a positive impact on learning community, teacher effectiveness, and children's social, emotional, and cognitive competencies (Berman et al., 2018).

Why is it important to incorporate SEL in virtual classrooms?

As past research from previous disasters such as Hurricane Katrina reported, children who were exposed to a significant event were more likely to experience emotional dysregulation and PTSD symptoms that would lead to reactive aggression (Marsee, 2008), and the reactive aggression behaviors were negatively associated with academic achievement (Scott et al., 2014). During the COVID-19 epidemic, children's families may have been directly affected by the virus or by economic recession. As this unusual way of living has been going on for much longer than we first predicted, children's lives have been destabilized and their regular lives filled with physical interaction with friends and teachers were taken away.

In addition to that, remote learning has forced students to learn in very different conditions than if they were in school. Virtual learning demands students to practice a different skill set such as self-regulation to navigate online learning, balancing learning and caring for self and siblings, sharing physical space with family during the class, limited opportunities for social engagement, and increased potential for isolation (Education Elements, n.d.). Children need social and emotional support now more than ever in order for them to be able to learn. In this paper, we discuss how to integrate SEL in daily lessons in virtual settings, and resources that can help school professionals to effectively implement SEL.

Teaching activities to support SEL in virtual settings

Evidence-based SEL programs use one or more of the following approaches: explicit instruction via free-standing lessons, general teaching practices, integration of SEL within the context of an academic curriculum, and organizational strategies to create a climate and culture that promote SEL (CASEL, 2020). In this paper, we provide sample activities to support student social and emotional learning organized around cognitive regulation, emotional regulation, and social skills using two types of approaches: (a) explicit SEL instruction and (b) ongoing teaching practices that are designed to promote SEL.

Cognitive Regulation

Explicit SEL instruction ideas

· Provide strategy instructions on using a planner and organizing schedules to monitor online school work. If applicable, introduce online tool such as Trello, Google Calendar, or toggl, which would allow students to share to-do lists with their peers and teachers. Model how to use the tool with step-by-step instruction, including what kind of tasks need to be listed and monitored using screen sharing

during the online lesson. Provide students multiple opportunities to practice during the lesson. Educators should provide feedback on how students utilization of the tool as often as needed. This will help students to practice planning, task organization, goal setting, and decision-making skills with guidance toward improvement and efficiency in these areas.

· Get problem scenarios from students, which could be something they are currently experiencing or experienced before, or use topics related to current social issues. Share the scenario with the whole class and identify steps to solve the problem together. Ask students to recognize a goal first, then ask them to type their suggestions for each step in a chat box or verbally share their thoughts one by one. Teachers can also use a collaborative board on Nearpod to develop solutions together. For younger students, a teacher can provide multiple options for each step and ask students to select a better solution using an online poll tool or Kahoot! type platform.

· Share a video about growth mindset. For young children, use a fun video like "Sesame Street's with Bruno Mars," or for older students, "What is growth mindset" by Carol Dweck, to help them grasp the concept of a growth mindset. Educators can also share websites related to brain plasticity and have a discussion about specific strategies on how they can maintain growth mindsets. For younger students, picture books like "Giraffes can't dance" by Giles Andreae and Guy Parker-Rees, or "The most magnificent thing" by Ashley Spires would be a good medium to facilitate discussion. You could also create a Word Cloud composing words related to growth mindset using free online word cloud generators (e.g., WordArt.com, JasonDavis.com, or Polleverywhere) as a class and post the result on a class site.

· Use literature that shares non-fictional stories about how people persevered through hard time to turn their lives around and reach a goal (CASEL, 2017). Reflect and discuss what the barriers they encountered and how they overcame them, what resources they used, or who was able to help them.

General SEL practice ideas

· Use daily affirmations to build students' self-confidence and practice positive self-talk. Students or teacher can choose an affirmation statement of the month or the week. Let older students type their affirmation statement in a chat box or a collaborative board on Nearpod, and have the class vote for the statement of the month using the online survey tool. A teacher can introduce a book such as "I'm gonna push through!" by Jasmyn Wright to develop their class slogan together for younger students.

· Introduce self-monitoring strategies to practice self-awareness and self-regulation during virtual lessons. Put some visual cue on the screen at a certain interval when students check if they were paying attention or actively engaged (e.g., taking notes or listening to the speaker) at that moment. Ask students to put the monitoring tool in front of the camera at the end of the class, or screenshot their sheet to submit. When introducing the self-monitoring strategy, model how to use the tool and practice using it several times. Provide feedback on how accurately they were monitoring their own behavior, not how well they were paying attention or engaging. Online apps such as I-Connect can be introduced, if applicable.

· Monitoring progress also help students to check where they are in a relation to the lesson objectives and come up with a plan to accomplish their goals. Use online survey tools or a chat box to check where they are and what they need more practice or explanations for. A video tool such as Flipgrid can let students record themselves to reflect on their own progress and allow peers to provide feedback to each other.

Emotional Regulation

Explicit SEL instruction ideas

· Share stress-reduction strategies such as breathing techniques, yoga, relaxation exercises with music, or mindfulness practice. Practice the strategies during a virtual lesson and allow students to reflect on their emotions.

· Use the same problem scenarios from cognitive regulation activity, identify feelings they might have if they were in the situation. Either provide or have students generate age-appropriate vocabulary words to express their feelings. Brain storm what they can do to improve the way they feel in the situation (e.g., "hug my mother," "talk to my dog," or "take a walk"). This helps students to practice empathy, perspective-taking, and emotional regulation skills.

General SEL practice ideas

· Connect with your students via check-ins. Positive teacher-student relationships are associated with higher academic achievement (Curby et al., 2009), better emotional self-regulation (Merritt et al., 2012), and reduced behavior problems (Demanet & Houtte, 2012). Use check-in questions before starting the virtual class to connect with your students. Ask students to pick a particular emoji that represents their emotion and post it in a chat box, or students can simply draw a picture of an emoji face to show their emotion on the screen. For older students, allow them to pick a GIF or a song instead of an emoji. Use a quick survey tool on Zoom, Polleverywhere, or survey function on Nearpod to check their feelings. When a teacher realizes any student has troubling feelings, take the time to listen to them and acknowledge their troubles. If it seems helpful, meet with the student privately in a separate online session. Connect the student with necessary resources such as a school counselor.

· Create age-appropriate class jobs and responsibilities for students during online lessons or on virtual learning platforms that enhance their sense of ownership and responsibilities. It can be a small task such as being a time keeper, a chant leader, or a discussion facilitator. This enhance students' sense of self-worth, efficacy, and competence, which can be a basis of their motivation to work on challenging tasks (Souers & Hall, 2019).

· "Tell students routinely why you the teacher feel happy/optimistic for them and their future" (CASEL, 2017, p. 5). This type of message helps students to shape positive self-perception and to stay resilient and persevere during difficult times.

Social Skills

Explicit SEL instruction ideas

· Play the "Hey, me too!" game. A teacher or a game facilitator of the day (another class job idea!) selects a topic such as "my favorite ice cream flavor", and asks each student to provide their answers. When other students hear an answer that is the same as theirs, they make "Me too" hand signal using American Sign Language. Students can visually see the connections with their peers and can be able to feel a sense of community.

· Use online learning tools for explicit SEL instruction such as Everyday Speech. It is a SEL platform with interactive videos and activities for students to learn important SEL skills.

General SEL practice ideas

· Provide opportunities for project-based learning related to real world problems. Help students identify their own project based on the needs they see in their home or community. It can be a small project such as writing a note of kindness to every family member or their neighbors. Students will practice empathy and ethical responsibility through the project.

· Use collaborative learning opportunities as much as possible such as using a breakout room function or providing asynchronous collaborative project opportunities. Students get to practice communication and interpersonal problem solving skills. When using a breakout room during the virtual class, make each group small and assign each student to a role such as a facilitator, secretary, or reporter.

· Practice virtual applause. When someone contributed to the discussion or made a good comment or asked a good question, encourage the entire class to give the student a virtual applause using actual hands or using hand clapping icons.

Share a note of kindness secret admirer style. Randomly preassigned paired classmates write a brief note of kindness telling him or her all of the things that they like about them, or write something that cheers them up. Once they submit the note, a teacher provides it to the receiver. Who wrote the note should remain secret.

Conclusion

Finally, it is important to emphasize that effective social and emotional learning for students starts with teachers (Schonert-Reichl, 2017). Teachers and school professionals are not immune to the effects of this COVID-19 crisis, yet they are asked to provide their students with a sense of stability while there is no stability in their own daily lives. Supporting teachers and school professionals with their social and emotional well-being should be a priority of school leaders. Effective support cannot be provided in one-time workshops, but through ongoing dialogue and interaction with colleagues and coaches (Berman et al., 2018). School leaders should provide teachers and professionals opportunities to have rich conversations about instructional resources, lesson design, and the handling of challenging situations, as well as a little time for them to have usual chitchat before meetings begin. When teachers manage their social and emotional demand and well-being, the quality of teacher-student relationships is boosted and their effectiveness in classroom management increase, resulting in children feeling comfortable in the learning community and learn more deeply (Schonert-Reichl, 2017).

We are all in an unprecedented situation together. Even for adults, it is hard to regulate our emotions, cognition, and social competencies in this new world full of uncertainty and a lack of social interaction. On top of that, remote teaching and learning has also forced educational professionals and students to practice many new social and emotional skills they never used before. Consider how unnatural it is for children to interact with peers who are all facing at them on a computer screen, but not necessarily talking or listening to them for hours. It is imperative to provide children the SEL support and instruction necessary to help them get through this difficult time. Additionally, the strategies shared in this paper could be implemented in in-person classrooms after this remote learning days are over. Even after society reopens, the PTSD-like effects may remain within us and children, and the benefits of SEL will continue to benefit both teachers and students. Ongoing SEL support and instruction is the key to our continued persistence and perseverance during this crisis, and so our execution of SEL programs must be well thought out and grounded in research.

References

Berman, S., Chaffee, S., & Sarmiento, J. (2018, March 12). T*he practice base for how we learn: Supporting students' social emotional, and academic development.* Aspen Institute, National Commission on Social, Emotional, and Academic Development.

Blume H. (2020, April 6). Launching online learning at L.A. schools during coronavirus is 'akin to landing on the moon.' *Los Angeles Times.* https://www.latimes.com/california/story/2020-04-06/amid-coronavirus-los-angeles-is-growing-online-learning

Collaborative for Academic, Social, and Emotional Learning (CASEL, 2017). Sample teaching activities to support core competencies of social and emotional learning. https://www.casel.org/wp-content/uploads/2017/08/Sample-Teaching-Activities-to-Support-Core-Competencies-8-20-17.pdf

Collaborative for Academic, Social, and Emotional Learning (CASEL, 2020). SEL: What are the core competence areas and where are they promoted? https://casel.org/sel-framework/

Curby, T. W., Rimm-Kaufman, S. E., & Ponitz, C. C. (2009). Teacher-child interactions and children's achievement trajectories across kindergarten and first grade. *Journal of Educational Psychology, 101*(4), 912-925. doi:10.1037/a0016647

Demanet, J., & Van Houtte, M. (2011;2012;). School belonging and school misconduct: The differing role of teacher and peer attachment. *Journal of Youth and Adolescence, 41*(4), 499-514. doi:10.1007/s10964-011-9674-2

Duckworth, A. L., & Seligman, M. E. P. (2005). Self-discipline outdoes IQ in predicting academic performance of adolescents. *Psychological Science, 16*(12), 939-944. doi:10.1111/j.1467-9280.2005.01641.x

Duncan, G. J., Dowsett, C. J., Claessens, A., Magnuson, K., Huston, A. C., Klebanov, P., Pagani, L. S., Feinstein, L., Engel, M., Brooks-Gunn, J., Sexton, H., Duckworth, K., & Japel, C. (2007). School readiness and later achievement. *Developmental Psychology, 43*(6), 1428–1446. https://doi-org.ezproxy.monmouth.edu/10.1037/0012-1649.43.6.1428.

Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development, 82*(1), 405-432. doi:10.1111/j.1467-8624.2010.01564.x

Durlak, J. A., Weissberg, R. P., & Pachan, M. (2010). A meta-analysis of after-school programs that seek to promote personal and social skills in children and adolescents. *American Journal of Community Psychology, 45*(3-4), 294-309. doi:10.1007/s10464-010-9300-6

Education Elements (n.d.). *Strategies for supporting SEL in virtual settings.* https://www.edelements.com/hubfs/SEL%20in%20virtual%20seting/SEL%20Strategies%20in%20Virtual%20Setting%204-6-20.pdf

Frey, N., Fisher, D., & Smith, D. (2019). *All learning is social and emotional: Helping students develop essential skills for the classroom and beyond.* ASCD.

Harrington, N. G., Giles, S. M., Hoyle, R. H., Feeney, G. J., & Yungbluth, S. C. (2016;2001;). Evaluation of the all stars character education and problem behavior prevention program: Effects on mediator and outcome variables for middle school students. *Health Education & Behavior, 28*(5), 533-546. doi:10.1177/109019810102800502

Jones, S. M., & Doolittle, E. J. (2017). Social and emotional learning: Introducing the issue. *The Future of Children, 27*(1), 3-11. doi:10.1353/foc.2017.0000

Jones, D. E., Greenberg, M., & Crowley, M. (2015). Early social-emotional functioning and public health: The relationship between kindergarten social competence and future wellness. *American Journal of Public Health (1971), 105*(11), 2283-2290. doi:10.2105/ajph.2015.302630

Jones, M. S., & Kahn, J. (2017). *The evidence base for how we learn: Supporting students' social emotional, and academic development.* Aspen Institute, National Commission on Social, Emotional, and Academic Development. https://www.aspeninstitute.org/publications/evidence-base-learn/

Marsee, M. A. (2008). Reactive aggression and posttraumatic stress in adolescents affected by Hurricane Katrina. *Journal of Clinical Child and Adolescent Psychology, 37*(3), 519-529. doi:10.1080/15374410802148152

Merritt, E. G., Wanless, S. B., Rimm-Kaufman, S. E., Cameron, C., & Peugh, J. L. (2012). The contribution of teachers' emotional support to children's social behaviors and self-regulatory skills in first grade. *School Psychology Review, 41*(2), 141-159. doi:10.1080/02796015.2012.12087517

Osher, D., Kidron, Y., Brackett, M., Dymnicki, A., Jones, S., & Weissberg, R. P. (2016). Advancing the science and practice of social and emotional learning: Looking back and moving forward. *Review of Research in Education, 40*(1), 644-681. doi:10.3102/0091732X16673595

Scott, B. G., Lapré, G. E., Marsee, M. A., & Weems, C. F. (2014). Aggressive behavior and its associations with posttraumatic stress and academic achievement following a natural disaster. *Journal of Clinical Child & Adolescent Psychology, 43*(1), 43-50. doi:10.1080/15374416.2013.807733

Schonert-Reichl, K. A. (2017). Social and emotional learning and teachers. *The Future of Children, 27*(1), 137-155. doi:10.1353/foc.2017.0007

Sorensen, L. C., Dodge, K. A., & Conduct Problems Prevention Research Group. (2016). How does the fast track intervention prevent adverse outcomes in young adulthood? *Child Development, 87*(2), 429-445. doi:10.1111/cdev.12467

Souers, K. V. M., & Hall, P. (2019). *Relationship, responsibility, and regulation: Trauma-invested practices for fostering resilient learners*. ASCD.

Taylor, R. D., Oberle, E., Durlak, J. A., & Weissberg, R. P. (2017). Promoting positive youth development through school-based social and emotional learning interventions: A meta-analysis of follow-up effects. *Child Development, 88*(4), 1156-1171. doi:10.1111/cdev.12864

Waters, E., & Sroufe, L. A. (1983). Social competence as a developmental construct. *Developmental Review, 3*(1), 79-97. doi:10.1016/0273-2297(83)90010-2

Wilson, D. B., Gottfredson, D. C., & Najaka, S. S. (2001). School-based prevention of problem behaviors: A meta-analysis. *Journal of Quantitative Criminology, 17*(3), 247-272. doi:10.1023/A:1011050217296

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Turkish Parents, Teachers, and Faculty Members' Opinions and Experiences on Safety Skills Instruction for Children with Autism Spectrum Disorder*

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Abstract

Although sometimes neglected, safety skills instruction should be considered as important a teaching area as others (e.g., self-care, academic, communication skills) because these skills can lead to more independence in a less restrictive environment. The researchers designed this study to reveal the opinions of Turkish parents, teachers, and higher education faculty members regarding safety skills instruction for children with an autism spectrum disorder. They interviewed parents (n = 11), special education teachers (n = 16), and higher education faculty members (n = 11) and analyzed the resulting data descriptively. Findings showed both parents and teachers lacked information about safety skills and how to teach them. Higher education faculty members advised using evidence-based practices in teaching safety skills and stated that safety skills instruction was not covered in the special education teacher training curriculum in the programs in which they taught. Implications and future research needs are discussed.

Keywords:

Autism Spectrum Disorder, Safety Skills, Parent Opinions; Teacher Opinions, Higher Education Faculty Member Opinions

Introduction

Autism spectrum disorder (ASD) is a complex disability characterized by social communication and interaction impairments accompanied by repetitive behaviors, and restrictive interests and activities (American Psychiatric Association, 2013). Although prevalence estimates vary, there is agreement that the number of individuals diagnosed with ASD has been rising steadily (e.g., Christensen et al., 2016; Kogan et al., 2009). This rising rate places huge demands on health, education, and social systems of the countries since children with ASD require appropriate education and care to become more independent. Therefore, considerable research and educational effort have focused on providing evidence-based practices (EBPs) for teaching children with ASD.

Safety skills (SS) instruction is often neglected but is important for everyone. Research has shown that safety risks are common among all children regardless of having a disability. Each year, many children face the risk of injury or death and

physical or sexual abuse (e.g., Bergstrom, Najdowski, & Tarbox, 2012; Clees & Gast, 1994; Dixon, Bergstorm, Smith, & Tarbox, 2010; Istre, McCoy, Carlin, & McClain, 2002). Researchers have reported that children with ASD and other developmental disabilities have two to three times the risk of injury or abuse compared with their same age peers without disabilities (e.g., Agran & Krump, 2010; Calavari & Romanczyk, 2012; Volkmar & Wiesner, 2009), and the mortality rate of individuals with ASD is more than double that of those without disabilities (Chavelle, Strauss, & Picket, 2001). Although there are no studies on the risk rates in Turkey, it can be assumed that the need for safety skill instruction is the same.

A major goal of education is to prepare children with ASD to become more independent; however, increased independence may increase safety risks and the need to teach SS (Clees & Gast, 1994). High priority should be given to providing SS instruction to children with ASD, yet relatively few studies have focused on SS instruction as compared to other skill areas. Existing SS studies have focused on teaching children with ASD to seek help when lost (e.g., Bergstrom et al., 2012; Taylor, Hughes, Richard, Hoch, & Coello, 2004), use mobile phones to obtain assistance when lost (e.g., Hoch, Taylor, & Rodriguez, 2009), respond to the lures of strangers (e.g., Akmanoglu & Tekin-Iftar, 2011; Bergstrom, Najdowski, & Tarbox, 2014; Gunby, Carr, & LeBlanc, 2010; Gunby & Rapp, 2014), use safe pedestrian skills (e.g., Harriage, Blair, & Miltenberger, 2016), apply first-aid skills following home accidents (e.g., Ergenekon, 2012), acquire general and body SS (e.g., Kenny, Bennett, Dougery, & Steele, 2013), and use household SS (e.g., Degirmenci & Tekin-Iftar, 2019; Summers et al., 2011). Relatively recent two meta-analysis studies identified SS interventions that have demonstrated promising evidence for use with individuals with ASD based on single-case research studies (Tekin-Iftar, Olcay-Gul, Sirin, Bilmez, Degirmenci, & Collins, 2021; Wiseman, McArdell, Bottini, & Gillis, 2017). Both studies concluded that more research is needed.

Although acquisition of SS is important for survival, teaching these skills is usually not a high priority in educational systems. For example, the current curriculum offered to K-12 students with ASD in Turkey includes only a few SS objectives under the independent living domain, such as self-protection, personal health, and safely navigating roads designed for pedestrians (Milli Egitim Bakanligi, 2013). Teaching SS to children with ASD has gained the attention of the researchers in Turkey in recent years, but they have conducted only a few studies investigating teaching various SS to the children with ASD to date (Akmanoglu & Tekin-Iftar, 2011; Degirmenci & Tekin-Iftar, 2019; Ergenekon, 2012; Kurt & Kutlu, 2019). Studies have indicated that children with ASD need direct and explicit training instruction on SS, from basic domestic skills to social SS, with an emphasis on maintenance and generalization (Summers et al., 2011; Volkmar & Wiesner 2009).

Parents, teachers, and higher education faculty members play important roles in educational planning and programming for children with ASD in schools. Although parents and teachers are directly involved in the education of children with ASD, faculty members are indirectly involved by providing input for school curricula for children with ASD, providing effective and efficient research-based strategies to teach SS to children with ASD, providing advocacy for educating children with ASD to become independent members of society, and training teacher candidates and/or related personnel who will teach/work with children with ASD. Even though promising practices are documented in the research for teaching SS to children with ASD (e.g., Akmanoglu & Tekin-Iftar, 2011; Bergstrom et al., 2012), these skills may be neglected by parents and teachers (Sirin & Tekin-Iftar, 2016).

The fact that children with ASD and other developmental disabilities have a greater risk of injury or abuse than their peers without disabilities and that SS instruction is a neglected instructional area provided the impetus to examine the opinions of parents, teachers, and faculty members regarding SS instruction for children with ASD. This study explored the opinions of Turkish parents and teachers of students with ASD and of faculty members who teach in a graduate program in Applied Behavior Analysis (ABA) regarding SS instruction. The researchers addressed the following questions: (1) What are the experiences of parents and teachers in teaching SS to their children/students with ASD?, (2) If they had experience teaching SS to children/students, what skills have they taught and what types of difficulty have they experienced while teaching them?, (3) If they did not have experience teaching SS but would like to teach them, what kind of knowledge and skills do they think they need?, (4) What are the opinions and suggestions of teachers about the instructional procedures used during SS instruction?, (5) What are the opinions and suggestions of faculty members regarding who should teach SS to children with ASD?, (6) What are the opinions and suggestions of faculty members about the instructional procedures to be used during SS instruction?, and (7) What are the opinions of faculty members regarding an undergraduate program on special education covering SS content and how to teach these skills to children with ASD?

Method

Participants

As a type of purposive sampling, the researchers used typical case sampling in the study. That is, they

selected parents, teachers, and higher education faculty members (hereafter shortened to faculty members) based on their representation as typical or average members of the selected affected population. The researchers conducted the study with 11 parents (10 mothers, 1 father), 16 special education teachers (12 females, 4 males), and 11 faculty members (9 females, 2 males) in an urban area in a mid-size province (population = 883,000) of 13,925 km^2 in central Turkey.

Inclusion criterion for the parents was having children with ASD attending a special school for students with ASD on a full-time basis. The 11 parents who participated in the study ranged in age from 23 to 40 years (mean = 33.81). Two parents were between 20 – 30 years old range and the remaining parents were in between 31 – 40 years old range. The majority held high school diplomas, and only three were employed. It is important to note that the mothers described themselves as "housewives," which is a traditional gender role of women in Turkey. In addition, due to lack of caregiving and special education services available to children with special needs, it is not unusual for one of the parents (typically the mother) of a child with a disability to choose to stay at home as a caregiver of a child with a disability. While eight mothers were unemployed, two were state officers, and a father was a police officer. The researchers did not collect data on socioeconomic status. While six parents held high school degrees, three held upper secondary degrees and two held college degrees. The ages of the parents' children ranged from 4 – 10 years (*M* = 6.72), and nine of the 11 children were male. Eight of the children had atypical autism, and three had autism diagnoses. Eight of the children attended a university unit to receive special education services, and three attended special education schools for children with ASD and intellectual disability. Five students received language and speech therapy and support services during the study, and three participated in inclusive settings. In Turkey, children whose functioning is most affected by the severity of their autism are placed in special schools, as was the case with these children.

The ages of the 16 special education teachers who participated in the study ranged from 24 – 47 years (*M* = 34.18). Seven teachers were between 20 – 30 years old range, five were between 31 – 40 years old range, and the remaining teachers were at or older than 41. Each held a bachelor's degree in special education, and had 1 – 23 years of teaching experience. Ten teachers had 1 – 10 years of teaching experience, four teachers had 11 – 20 years of teaching experience, and two teachers had more than 20 years of teaching experience. The special education teachers were employed in a university unit or special school designed to provide special education services to children with ASD and other developmental disabilities; 12 worked at special schools with the remainder employed at a university unit. Both the university unit and special school were segregated settings. The university unit, housed at a Research Institute for children with developmental disabilities, provided special education services to preschool-aged children with developmental disabilities. Children attended this unit five days per week on half-day basis. Only three children of the participating families also attended half-day inclusive day-care. The special school served students with ASD between the ages of 7 – 15 years.

The 11 faculty members (nine females and two males) who participated in the study ranged in age from 35 – 51 years (*M* = 40.72) and had 12 – 24 years of teaching experience. The faculty members were professors teaching courses in the first and only graduate program in ABA in Turkey and conducting research on teaching children with ASD. Four faculty members had conducted research on teaching children with ASD; the rest taught children with intellectual disability or provided professional development for special education teachers during their doctoral dissertations.

Instruments and Data Collection

The first and second researchers prepared interview questions based on the SS instruction literature for children with ASD, as well as other developmental disabilities (e.g., Agran & Krump, 2010; Agran, Krump, Spooner, & Traice-Lynn, 2012; Collins et al., 1991; Ivey, 2004). They sent data collection instruments electronically to five experts holding doctorates in special education who had extensive teaching experience with (a) working with parents of children with ASD, (b) teaching children with ASD, and (c) qualitative research methods and/or interview methods. They grammatically revised several questions. The data collection instrument had two group of questions: (a) Demographic Questions and (b) SS Questions. The researchers asked the following SS questions while interviewing parents and teachers.

1. Have you ever taught any SS to your children? If "yes," How did you teach SS to your children?

2. What were the easiest parts of this instruction?

3. What kind of difficulties have you had during this instruction? If "no," If you were going to teach SS to your children, what kind of knowledge and skills do you need to have?"

4. What do you think and suggest about instructional procedures used during SS instruction? (teachers only).

The researchers asked the following questions while interviewing faculty members.

1. Who should provide SS instruction to children with ASD?

2. What do you think and suggest about the instructional procedures used during SS instruction?

3. What do you think about whether special education teacher training programs include SS instruction and what topics are included regarding SS?

Prior to study, the researchers obtained approval from university review board. The steps followed for data collection included conducting pilot interviews, developing an interview guide, adopting interview principles, and conducting interviews. The first two researchers developed the interview guide to determine the order of the questions, the extent to which details would be given for each question, expectations of interviewees, how to record interviews, how to terminate an interview session, and how to give information about the researcher to those being interviewed prior to the interviews. The second researcher then conducted and recorded initial pilot interviews. Including the first researcher, the experts teaching graduate level courses on interview methods listened to the recordings; they then provided coaching for the second researcher to actively listen and raise new questions prompted by the interviewee's responses. Based on their feedback, the second researcher conducted three more interviews. The same experts listened to these recorded interviews and did not suggest or recommend any other changes.

The second researcher contacted the administration from both the special education school and the university unit, and the director of graduate program to make an appointment. At each appointment, she introduced herself; explained the purpose of the study; inquired about the number of eligible teachers, parents, and faculty members to participate in the study; and expressed her intention to visit both school locations and the university to select teacher, parent, and faculty members volunteer to participate in the study. After obtaining addresses of potential participants, she scheduled meetings with them. In the meetings, she explained the purpose of the study and finalized who would participate. She informed participants about the confidentiality of recorded conversations (with the exception of the reliability coder). The second researcher provided each participant with the written informed consent and requested that the signed informed consent form be returned to her. The second researcher conducted a total of 11 parent interviews in the university unit's classroom, Rehabilitation Center's Special Education classroom, or parent's waiting room of the special school. She also conducted a total of 16 teacher interviews – four interviews in the same university unit classroom where the parents had been interviewed and 12 in the classroom in the special school for children with ASD where the teachers worked. In addition, she conducted a total of 11 interviews with faculty members in their offices. The researcher and the participant were the only ones present during the interviews in these settings. She conducted all interviews in Turkish, the native language of all participants; they lasted between 3 to 12 min. The researcher audio taped each interview as well as took and kept daily notes in a journal prior to interviews and/or after interviews about the content of the interviews and/or participants.

Design

The researchers used descriptive analysis of the interview data. Descriptive studies are designed to describe the situation at the time the research is conducted (Cresswell, 2005).

Data Analysis

Using a separate form for each participant's interview, the second researcher transcribed data verbatim. The researchers used descriptive analyses with the following steps: (a) transcribe data, (b) have a graduate student check interview transcriptions, (c) form categories based on responses of participants, (d) categorize choices into categories, (e) develop interview coding keys based on the responses of participants, (f) have two independent experts code data separately, (g) calculate reliability coefficients for each question using number of agreements divided by number of agreements + disagreements X 100, (h) conduct a reliability analysis on interview coding keys, and (i) descriptively analyze themes. The researchers obtained a mean reliability agreement of 90% (range = 75 – 100%) on parent interviews, 93% (range = 80 – 100%) on teacher interviews, and 95% (range = 75 – 100%) on faculty interviews. In preparing the results for dissemination, the first author translated the quotes into English and, as a native speaker, the third author checked these quotes; then, the first author checked them once more to increase accuracy.

Results

Parents/Teacher Experiences in Teaching Safety Skills to Children/Students with ASD

Table 1 shows parent/teacher experiences in teaching SS and which SS they have taught to their children/students with ASD. Of 11 parents, six reported they had taught SS and four reported they had never taught SS to their children. One parent did not know. Parents who had not taught SS said their children could learn these skills when needed (n = 2) and they take necessary precautions to protect their children (n = 2).

Ten teachers reported they had not systematically provided SS instruction to their students with ASD, whereas six teachers reported they had systematically provided SS instruction for at least one skill. Three teachers indicated they had provided SS instruction to their students with intellectual disability in the past.

Table 1

Parents' and Teachers' Experiences Teaching Safety Skills

Parent Responses	*n*	Teacher Responses	*n*
Have you ever taught safety skills to your children/students?			
Yes	6	I have not taught systematically	10
No	4	I have taught systematically	6
I do not know	1	I have taught systematically to students with intellectual disability	3
Total	11	Total	19
What safety skills have you taught to your children/students?			
Staying away from hot stove	3	Using stairs safely	3
Using scissors safely	2	Using scissors safely	2
Not touching power outlets	2	Staying away from lighter, matches	1
Staying away from home chemicals	2	Staying safe in roads	1
Staying away from sharp objects	2	Wearing weather appropriate clothes	1
Protecting against physical violence	2	Using traffic lights	1
Staying away from kitchen sink	1	Crossing street safely	1
Sitting safely in car	1	Staying away from dangerous objects	1
Using knife	1	Using fork	1
Total	16		12

The teachers who had never provided SS instruction said that they had warned students (*n* = 2), had warned parents (*n* = 1), had provided instruction at the moment students needed to learn a specific SS (*n* = 1), or had taken precautions in the classroom (*n* = 1). Teacher three, who had not provided SS instruction, indicated the reason by explaining priorities:

> *If we think, the first skill area to work with students with ASD would be communication; then comes self-care skills. After that, depending on the students' performance levels, other skill areas could be studied. Teaching serious SS are being considered at a later stage.*

Teacher 11 said she did not take students to work on SS in real settings but tried to teach those skills when they were out: "We did not go out to work on specific SS; however, when we went out for another reason and there was a danger, then I occasionally tried to teach skills necessary for him/her to protect himself/herself there." Teacher 16 said that her students did not initiate anything to put them in danger: "I did not feel a need to teach these skills in the school since my students did not initiate anything dangerous. I believe their parents have taught these skills to them."

Safety Skills Taught by Parents/Teachers and Difficulties They Have Experienced

Table 1 shows SS taught to children and students with ASD by parents and teachers who said that they had taught them. Parents had taught staying away from hot stove (*n* = 3), using scissors safely (*n* = 2), not touching power outlets (*n* = 2), staying away from home chemicals (*n* = 2), staying away from sharp objects (*n* = 2), protecting against physical violence (*n* = 2), staying away from kitchen sink (*n* = 1), sittings safely in car (*n* = 1), and using a knife (*n* = 1). When asked how they taught these skills, two mothers stated they verbally described how to perform the SS. For example, Mother One stated, "He used to open windows or doors when I am taking him somewhere in my car. I always told him not to open the windows or doors. He is not doing that anymore." Two mothers said they performed the SS themselves and asked their children to imitate. Mother Two said:

> *My child was bringing scissors too close to his eyes. My husband and I taped the edges of the scissors not to hurt him – don't know we did the right thing - ... Then, I held the same scissors without the tapes. I wanted him to imitate me as I showed him how to cut. We took off the tape. Then, he began to cut. First, he couldn't hold it. We helped him hold.*

Mother Three, one of two mothers that taught these skills spontaneously in the daily routine, said:

> *...at home, especially the knives in the kitchen are easily accessible for him. We taught him that they are dangerous. I showed it on myself. I mean, I accidently cut my hand while preparing salad and he saw me. I said, 'Look, it hurts; the same may happen to you. I mean, you will not touch the knives; they may hurt you. We are not touching the knives.*

The researchers asked parents who taught SS to explain the difficulties they faced while teaching them. Two mothers said they had difficulty when they used verbal direction. On the other hand, they also said their children had learned appropriate SS when faced with danger. Mother Three said:

> *We experienced difficulties. No matter how well his receptive language, he sometimes could not get what was told to him. He needed to experience it. I tried to verbally explain to him the problems, but he could not get them. He had to experience to understand that it was dangerous to him.*

As can be seen in Table 1, teachers have taught using stairs safely (n = 3), using scissors safely (n = 2), staying away from lighters and matches (n = 1), staying safe in roads (n = 1), wearing weather-appropriate clothes (n = 1), using traffic lights (n = 1), crossing street safely (n = 1), staying away from dangerous objects (n = 1), and using forks safely (n = 1). When the researchers asked teachers (n = 7) to explain how they taught these skills, they said they used various materials and teaching strategies that included using picture cards (n = 3), modeling (n = 2), asking questions and/or asking child to perform safety behaviors (n = 2), using dramatization (n = 1), reading stories about safety (n = 1), video-modelling (n = 1), using a task analysis (n = 1), watching cartoons with students about safety (n = 1), and using direct instruction (n = 1). Teacher Three said, "I took my students to a parking area in the schoolyard; then, we walked around the cars. I turned on the car and had them walk around in order to make the setting as much the same as a real traffic setting." Teacher Five explained, "We had to work on traffic lights; however, school administration did not allow us to take the students to the streets. Therefore, I had to use picture cards and found some cartoons to watch about traffic lights together."

The researchers also asked teachers who taught SS to explain difficulties they experienced while teaching. They had problems in individualizing instruction (n = 2), securing students' attention in real settings (n = 1), not being able to conduct SS instruction in real settings where skills are needed (n = 1), establishing control at beginning of instruction (n = 1), and organizing instructional settings (n = 1). One teacher said that she had not had any problems during SS instruction. Teacher Five said:

> *Model and demonstrate is not enough to teach SS. I am sure there must be some other strategies. Students with ASD have their own routine, and you cannot change it. If you can change it, then come problem behaviors. As a result, I better say I go easy on them.*

Parents/Teachers Who Did Not Have Experience Teaching Safety Skills - If They Would Like to Teach Them and What Kind of Knowledge and Skills They Think They Need

The researchers asked parents and teachers what kind of knowledge and skills they need if they would like to teach SS to their children and students with ASD. (See responses in Table 2) Parents reported they were not well-versed in teaching SS to their children and needed support from experts. Mother Two stressed the need to get support from teachers before initiating SS training, saying, "I don't know; of course, I need support from the teacher. I mean, if I can learn the right methods from the teacher, for sure I will be more helpful for my child. I need to learn the methods from them in order to apply them with my child." Mother Eight said support should continue during SS training as well:

> *...I should ask for the comments and feelings of the teacher. Or I can ask to prepare the task analysis together, or, for instance, where do I make mistakes? I can ask her to watch me or make a video recording. I sure will make mistakes somewhere... For example, during the training, I can ask her to observe...*

In addition, Mother Nine stated that she may need information and skills regarding how she should interact with her child during SS training:

> *The way that I will talk with my child; I mean, in our daily lives, we talk with them, but it would be better if we learn something more detailed from teachers. I mean, we raise them as normal parents do. But, of course, it will be better to get instruction from experts... Of course, it will be better for us if we can enhance our experiences by learning from the experts...*

Mother Six stated she could get information regarding precautions but not about how to teach SS:

> *For example, how should we do it? I mean, I was wondering when my child was a baby. I mean, sometimes children can swallow small objects. I searched from the Internet. But it is not on the web, how can I teach them... For example, there are things that I can do for myself, but nothing about training my child."*

Teachers stated they needed to know how to teach SS and which strategy to use. At the same time, they explained they needed to know needs and performances of their students regarding SS. (See Table 2) Teacher Nine stressed the need for published materials about SS instruction:

> *When you ask about teaching SS, I need to stop and think since SS are higher order skills for the students as well as for me. I hardly introduce them myself to my students; I do not know how to teach these skills. If I have a book guiding me in this area, I would be very happy.*

Teacher 11 also indicated a need:

> *Indeed, teaching strategies. Actually, we learned many teaching strategies during our college education; when it comes to implementing them in the schools, I could not implement them systematically. We have a crowded classroom, too many students and too many objectives to teach. We need a kind of guidebook explaining to us practically how to teach these skills. Such as which skills could be taught with which strategy. How does learning occur easily?*

Teacher 15 stressed the importance of having a guidebook on how to provide SS instruction:

> *Teachers need to be encouraged. We were required to teach preventive skills to these students, but, if we would think to teach them to become more independent, then teaching SS would be more*

Table 2

Knowledge and Skills Parents and Teachers Think They Need to Have and Teacher Recommendations for Strategies for Safety Skills Instruction

Parent Responses	*n*	Teacher Responses	n
Teacher and expert support	7	Teaching strategies	6
Need to know how to teach	5	Experts to consult	3
Special education and skills	2	Information about student's performance and needs	3
Basic safety information	2	Task analyses of skills	2
Task analyses of skills	1	Training materials	2
Communication skills	1	Handbook about teaching safety skills	2
		Information about which skills to teach and why to teach	1
		Opinions of family members	1
		Educational programs	1
		Information about characteristics of student	1
		Effective teaching strategies	1
		Information on how to assess in real setting	1
Total	18		24

Teacher responses about recommendations for strategies	n
Video modeling	5
Model and Perform	3
Errorless teaching (e.g., graduated guidance, most-to-least prompting)	3
Can be identified based on student	3
Can be identified based on skill	2
Can be identified based on student and skill	2
Modeling	2
Dramatization	2
Applied methods	2
Providing real-life experience	2
Peer tutoring	1
Pictorial methods	1
Total	28

> *important. For this reason, we need to have some guidebook and published materials. Teaching SS includes many risks. While preparing training materials, these risks should be considered seriously.*

Teacher 12 stated SS instruction is similar to teaching any skill in other domains:

> *First I would assess the student. I would identify what SS he/she has and what he/she needs to learn. Then, I would prepare/design materials. I would also discuss this with parents and plan where to teach this skill. Then, the rest of it comes by itself. It is not more difficult than teaching a skill in any domain, such as self-care.*

Teacher Opinions/Suggestions about Safety Skills Instructional Procedures

Table 2 also shows teachers' responses about instructional procedures to be used during SS instruction. Teachers reported they could use video modeling (*n* = 5), modeling and performing (*n* = 3), errorless teaching (*n* = 3), modeling (*n* = 2), dramatization (*n* = 2), applied methods (*n* = 2), real life experiences (*n* = 2), peer tutoring (*n* = 1), and pictorial methods (*n* = 1) when teaching SS. They also stated the instructional procedure would be appropriate for student characteristics (*n* = 3), type of skill (*n* = 2), and both student characteristics and type skill (*n* = 2). Teacher seven said, "Video modeling is very important for me, many people learn from TV. I use visual strategies as much as I can." Teacher 15 said, "Errorless teaching procedures can be used. Sometimes one or two procedures could be used together. For example, video modeling and graduated guidance."

Faculty Member Opinions/Suggestions About Who Should Teach Safety Skills

Table 3 shows faculty members' opinions about who should teach SS. They reported that anyone in the family (*n* = 6) or teachers and parents (*n* = 3) could deliver SS instruction to children with ASD. Faculty Four said, "We have findings that teaching strategies can be used effectively by others. So, I am thinking that

SS can be taught by non-professional people, too;" and Faculty Five stressed that SS instruction could be delivered by different people, depending on a child's developmental stage:

> *Since teaching these skills should be started at very early ages, people who - like mother, father, siblings, and primary caregivers – the child is most frequently with – could deliver instruction. It should be started like this. Early childhood teachers should start teaching these skills systematically. In the subsequent years, when the social interactions of a child increases, peers could also deliver SS instruction to them.*

As shown in Table 3, three faculty members reported teachers and parents should teach these skills. They advised that, since SS instruction requires systematic teaching, teachers should provide guidance to parents and peers. Faculty Two said, "These skills should be taught in the schools during the acquisition phase; then, after providing parent training, parents can start to work on these skills to promote generalization." On the other hand, two faculty members indicated the nature of the SS would determine the instructor. For example, Faculty Four said, "...while teaching personal SS, such as teaching private parts of the body, teaching to distinguish strangers, and teaching to distinguish inappropriate touching, privacy is essential. Therefore, it may not be suitable to use peers when teaching such a skill."

Faculty Member Opinions/Suggestions About Instructional Procedures

The researchers asked faculty members which instructional procedures should be used during SS instruction. (See Table 3) They stated EBPs (n = 5), those identified depending on student and skill characteristics (n = 5), visual strategies (n = 5), systematic teaching procedures (n = 3), errorless teaching procedures (n = 3), naturalistic teaching procedures (n = 1), and social stories (n = 1). Among faculty members stating EBPs be used, Faculty four said, "It is not enough to consider the effectiveness of these procedures as it will be affected their parents and surrounding environment; social validity of the procedures should also be considered." Faculty Five indicated the importance of errorless teaching procedures: "The child has no opportunity to make a mistake while using a knife or while learning a SS about knives. Therefore, it is better to use the methods in which we use the most intrusive prompt."

Faculty Member Opinions Regarding Safety Skills and How to Teach Them

The researchers asked faculty members whether special education programs in Turkey cover teaching SS in courses or in course content. (See Table 3) Faculty members said SS instruction is covered very little in

Table 3

Faculty Members' Opinions on the Delivery of Safety Skills Instruction

Faculty Members Responses	n
Who should deliver SS instruction to students with ASD?	
Anyone in student's life (e.g., mother, father, siblings, close relatives, peers)	6
Teachers and parents	3
Change depend upon safety skill to be taught	2
Teachers and experts	1
Total	12
Which procedures should be used during SS instruction?	
Evidence-based practices	5
Can be decided according to characteristics of student and skill	5
Visual strategies	5
Systematic teaching procedures	3
Errorless teaching procedures	3
Naturalistic teaching procedures	1
Social stories	1
Total	23
Do special education undergraduate programs include content about SS instruction?	
Only little in some courses	4
I do not know	3
I talk about safety skills instruction in my courses	3
Not enough	2
No (as far as I know)	2
Total	14

some courses (*n* = 4), they do not know (*n* = 3), they personally talk about SS instruction (*n* = 3), there is not enough information (*n* = 2), or it is not covered (*n* = 2). Among those who said SS instruction is covered very little in some courses, Faculty One stated, "I think it is mentioned briefly under self-care and daily living skills training; I know that, under sexual training, there is something; some skills are being taught regarding protecting oneself;" and Faculty Two indicated;

> *It is mentioned in the context of life sciences, as only one subtitle or skill, but they are not presented as a whole, in a more careful and concentrated manner... In life sciences, there is, for example, appropriate clothing for the seasons or not to drink cold water too fast or not to touch objects with a red cross on it or not to use things with a red drop on it... We work on such subjects, but are they highlighted in the programs? No.*

Two faculty members said content for SS instruction is not covered in the special education program. Faculty 11 explained, "There is no subject which directly covers training of SS." Faculty Two reported;

> *We don't have a subject which is programmed to teach SS in a neat, orderly, catchy manner, without missing any steps. But it is essential for our special education department students to acquire some information and training to teach these skills; however, I do not think that this issue is being dwelt on, as far as I know.*

Discussion

The purpose of this study was to explore the opinions of Turkish parents, teachers, and faculty members regarding SS instruction for children with ASD. Parents and teachers had different experiences, and their opinions showed both similarities and differences. Half of the parents said they have taught SS to their children; however, their examples were usually preventive (e.g., staying away from stove, using stairs safely, using scissors safely). Neither parents nor teachers provided examples for teaching social SS (e.g., children protecting themselves from strangers or from physical and/or sexual abuse) or more complex SS. When the researchers asked parents how they delivered SS instruction to their children, it appeared that, rather than providing instruction, they provided verbal warnings (e.g., Stay away from stove, It is hot, Do not touch, You would get burned) in the presence of any safety risk. This seems to convey that, rather than providing instruction, parents have spontaneously used possible consequences of safety risks as hints for themselves to warn their children not to repeat their behaviors in the presence of safety risks in the future. It appears parents may not be aware of the difference between teaching and warning. For example, when a child touches a hot stove, he/she would be in pain. Due to this punishing consequence, the child may not touch the hot stove in the future, and parents may perceive this as a learning outcome of their warning. Research has established that, unless taught systematically, children with ASD may fail to learn new skills and may fail to generalize when learning occurs (Doyle & Doyle-Iland, 2004; Scheuermann & Webber, 2002). Therefore, a warning by itself should not be considered teaching; instead, both parents and teachers need to consider providing systematic instruction. In addition, they need to consider not only teaching SS to 100% criterion but also programming for generalization and maintenance since research has shown children with ASD often have difficulty in performing acquired skills in novel settings or over time. The data also showed the majority of the teachers did not teach any SS. They thought their students were not ready to learn SS, or a few thought SS instruction includes some risks, and, if they exposed students to these risks, parents or school administrators would blame them. For example, Teacher 12 said, "I do not teach riding a bike to my students. Why? If he falls down while practicing it, we would have big problems with parents." These findings showed that teachers are not required to teach SS on a regular basis. In other words, the curricula for teaching students with ASD does not cover SS goals and objectives.

There are similarities between the experiences of parents and teachers in teaching SS to children with ASD. Both parents and teachers who have provided SS instruction taught various preventative skills instead of how to react or protect oneself in the presence of any safety risks. They either warned them (e.g., Stay away from hot stove) to prevent safety risks or took some precautions (e.g., "We do not have safety risks in our classroom."). A wide range of safety risks occur, however, in daily life, and, to become more independent, children with ASD need to learn how to react and protect themselves.

Data were consistent with previous studies regarding the lack of teaching SS (Collins, Wolery, & Gast, 1992; Collins, Wolery, & Gast, 1991; Sirin & Tekin-Iftar, 2016; Wiseman et al., 2017). Therefore, this study adds to the literature by addressing the need for more research in safety skills instruction as suggested by Tekin-Iftar et al. (2021) and Wiseman et al. (2017). The possible reasons for neglecting to teach SS can be explained from two perspectives. First, data showed that neither parents nor teachers felt they were well-equipped to offer SS instruction. It is possible that, if they did not know how to teach these skills, they simply failed to teach them. Second, instead of teaching SS, parents and teachers arranged the environment to protect their children. Although needs to be investigated, as a subjective opinion, the researchers thought that protecting a child from safety risks instead of teaching SS could, in part, come from the Turkish culture. In contrast to a western attitude, parents and teachers in Turkey may tend to be more protective and sometimes perform behaviors on behalf of their children/students.

Opinions of teachers and faculty members showed

differences regarding which instructional procedure to use for teaching SS to children with ASD. When asked, teachers thought of more specific procedures, such as video modeling, modeling, or dramatization. Faculty members, however, thought more broadly and talked from a global perspective using more contemporary terms. They suggested using EBPs, systematic teaching, and/or a group of procedures, such as errorless teaching procedures. Only a few teachers and faculty advised identifying instructional procedures based on the characteristics of children and skills and using more than one procedure at a time while teaching SS. The literature has shown behavioral skill training (BST) as one of the well-established procedures in teaching SS to children with disabilities (Tekin-Iftar et al., 2021). The steps of BST include (a) exposing children to information - causes of danger, possible safety risks, and how to react in unsafe situation; (b) modeling - how to behave during unsafe situation; (c) providing practice - allowing children to perform model's behaviors; and (d) providing feedback - providing consequences following correct and incorrect behaviors of children (Miltenberger & Gross, 2011). Gunby et al. (2010) used an effective BST in teaching three children with ASD "to go away by saying no" in response to the lures of strangers. Ergenekon (2012) also successfully used a BST in teaching three children with ASD to use first-aid skills during home accidents. Author and Author (2011) used video modeling and graduated guidance in teaching three children with ASD to respond to the lures of strangers. As these studies show, behavioral training packages can be effective in teaching SS. There was consistency between the participant suggestions in this study and instructional procedures used in research studies.

There were differences in the opinions of faculty members regarding whether special education undergraduate programs should include a course or course content for teacher candidates on how to provide SS instruction. Some said they partially covered this topic in their courses, and some said they did not share any information. When special education programs are reviewed, courses with titles such as "Teaching Daily Living and Social Skills" include several topics (e.g., home safety, consumer safety) related to SS instruction. In other words, comprehensive content (from assessment to teaching) for SS instruction does not exist in the program, but some faculty make an effort to deliver information about SS instruction.

This study showed that SS instruction had not been delivered at homes or in schools by the participants. ASD is a complex developmental disability with two core deficits: (a) difficulty with social interactions and communication and (b) repetitive behaviors, interest, and activities (American Psychiatric Association, 2013). These characteristics increase the likelihood of life-long safety risks. Students with ASD may fail in distinguishing safe and unsafe situations, knowing how to ask for help, and staying away from dangerous situations. Therefore, SS instruction should be delivered in a systematic way from preschool through adulthood. The data, however, revealed that parents and teachers only teach SS occasionally and in an unsystematic way, and they lack knowledge on how to teach SS. Parents have attempted to teach SS but have not been trained to do this systematically with formative data collections to analyze effectiveness. In addition, special education teacher training programs do not cover SS instruction comprehensively. Some teachers may lack the knowledge to use systematic instruction while others may fail to apply their knowledge of systematic instruction to SS. Although the data were limited to Turkey and may not represent a broad range of participants, other countries may experience the same issues; thus, there is a need for other researchers to expand our research to a broader base.

Based on these results, this study contributes to the professional literature on SS instruction in the following ways: (a) adding to the groundwork on the necessity of teaching SS systematically to students and children with ASD (since the findings showed that this has not been the case), (b) providing information regarding the circumstances under which these skills should be taught, (c) reporting data with three different participant groups from Turkey, making some comparisons of opinions across groups possible, and (d) illustrating the gap in special education teacher training programs and the curriculum of students with ASD in terms of safety teaching.

In light of these points, the following suggestions for practice and future research are presented. While this study is limited to a specific country, it suggests that the opinions of parents, teachers, and faculty members should be considered in SS instruction. Other researchers in other countries should use this study as a basis for further exploring this topic. Both parents and teachers should consider becoming more knowledgeable about SS instruction (e.g., which SS to teach with which instructional procedure, the types of skills that are appropriate to teach and needed at various ages, when to teach SS, and how to promote generalization). Teachers should search for professional development and consultations on this topic to better serve their students. In addition, teachers and parents should consider closely working together in teaching SS. The curricula for teaching children with ASD in Turkey should be revised and goals and objectives added for SS instruction in classrooms, with an emphasis on skills that students need to be more independent in inclusive environments. Faculty members may consider having more content about SS instruction in special education teacher training programs. This study should be replicated with more

participants in the future and should examine the opinions of parents, teachers, and faculty members in different cultures. Researchers also should investigate effective and efficient ways of training teachers about SS instruction.

In a final concluding thought, it is important to note that it should be a goal for all students with disabilities (including those experiencing ASD) to be educated in least restrictive environment with same-age peers. An additional goal should be that all students with disabilities transition to inclusive settings where they will work and live when they complete school. Including SS that promote independence and reflect the cultural environment in which students live is one way to work toward achieving these goals.

References

Agran, M., & Krump, M. (2010). A preliminary investigation of parents' opinions about safety skills instruction: An apparent discrepancy between importance and expectation. *Education and Training in Autism and Developmental Disabilities, 45*, 303-311.

Agran, M., Krump, M., Spooner, F., & Traice-Lynn, Z. (2012). Asking students about the importance of safety skills instruction: A preliminary analysis of what they think is important. *Research and Practice for Persons with Severe Disabilities, 37*, 45–52.

Akmanoglu, N., & Tekin-Iftar, E. (2011). Teaching children with autism how to respond to the lures of strangers. *Autism: The International Journal of Research and Practice, 15*, 185-203. doi: 10.1177/1362361309352180

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). American Psychiatric Association.

Bergstrom, R., Najdowski, A. C., & Tarbox, J. (2012). Teaching children with autism to seek help when lost in public. *Journal of Applied Behavior Analysis, 45*, 191-195.

Bergstrom, R., Najdowski, A. C., & Tarbox, J. (2014). A systematic replication of teaching children with autism to respond appropriately to lures from strangers. *Journal of Applied Behavior Analysis, 47*, 861-865.

Calavari, R. N. S., & Romanczyk, R. G. (2012). Caregiver perspectives on unintentional injury risk in children with an autism spectrum disorder. *Journal of Pediatric Nursing, 27*, 632-641.

Chavelle, R. M., Strauss, D. J., & Picket, J. (2001). Causes of death in autism. *Journal of Autism and Developmental Disorders, 31*, 569–576.

Christensen, D. L., Baio, J., Braun, K. V., Bilder, D., Charles, J., Costantino, J. N., . . . Yeargin-Allsopp, M. (2016). Prevalence and characteristics of autism spectrum disorder among children aged 8 years - Autism and Developmental Disabilities Monitoring Network, 11 Sites, United States, 2012. MMWR Surveillance Summaries, 65(No. SS-3), 1–23. doi: http://dx.doi.org/10.15585/mmwr.ss6503a1

Clees, T. J., & Gast, D. L. (1994). Social safety skills instruction for individuals with disabilities: A sequential model. *Education & Treatment of Children, 17*, 163-185.

Collins, B. C., Wolery, M., & Gast, D. L. (1991). A survey of safety concerns for students with special needs. *Education and Training in Mental Retardation, 26*, 305-318.

Collins, B. C., Wolery, M., & Gast, D. L. (1992). A national survey of safety concerns for students with special needs. *Journal of Developmental and Physical Disabilities, 4*, 263-276.

Creswell, J. W. (2005). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Merrill.

Dixon, D., Bergstorm, R., Smith, M. N., & Tarbox, J. (2010). A review of research on procedures for teaching safety skills to persons with developmental disabilities. *Research in Developmental Disabilities, 31*, 985-994.

Degirmenci, H. D., & Tekin-Iftar, E., (2019). Efficacy of social stories and video modelling in teaching safety skills to children with autism. Poster Presented at 13th Association for Behavior Analysis 13th Autism Conference, San Fransisco, CA, ABD.

Doyle, B.T., & Doyle-Iland, E. (2004). *Autism spectrum disorders from A to Z*. Future Horizons.

Ergenekon, Y. (2012). Teaching basic first-aid skills against home accidents to children with autism through video modeling. *Educational Sciences, Theory, & Practice, 12*, 2759-2766.

Gunby, K. V., & Rapp, J. T. (2014). The use of behavioral skills training and in situ feedback to protect children with autism from abduction lures. *Journal of Applied Behavior Analysis, 47*, 856-860.

Gunby, K. V., Carr, J. E., & Leblanc, L. A. (2010). Teaching abduction-prevention skills to children with autism. *Journal of Applied Behavior Analysis, 43*, 107-112.

Harriage, B., Blair, K. C., & Miltenberger, R. (2016). An evaluation of a parent implemented in situ pedestrian safety skills intervention for individuals with autism. *Journal of Autism and Developmental Disorders, 46*, 2017–2027.

Hoch, H., Taylor, B. A., & Rodriguez, A. (2009). Teaching teenagers with autism to answer cell phones and seek assistance when lost. *Behavior Analysis in Practice*, *2*, 14-20.

Istre, G. R., McCoy, M., Carlin, D. K., & McClain, I. (2002). Residential fire related deaths and injuries among children: Fire play, smoke alarms, and prevention. *Injury Prevention, 8*, 128-132.

Ivey, J. K. (2004). What do parents expect? A study of likelihood and importance issues for children with autism spectrum disorders. *Focus on Autism and Other Developmental Disabilities, 19*, 27–33. doi: 10.1177/10883576040190010401

Kenny, M. C., Bennett, K. D., Dougery, J., & Steele, F. (2013). Teaching general safety and body safety training skills to a Latino preschool male with autism. *Journal of Child Family Studies, 22*, 1092-1102.

Kogan, M. D., Blumberg, S. J., Schieve, L. A., Boyle, C. A., Perrin, J. M., & Ghandour, R. M. (2009). Prevalence of parent-reported diagnosis of autism spectrum disorder among children in the US, 2007. *Pediatrics, 124*, 1395–1403.

Kurt, O., & Kutlu, M. (2019). Effectiveness of social stories in teaching abduction-prevention skills to children with autism. *Journal of Autism and Developmental Disorders, 49*, 1-3807-3818. doi: 10.1007/s10803-019-04096-9

Milli Egitim Bakanligi. (2013). *Talim terbiye kurulu baskanligi ozel egitim uygulama merkezi (okulu) birinci ve ikinci kademe egitim programi (otistik cocuklar için)* (Cirriculum for children with ASD). Ankara. Retrieved from http://ttkb.meb.gov.tr/dosyalar/programlar/ilkogretim/otistikcocuklar.pdf.

Miltenberger, R. G., & Gross, A. C. (2011). Teaching safety skills to children. In W. W Fisher, C. C. Piazza, & H. S. Roane (Eds.), *Handbook of applied behavior analysis* (pp. 417-432). NY: The Guildford Press.

Scheuermann, B., & Webber, J. (2002). *Autism: Teaching does make a difference.* Wadswoth/Thomson Learning.

Sirin, N., & Tekin-Iftar, E. (2016). Opinions of parents and teachers about safety skills instruction to children with ASD: A preliminary investigation. *Journal of Autism and Developmental Disorders, 46*, 2653-2665. doi: 10.1007/s10803-016-2809-2

Summers, J., Tarbox, J., Findel-Pyles, R. S., Wilke, A. E., Bergstrom, R., & Williams, W. L. (2011). Teaching two household safety skills to children with autism. *Research in Autism Spectrum Disorders, 5*, 629-632.

Taylor, B. A., Hughes, C. E., Richard, E., Hoch, H., & Coello, A. R. (2004). Teaching teenagers with autism to seek assistance when lost. *Journal of Applied Behavior Analysis, 37*, 79-82.

Tekin-Iftar, E., Olcay-Gul, S., Sirin, N., Bilmez, H., Degirmenci, D., & Collins, B. C. (2021). Systematic analysis of safety skill interventions to individuals with autism spectrum disorder. *Journal of Special Education, 54*(4), 239-250. DOI: 10.1177/0022466920918247

Volkmar, F. R., & Wiesner, L. A. (2009). *A practical guide to autism: What every parent, family member, and teacher needs to know?* Wiley.

Wiseman, K. V., McArdell, L. E., Bottini, S. B., & Gillis, J. M. (2017). A meta-analysis of safety skill interventions for children, adolescents, and young adults with autism spectrum disorders. *Review Journal of Autism and Developmental Disorders, 4*, 39-49. Doi: 10.1007/s40489-016-0096-7

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The Importance of Inclusive Spaces in Social Skills Development: Drawing on the LGBTQ Educational and Disability Studies in Education Frameworks

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Abstract

This manuscript highlights a major finding from a larger study conducted in the United States that used phenomenological interviews with adults with autism who typed to communicate. Participants shared their United States educational experiences before and after learning to type. This finding focused on how disability studies in education and the development of inclusive spaces, such as those designed for lesbian, gay, bisexual, transexual, and queer or questioning (LGBTQ) students, may change the way in which educators support students with autism in developing and sustaining natural and meaningful friendships. Thus, this paper examined the social experiences of one participant who had an inclusive education from preschool through college graduation, and whose experience with participation in a social club, described as an acceptance coalition for the LGBTQ community, can influence the way in which educators provide support for building relationships with peers beginning in the elementary school setting.

Keywords:
Autism, Social Skills, Evidence-Based Practices, LGBTQ

Introduction

Examining the history of special education intervention in the United States including evidence-based practices (EBPs) for students with autism, sheds insight into how special educators currently support students with autism in developing skills. These skills include the development of social skills, which special educators hope result in relationships with peers. EBPs, developed in the United States, provide flexibility for professionals when deciding what may or may not work for individuals with autism; however, they may also limit educators in how to best support the students they serve. EBPs are not meant to be implemented in lieu of professional advice, but to complement it and support positive results (Cook et al., 2008). The challenge may be that providing a determined set of practices may limit special educators from thinking outside the box. Special educators may feel compelled to choose an EBP when trying to teach students with autism to interact and develop

social relationships. Additionally, using EBPs in autism to provide social interventions developed for a disability defined by a set of behaviors can be problematic. It is critical we examine how EBPs are derived and the implications in supporting the needs of all students.

Special Education Intervention and EBPs

The literature on autism oscillates between education and psychology where "most modern interventions for autism are educational in nature," while "most research on interventions has either been carried out by psychologists, published in psychological journals, or both" (Mesibov & Shea, 2011, p. 115). The history of the research on interventions can be seen in the development of EBPs. EBPs in special education derive from EBPs in United States psychology, which evolved out of the field of medicine (Mesibov & Shea, 2011; West et al., 2013). In an effort to continue to support adult psychotherapy in the 1990s, the American Psychological Association (APA) attempted to position itself within managed-care and insurance plans (Mesibov & Shea, 2011). One way to do this was by developing EBPs and reinforcing the discipline of psychology with an empirically based foundation (Mesibov & Shea, 2011). EBPs in special education integrate literature and expert experience, as opposed to research-based practices, which may only rely on research literature (West et al., 2013). EBPs are defined as "a strategy or intervention designed for use by special educators and intended to support the education of individuals with exceptional learning needs" (Council for Exceptional Children, 2008, p. 6).

Challenges with EBPs in Autism

There are challenges associated with EBPs in autism. Two of these challenges that have been substantiated in this research include a) a limited consensus on most effective intervention, and b) how autism is defined and the perception of the behaviors associated with the disability. Mesibov and Shea (2011) suggested that there are financial implications for using or not using EBPs. Using EBPs leads the public to believe the intervention to be sound and allows the people and organizations that use these practices to demand public funds for their implementation. What this means is it is desirable for practitioners to prove their evidence-based status and disprove that of their competitors, who may be competing for public acknowledgment and funding. Further, an examination of various organizations that have aimed to identify evidence-based interventions for autism (Bodfish, 2004; Interactive Autism Network Community, 2010; National Autism Center, 2016) use different definitions of EBPs and numerous interventions. Subsequently, the reviews resulted in minimal consensus about the most effective evidence-based intervention for individuals with autism (Mesibov & Shea, 2011) since various treatments worked for some individuals, but not for others.

Another Barrier: Autism Defined

To add to this challenge, a changing definition of autism has led to a specific view of the disability. In the most recent edition of the Diagnostic and Statistical Manual of Mental Disorders 5 (APA, 2013), the mention of motor movement is listed under restrictive, repetitive patterns of behavior and is defined as stereotyped or repetitive motor movements. Further, deficits of social communication, social interaction, and a continued focus on behavior, drive the definition of autism (APA, 2013). Autism is often viewed through a behaviorist lens, which is problematic for educators. The problem is that a behaviorist perspective looks at body movement strictly as behavior, with that behavior being "good" or "bad." For example, when discussing Parkinson's disorder, there is often an impairment of voluntary movements known as akinesia (Mena et al., 2008), meaning individuals with the disorder are unable to make their body move as they wish. While this behavior is viewed as involuntary when displayed by an individual with Parkinson's, the social interpretation of this behavior for people with autism is a lack of compliance or social indifference (Donnellan et al., 2010). According to Donnellan et al. (2010), the social interpretation of this movement in a behavioral context for people with autism would be that the individual is lazy or slow. This is problematic when educators misinterpret slow or inability to control movement in students with autism, because the struggle becomes about compliance. One way to begin to shift educators' thinking when it comes to autism and behavior is through a disability studies in education (DSE) framework.

DSE and Autism Intervention

DSE is described as the social model of disability. DSE tenets include (a) contextualize disability within political and social spheres; (b) privilege the interests, agendas, and voices of people labeled with disability/disabled people; (c) promote social justice, equitable and inclusive educational opportunities, and full and meaningful access to all aspects of society for people labeled with disability/disabled people; and (d) assume competence and reject deficit models of disability (Connor et al., 2008, p. 448).

A DSE framework allows educators to examine disability through a socially just lens focused on "recognizing and removing the barriers and creating equitable access" (Cosier & Ashby, 2016, p. 5). Too often educators target the deficits or differences of an individual to guide instruction or one's schooling. In turn, ableism influences how students with disabilities (SWD) are viewed in education, exacerbating the notion of inferiority to their nondisabled peers (Ashby, 2012; Linton, 1998). Examining the social skills of SWD, special educators tend to focus on what students are unable to do compared to their nondisabled peers, which

ultimately abstains their peers and themselves from acceptance of SWD for who they are. Through DSE, educators can readjust their approaches to instruction and intervention to focus on accommodations and acceptance. Ultimately, according to Corbett (1999), "there may be a commitment to social justice and equality of opportunity in a comprehensive school, but in direct conflict with this, may be deep-rooted assumptions (beliefs and fears) about intelligence, ability and social class, which inevitably influence teachers' behaviour in the classroom and in their daily interactions in school" (p. 55). A DSE framework focuses less on the prescriptiveness of implementing EBPs and the deficits of an individual. The following research finding illustrates an alternative approach to the use of EBPs that focuses on individual voice.

Jacob's Story of Success

In a recent phenomenological study that examined the United States educational experiences of individuals with autism who typed to communicate (McKee & Sandoval Gomez, 2020), one finding highlighted an alternative to using EBPs to teach social skills. In the larger study, purposeful sampling was used to find participants who had autism, were non-speaking or had minimally reliable speech, and used typing as their main form of communication. Participants in this study had varying levels of communication needs that were addressed through a support person. The support person provided one or multiple of these accommodations such as physical touch at the elbow, shoulder, or above, verbal encouragement, prompting to stay focused, or feedback on unclear typed messages. Jacob typed without physical accommodations from his support person and read his typed words aloud.

During his interview, Jacob shared that he participated in a social club in school. This club was designed with LGBTQ inclusion as a central tenet. LGBTQ social spaces, like Jacob's club, operate from a number of core principles which frame their practice. LGBTQ frameworks are less standardized than the DSE construct, preventing an authoritative enumeration of its tenets. Nonetheless, we do note that these two frameworks often overlap on core ideals. Both the DSE and LGBTQ frames, center the voices and experiences of individuals who are traditionally marginalized and approach social justice as a process of inclusion. LGBTQ organizations, much like the club in which Jacob participated, frame the issues LGBTQ persons experience as effects of an alienating social construction of identity. They seek to correct this through alternative constructions of social life that are more inclusive and affirming.

Students who identify as LGBTQ encounter a number of significant challenges in their school experiences. Seen as nonnormative due to their sexual orientation and/or gender identity, many of these youth face verbal bullying, a lack of a sense of safety, and violence (Kosciw et al., 2018). The most significant response to this reality has been the development of student organizations whose focus is developing safe and inclusive spaces for these students (Fetner & Kush, 2008). These organizations are often called GSAs (i.e., gay-straight alliances or gender and sexuality alliances). Research has shown the presence of these organizations correlates with reports of more positive school climates and fewer discriminatory experiences for LGBTQ youth (Davis et al., 2014; Kosciw et al., 2018).

Jacob's club valued acceptance and provided its participants with the opportunity to connect with peers and have fun around food and conversation. This club provided a space for students to get together to cook, eat, chat, and hang out. Although Jacob was the only student to communicate through typing, he found the experience to be an important and life-changing one when it came to building peer relationships. Jacob described the experience of eating lunch with friends: "The possibility of lunch dates. It's challenging when one is a typer and the other not, but these life connections formulate an opportunity for growth. You are emotionally taking a risk more than really is comfortable at times." When asked about the impact of the club, Jacob replied, "So very connecting with vital friends." He also stated, "Fun and pleasing the soul of bold journey." When the researcher explained this was different from her experience, which centered on forming groups that focused on intervention, where students with autism were taught to learn specific social skills that targeted overcoming deficits identified by the definition of the disability, Jacob posited, "Simply devastating the heart."

This important finding needed to be explored further for two reasons. First, groups of people such as individuals who are considered "disabled" have traditionally been marginalized and undervalued for their contribution to society and research. Asking Jacob what helped him be successful socially, as an individual with autism, and why he believes this practice was successful, is key. Oftentimes professionals believe their knowledge base is all they need to determine what interventions will work for the individuals they serve and do not ask the individuals themselves. This is problematic in special education because this practice further empowers the professional and devalues the thoughts of the student with the disability.

The second reason is that targeting the skill of developing social relationships in a natural environment within a space of acceptance, as opposed to a place of intervention with the expectation of overcoming one's disability and striving for normalization,

deserves to be further explored. In Jacob's situation, if educators would have used EBPs when working with him to develop social skills, his deficits would have been the focus with the intervention being contrived adult-led experiences. Jacob would have not had the opportunity to engage in authentic friendships. Educators need to establish an environment where all individuals are accepted, have a sense of belonging, and are a part of the community (Pearpoint & Forest, 1992), which align with a DSE and LGTBQ framework.

Discussion

Students with autism of all ages need and deserve opportunities to initiate and build friendships in spaces where they are not sent the message of needing to overcome their disability. Special education is designed to bridge the gap of skills, promote educational access, and deliver what educators hope are outcomes students would want for themselves as they age. Oftentimes, able-bodied educators make decisions about what students with disabilities should learn, pushing an able-bodied agenda upon others (Kitchin, 2000). This may occur more often in elementary school when, due to age, children may struggle to identify what is important to them. However, even young children, such as those in elementary school, should be listened to and their interests and strengths should be the primary focus as educators strive to develop safe and inclusive environments that send messages of acceptance.

Most GSAs are intentionally created as spaces of inclusion, open to people of any gender or sexual identity (Fetner & Kush, 2008). Rather than taking a medical/treatment approach to nonnormativity, these clubs, led by youth of diverse identities, constitute communities predicated on the acceptance of difference as valuable. Having a space in which LGBTQ students experience positive and affirming social interactions empowers them to face personal and institutional obstacles (Lee, 2002). GSAs engage in activities that serve to affirm and strengthen a collective sense of belonging, educate the school community, and effect positive change in school policies (Poteat et al., 2017).

Both the DSE and LGBTQ frameworks argue for a model of inclusion. Educators should consider support for students that is most holistic, less medical model, and more authentic rather than have students remain in the silos created by traditional social stratification (e.g. ability, sexuality, age, and gender). Educators need to confront previously existing beliefs that we know best and be willing to think outside the box and entertain new ideas. Part of thinking outside the box includes examining what other marginalized groups of students have encountered.

Conclusion

Jacob's story of navigating social opportunities, specifically with the social club, demonstrates how he obtained authentic social experiences in a space focused more on acceptance. This space allowed for genuine opportunities where Jacob thrived and built meaningful relationships. The rigidness of EBPs can sometimes hinder the purity of natural social opportunities. In Jacob's situation, imposing practices such as EBPs inadequately supported the development of his social needs and identity. Jacob's story reminds educators to be open to listen to our students, allow for authentic social opportunities to happen, and provide the space for these occurrences. Carrington (1999) reminded us when the values and beliefs of an experience, and more importantly a school experience, match the nondiscriminatory language in the foundations of inclusion, the culture will impact the classroom in a way where all students feel welcomed, are involved, and are full members of the community.

References

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Author.

Ashby, C. (2012). Disability studies and inclusive teacher preparation: A socially just path for teacher education. *Research and Practice for Persons with Severe Disabilities, 37*(2), 89-99.

Bodfish, J. W. (2004). Treating the core features of autism: Are we there yet? *Mental Retardation and Developmental Disabilities Research Reviews, 10*(4), 318–326. https://www.doi.org/10.1002/mrdd.20045

Carrington, S. (1999). Inclusion needs a different school culture. *International Journal of Inclusive Education, 3*(3), 257–268. https://doi.org/10.1080/136031199285039

Connor, D. J., Gabel, S. L., Gallagher, D. J., & Morton, M. (2008) Disability studies and inclusive education—Implications for theory, research, and practice. *International Journal of Inclusive Education, 12*(5–6), 441–457. https://doi.org/10.1080/13603110802377482

Cook, B. G., Tankersley, M., & Harjusola-Webb, S. (2008). Evidence-based practice and professional wisdom: Putting it all together. *Intervention in School and Clinic, 44*(2), 105–111. https://doi.org/10.1177/1053451208321566

Corbett, J. (1999). Inclusive education and school culture. *International Journal of Inclusive Education, 3*(1), 53–61. https://doi.org/10.1080/136031199285183

Cosier, M., & Ashby, C. (2016). Disability studies and the "work" of educators. In M. Cosier & C. Ashby (Eds), *Enacting change from within: Disability studies meets teaching and teacher education* (pp. 61–81). Peter Lang Publishing.

Council for Exceptional Children. (2008). *Classifying the state of evidence for special education professional practices: CEC practice study manual.*

Davis, B., Stafford, M., & Pullig, C. (2014). How gay-straight alliance groups mitigate the relationship between gay-bias victimization and adolescent suicide attempts. *Journal of the American Academy of Child and Adolescent Psychiatry, 53*(12), 1271–1278. https://www.jaacap.org/article/S0890-8567(14)00662-5/pdf

Donnellan, A., Hill, D., & Leary, M. (2010). Rethinking autism: Implications of sensory and movement differences. *Disability Studies Quarterly, 30*(6), 1–11. https://doi.org/10.3389/fnint.2012.00124

Fetner, T., & Kush, K. (2008). Gay-straight alliances in high schools: Social predictors of early adoption. *Youth & Society, 40*(1), 114–130. https://doi.org/10.1177/0044118X07308073

Interactive Autism Network Community. (2010, June 15). *Autism treatment: What do we really know?* http://www.iancommunity.org/cs/what_do_we_know/overview

Kitchin, R. M. (2000). The researched opinions on research: Disabled people and disability research. *Disability & Society, 15*(1), 25–47. https://doi.org/10.1080/09687590025757

Kosciw, J., Greytak, E., Zongrone, A., Clark, C., & Truong, N. (2018). *The 2017 national school climate survey: The experiences of lesbian, gay, bisexual, transgender, and queer youth in our national schools.* GLSEN.

Lee, C. (2002). The impact of belonging to a high school gay/straight alliance. *The High School Journal, 85*(3), 13–26. https://doi.org/10.1353/hsj.2002.0005

Linton, S. (1998). *Claiming disability: Knowledge and identity*. New York University Press.

McKee, A., & Sandoval Gomez, A. (2020). The voices of typers: Examining the educational experiences of individuals who use facilitated communication. *Disability Studies Quarterly, 40*(4). http://dx.doi.org/10.18061/dsq.v40i4.6981

Mena, M. A., Rodriguez-Navarro, J. A., Ros, R., & De Yebenes, J. G. (2008). On the pathogenesis and neuroprotective treatment of Parkinson disease: What have we learned from the genetic forms of this disease? *Current Medicinal Chemistry, 15*(23), 2305–2320. https://doi.org/10.2174/092986708785909148

Mesibov, G. B., & Shea, V., (2011). Evidence-based practices and autism. *Autism, 15*(1), 114–133. https://doi.org/10.1177/1362361309348070

National Autism Center. (2016). National Autism Center's National Standards Project (2006-2016). *May Institute.* http://www.nationalautismcenter.org/about/development.php

Pearpoint, J., & Forest, M. (1992). Forward. In S. Stainback & W. Stainback (Eds.), *Curriculum considerations in inclusive classrooms: Facilitating learning for all students* (pp. xv-xviii). Paul H. Brookes.

Poteat, V., Yoshikawa, H., Calzo, J, Russel, S., & Horn, S. (2017). Gay-straight alliances as settings for youth inclusion and development: Future conceptual and methodological directions for research on these and other student groups in schools. *Educational Researcher, 46*(9), 508–516. https://doi.org/10.3102/0013189X17738760

West, E. E., McCollow, M., Kidwell, J., Umbarger, G., & Cote, D. L. (2013). Current status of evidence-based practice for students with intellectual disability and autism spectrum disorders. *Education & Training in Autism & Developmental Disabilities, 48*(4), 443–455. https://www.jstor.org/stable/24232502

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Adapting an In-person Transdiagnostic Social Skills Program to Online Delivery: Technology to the Rescue

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Abstract

Social skills intervention programs have demonstrated treatment efficacy in session but putting that knowledge into practice is a critically important component. It requires simultaneous development of related essential skills, like emotion regulation and resilience. Additionally, transdiagnostic treatment methodologies, which are more cost-effective and increase accessibility, have become increasingly popular. However, accessibility remains a problem for in-person programs. LUNCH Groups® (www.lunchgroups.com), an in-person transdiagnostic program, incorporated various technology-based assessment and intervention elements as part of the original program design. These included a customized online assessment tool, home generalization app, computer animation projects, and online parent webinars. Their inclusion paved the way for a quick pivot to telehealth-based services while maintaining HIPAA compliance. The original in-person program is described along with the steps taken in the switch to telehealth, outlining the benefits and challenges that resulted. Attendance and attrition data indicated no problems after an initial adjustment period that coincided with the onset of the pandemic. Survey data indicated general satisfaction with the revised program structure and curriculum, with significant gains approximating those seen in the in-person version.

Keywords:
Social Skills, Telehealth, Pandemic, Transdiagnostic, Group Treatment

Introduction

Children and adolescents who experience behavioral and social difficulties often face social isolation as their peers form group dynamics that are difficult for them to understand (Schohl et al., 2014). Social skills programs can help children put together a toolbox of abilities for social competence such as effective use of verbal and nonverbal communication, appropriate timing, appropriate topics, and planning situation-specific responses (Spence, 2003). While skill knowledge is helpful, putting that knowledge into practice is a critically important component (Bandura, 1977; Gates et al., 2017; Schohl et al., 2014; Spence, 2003). The transition from practicing and competently applying social

skills in controlled, structured environments to more dynamically changing, less predictable, naturalistic contexts can be challenging. It is critical to help individuals simultaneously develop related essential skills like emotion regulation, resilience, attentiveness, and awareness of self and their environment (Gale et al., 2017; Spence, 2003).

Social skills treatment spans a broad spectrum. Of the most commonly used interventions, notable differences include the level of structure (ranging from primarily instruction-focused to peer-mediated group games) and the element of parental training (Gates et al., 2017). A strong example of a replicated evidence-based social skills intervention method has been demonstrated in multiple programs (e.g., PEERS® Program, Summer Treatment Program (STP)). These implemented high structure and also supplemented sessions with parent training (Fabiano et al., 2014; Schohl et al., 2014). Additionally, transdiagnostic treatment methodologies, which are more cost-effective and increase accessibility (Barlow & Farchione, 2017), have become increasingly popular with school-aged youth due to rapidly changing developmental profiles and comorbidity (Chu et al., 2016). It has also been found to be effective with social skills treatment (Fernández-Martínez et al., 2020; Gale, 2011). While transdiagnostic treatment strategies have been shown to be effective for supporting youth, accessibility to in-person interventions is limited.

The vast majority of research on online social skills interventions has focused on asynchronous methods, including specially designed online games, instructional modules, and video modeling clips (Soares et al., 2020). Interest in the use of virtual reality to simulate social learning has also become more common recently (Didehbani et al., 2016; Kandalaft et al., 2013). The translation of in-person social skills groups into an online, synchronous setting, however, has received very limited attention.

Prior to the COVID-19 pandemic, synchronous online therapy, or teletherapy, has been embraced for its accessibility as a valuable alternative to face-to-face treatment (Goldstein & Glueck, 2016). In addition to assessing the feasibility of logistical matters of technology, privacy, and standardization, researchers have examined effectiveness through attendance and attrition data, as well as qualitative information such as satisfaction, connectedness, and engagement (Davies et al., 2020; Weinberg, 2020). At home, a client may feel more comfortable, safe, and willing to be vulnerable. However, it can be prone to far more distractions than a clinician's office, with pets, family members, or toys taking away from the client's ability to focus (Goldstein & Glueck, 2016). It also affects nonverbal cues prompting inadvertent interruptions (Payne et al., 2020).

In a recent survey from June 2020, 128 allied health providers who provided behavioral, speech, and social skills interventions to nearly 27,000 individuals with autism and related developmental disabilities were surveyed. Looking specifically at online group treatment programs, 34.5% found it to be more effective than in-person in some or all areas, 17.2% found it to be equally effective, 27.6% found mixed effectiveness, 13.8% found it less effective but still a viable alternative, and 7% found it to be much less effective (Gale, 2020). In looking forward, 92.4% of these vendors reported planning to create hybrid service delivery models that combined online and in-person.

Online telehealth is still a relatively new modality for running any type of group treatment. Insufficient research exists to demonstrate its effectiveness fully, and clear guidelines are lacking (Weinberg, 2020). With the COVID-19 pandemic outbreak, traditional in-person services ground to a sudden halt, leaving clinicians to rely upon their best clinical judgment to develop and implement variations of existing treatment and novel treatments.

Development of LUNCH Groups®: A Transdiagnostic Social Learning Program

The LUNCH Groups® social learning program, now in its 19th year, began almost by accident. The first author had been consulting at a public school when a fifth grader, who had been bullied and teased, drew a picture. The student who had been bullied drew the picture only after repeated episodes of the alleged bully, a classmate, tripping him, knocking possessions off his desk, and flicking him in the head while passing by, all undetected by the teacher and other staff. Feeling alone and ignored, the bullied student drew three objects on a piece of paper: a boy's face, a gun, and a grave with flowers. He did not show it to anyone, but the teacher caught sight of it.

While such drawings should never be dismissed or minimized, this student was simply expressing his anger ineffectively and inappropriately. He had no means to obtain a weapon (his planning skills were a major area of weakness) and he was highly impulsive – quick to anger and equally quick to forget what upset him in the first place. This did not stop the school staff, however, from informing the parents of the bullied student that their son's drawing would result in automatic expulsion, even though the United States' Individual with Disabilities Education Act (IDEA) required a manifest determination hearing in such cases (U.S. Dept of Education, 2001)

The family elected to fight the decision. Fourteen hours of Individual Education Program (IEP) meetings ensued, with the outcome being that the first author was contracted by the school district to design and

implement a social skills program to teach this student and other targeted peers about anger control, empathy, and peer interaction skills. Ultimately, the district desired this student and others to develop an understanding of the consequences of making threats or engaging in other serious behaviors. Ironically, the student who had engaged in bullying was not required to participate.

What began as a lunchtime meeting serving eight fourth and fifth graders, involving a data projector, portable screen, and laptop for creating computer animation stories and other projects, evolved into two ongoing practice-based, time-limited programs for ages six to 18, split across four age groups (lower elementary, upper elementary, middle school, and high school). To date, over 1600 families have participated in the LUNCH Groups® Social Skills Program.

Core Treatment Targets

Helping individuals achieve a sense of self-efficacy, develop resilience, and become proficient using positive coping behaviors are essential for mastery of social skills. Key components of social skills interventions require real-life settings where individuals need to expend varying degrees of effort to practice and sustain strategies in the face of obstacles and subjectively threatening (but ultimately safe) experiences (Bandura, 1977). To this end, the program has created carefully constructed group experiences in office and community settings, with parents providing opportunities to further develop and practice these skills at home. On rare occasions (not frequently enough), it has been possible to introduce our strategies into the child's school environment, either through individual teacher consultation or a school-wide inservice for educational staff.

While some earlier researchers noted challenges in generalization after successfully teaching essential skills as part of a group training procedure (Berler et al., 1982); other researchers have reported more success with generalization (Laugeson et al., 2012). LUNCH Groups® (www.lunchgroups.com) incorporates various technologies to enhance motivation in targeting traditional social skills involving executive functioning, pragmatic language, social competence, academic readiness, daily living skills, and environmental awareness (Gale, 2011) (see Table 1 below). In addition to addressing traditional social skills, the LUNCH Groups® also addresses externalized behaviors (i.e., disruptive, socially unacceptable, and uncooperative behaviors) and internalizing behaviors (i.e., anxiety, worrying, sadness, perception-based, and fear-based symptoms)

The program came upon its name thanks to the effort of those inaugural student participants. "LUNCH" became an acronym for Learning, Understanding, Negotiating, Communicating, and Helping. The acronym acts as a global mission statement to convey the main tenets of the program. For example, students are reminded that any animation or other creative project shared in the group, has to include one of these primary concepts, and this has been effective in guiding participants to create stories that deliver meaningful messages void of violence or aggression.

Table 1

Primary Treatment Targets

Executive Function	Pragmatic Language	Social Competence
Paying attention Planning/Organization Self-monitoring Self-regulation (emotional control) Effective judgment Working memory Successful coping strategies Accepting feedback	Using and reading non-verbal facial and gestural cues Looking at situations from the perspective of others Knowing when (and how) to "jump in" to a discussion Adjusting language usage to fit the audience	Maintaining effective conversations Knowing how to act in common social situations Giving brief and concise responses Remaining on topic Modulating voice level for different situations
Daily Living	**Academic Readiness**	**Environmental Awareness**
Basic nutritional understanding Understanding the importance of sufficient sleep Maintaining hygiene-related behaviors Trying new foods Global Restaurant behavior Responsible technology use	Remaining seated in class Written and oral comprehension Participating in group activities Focusing on the immediate task or conversation Effective hand-raising Recognizing what is appropriate conversation and social boundaries for school	Pedestrian safety Effective behavior in community settings, such as restaurants, stores, malls, parks, and community events Knowing what is safe vs dangerous in the community and taking appropriate cautions

Global Program Components

Many details need to be considered in developing a viable program. Below are some of the primary program areas of the LUNCH Groups®, with a discussion of how program elements may be (and have been) modified to an online delivery format.

Transdiagnostic Approach

Early on, LUNCH Groups® incorporated elements of both school and day camp using a transdiagnostic approach. This meant that the LUNCH Groups® treatment approach could be applied to students with a variety of challenges. The majority of students had executive function and pragmatic skill deficits, learning challenges, or anxiety problems without significant interfering behaviors. A smaller number of students, generally less than 15%, presented with oppositional defiant disorder (ODD), meaning they would persistently argue, appear irritable, refuse requests, or act in a vindictive manner. Our research discovered that as long as the percentage of students presenting with ODD remained relatively low, the involvement of students with ODD in the program did not significantly impact the program quality. Placing disruptive behaviors on extinction, while rewarding any degree of cooperation of the student, has been a successful strategy for working with students with ODD. Furthermore, students who present with ODD symptomatology have benefited from instructional control gained via behavioral momentum techniques.

Some LUNCH Groups® student participants have presented with both internalizing and externalizing characteristics. Once students who present as oppositional reduce or cease their maladaptive behavior, they often demonstrate an underlying lack of self-confidence, experience performance anxiety, and speak negatively about themselves. It has been important to protect these students who initially might have presented as disruptive and defiant as well, since their initial belligerence might have been off-putting to peers and/or misinterpreted by peers and staff. Many students with ODD lack the skills necessary to address their internalizing feelings once their antisocial behavior is better controlled. It has been our researchers' experience that problems with oppositional behavior manifested in groups rarely continues beyond a couple of sessions.

Children who exhibit extreme shyness, even selective mutism, have also participated in LUNCH Groups®, with their numbers limited to less than 15% of the group. Such children are typically able to speak at home with no problem but refuse to speak at school or in other public settings. As with oppositional children, children with extreme shyness or selective mutism have been rewarded for extremely small approximations of speaking behavior, such as a head nod. This provides a feeling of safety while exposing them to numerous participant modeling opportunities, ensuring that they are not asked to actively participate at levels they find unmanageable.

There have been many benefits to opening the LUNCH Groups® program to students who present with a wide range of behavioral challenges and characteristics. Because they are all dealing with different challenges, students also present with a wide variety of strengths. For example, an advanced student may act as a model for demonstrating reading comprehension or critical thinking skills, but they typically may need to work on not constantly raising their hand or critiquing others. A good-natured but inattentive student may model turn-taking and complimenting peers, while a shy student may appear alert, and yet, actually be attentive. In other words, the program plays one child's skills off another's. Students learn to develop tolerance for others' differences through perspective-taking and empathy development. These can be protective factors for reducing bullying (Horne et al. 2012; Trip et al., 2015). The drawback is that if the group is not properly balanced, more time is needed on behavior management aspects.

Internalizing students focus more on their own thoughts and feelings, which can be difficult for others to observe, e.g., anxiety or shyness. Asocial students have little desire for social interaction. Both of these groups experience group interactions quite differently than those who engage in more prominent externalizing symptoms. This is especially important during the first few sessions. The trajectory for improvement varies depending upon these students' characteristics. For students with more internalizing characteristics, it is important to recognize the mere experience of being around new students can be anxiety-provoking. Taking steps to ensure the group environment is perceived as a safe setting is paramount.

Group sizes have varied significantly over sessions. For the elementary school groups, there can be up to 12 and for the older groups, up to 18 participants. Ethnicity ranges from program to program, based upon referrals.

Pivoting to Online

Very few changes have occurred in the transdiagnostic method of participant selection. Previously, assessment occurred to screen for potential harm to peers, especially with students with more severe levels of attention deficit hyperactivity disorder (ADHD), autism spectrum disorder (ASD), and ODD. A standing treatment exclusion has been requiring zero levels of physical aggression during the previous six months. Fortunately, no peer has been physically

injured due to the behavior of another peer. Since there is no physical contact in online treatment, this screening step became irrelevant, and students have been successfully accepted online where there might have been more reservations based upon prior history.

The groups have reduced in size since moving to online, with a maximum of eight attendees for the elementary school programs and up to 12 students for the middle and high school groups.

Initial Assesment

In developing the assessment methods for LUNCH Groups®, a primary goal has been to determine the necessary essential information to identify target behaviors and measure progress. The assessment process was designed to balance the information-gathering process while making it as comfortable as possible for the child potentially entering treatment. There are three discrete steps: parent interview, behavior survey, and child interview. These identify adaptive prosocial behaviors to be increased and the frequency and severity of specific interfering behaviors to be decreased. In meeting with the student, the goal was to better understand their level of language expression and comprehension, plus their level of pragmatic understanding. As a result, the following process emerged:

Step 1: Parent phone consultation

Family members are scheduled for an initial telephone interview, typically lasting about 30 minutes but occasionally lasting up to an hour. Parents typically ask questions about the program during this time. This portion of our process has remained unchanged during our pivot to online intervention. A semi-structured approach is used to gather information about the child's school situation, which helps to target relevant academic skills. Other areas include social relationships, hobbies, outside activities, sibling relationships, sleep, independence, eating habits, and medical information.

This also begins the parent education component about their expected role in the process, advocating an authoritative parenting style as opposed to authoritarian or permissive (Lavrič & Naterer, 2020; Steinberg et al., 1992). This occurs in greater detail during the subsequent parent orientation.

The final portion of the parent interview asks them to identify the most important areas to address. Most parents will make a global statement about wanting their child to "behave better" or "socialize more." If necessary, information from the interview and the results of Rapid Screener® are used to help them identify more easily observable behaviors. Below are some samples from prior assessments:

- "... to improve in his tele-learning skills, to be willing to sit and be engaged, to help him learn to manage distractions, as well as managing his negative emotions more effectively." (Age 7)

- "... to be more accepting of others' ideas and to be more aware of times when she is acting in a more strident manner with peers. Helping her to have more balanced and reciprocal interactions, recognize and control when she is interrupting others, and pay attention are additional goals." (Age 9)

- "... to expand to new and different textures in foods, have better table manners, say "hello" and "goodbye" (she has never done this), and reduce her self-stimulatory behavior." (Age 13)

- "... to interact more appropriately with his peers. Goals also include increasing his level of independence regarding his hygiene." (Age 17)

Step 2: Online assessment

Families complete an online social-emotional assessment of their child's behavior using Rapid Screener®, a HIPAA-compliant single or multi-rater wide-band tool (Gale, 2011). It was designed to complement other common social skills assessment tools, such as the Behavior Assessment Scale for Children (BASC), Child Behavior Checklist (CBCL), and Social Skills Intervention System (SSIS) (Anthony et al., 2020; Cui et al., 2004; Papazoglou et al., 2013). It is composed of six adaptive clusters that mirror those described earlier and the five interfering behavior clusters cover a similarly broad range, including symptoms consistent with oppositional defiant disorder, conduct disorder, autistic spectrum, anxiety spectrum, depression, thought disorders, and trauma. Previous research indicated that Rapid Screener® results compare favorably to the SSIS (Harrell & Gale, 2014). One unique feature of this tool is that it permits raters to report how much behavior change/progress has been observed over a specific period of time. The typical completion time is 15 minutes, although some raters complete it in as little as eight minutes.

Step 3: Student interview

One of the greatest challenges has been how to usefully assess a student while not turning them off to the idea of participating in our program. During the in-person meeting portion of the assessment, how the parent and child enter the physical interview room can be most telling. Some children come in sullen, rude, silent, or ignoring the assessor. The parents had previously been informed the meeting is "95% for their child".

The child is initially asked what they know about our program. These answers are typically revealing. Sometimes they will respond that they had no idea they were coming for an appointment, which creates an opportunity to commend them for being so flexible. Other times, they say they have come for a "social skills

program." This permits further inquiry and explanation since they rarely understand what that means. A therapy dog has been part of the program since two years after its inception. The animal is kept in another room as the student was asked if they wanted to meet it while explaining the animal was very friendly and liked kids. This is typically a positive element, but occasionally it elicits dog fears. In the past five years, only one child declined to meet the therapy dog, and this decision was respected despite the parent trying to persuade them into doing otherwise.

The parent and child transition into the larger meeting room, equipped with a large movie screen and data projector. Depending upon the child's age and functioning, they will be shown either an animation and/or video snippets from previous LUNCH Groups® sessions.

Using Animation to Assess Pragmatic Understanding

The length of the animation is limited to those that are three minutes or less. Watching how the child attends, reacts, and responds subsequently can provide valuable information. By using animations with no dialogue, it becomes a purer measure of nonverbal understanding without the confound of oral language comprehension.

Using Video to Evaluate Social Understanding

Children typically view a 12-minute video depicting various events from previous programs (Groups between 2007 to 2012). This provides both samples of how the group operates and provides opportunities for the child to indicate their understanding of various scenes. Some of the areas covered include understanding relationships and examples of participant modeling (Bandura et al., 1975). The latter is an essential treatment component that is integrated with the use of social beacons. Other aspects of the video include seeing positive practice where a student repeats a behavior to gain mastery and fluidity. All of these methods have translated to an online approach without difficulty.

Teenage Consent to Participate

There are special rules when a student is 16 and older in that they are directly asked if they want to participate. As long as they do not actively refuse, they are accepted for treatment. Since implementing this policy, only a few adolescents have adamantly refused to participate.

Pivoting to Online

With the exception of moving from in-person student interviews to an online format, the process has remained nearly identical. It is now possible to complete assessments in a few days since scheduling and transportation barriers are reduced or eliminated. Once the initial assessment is completed, parents participate in a live webinar or recorded webinar to ensure they are exposed to our basic principles of applied behavior analysis and social cognition theory, with an emphasis on developing learning skills.

Time-Limited Treatment

Having a fixed time period and cost has facilitated receipt of referrals through school districts and the Department of Developmental Services (DDS). It has also proven more affordable to families. Fees are set by the DDS and families pay a separate materials fee for raffle prizes and guest presenters. Lower income families are accommodated.

The school year program runs for eight months, from October through May, with after-school student meetings held twice monthly (see Table 2). Holding meetings for 90 minutes has resulted in reduced attrition and increased overall attendance. Additionally, it provided a more suitable period for practicing essential skills.

During the schoolyear, in-office parent meetings were held monthly prior to the pandemic. Parents reviewed videos of their children and discussed the strategies presented to them by the trainers. Additionally, a monthly online webinar covered behavior basics, the implementation of authoritative parental strategies, and related areas. These meetings were conducted "radio show" style, in which parents are encouraged to ask questions about their children. They could speak online or use the chat function; in which case their question or situation was presented anonymously. The groups' customary in-person schedule is depicted below in table 2.

Table 2

School-Year Program Treatment Schedule

	Lower/Upper Elementary School	Middle/High School
Start Time	4 PM	4 PM
Session Length	2 hours	2.5 hours
Frequency	Twice monthly	Twice Monthly
Meal type	Shopping/Snack at start of session	Restaurant meal second half of session
Live Parent Meetings	Monthly (90-120 minutes) in office	Monthly (90-120 minutes) in office
Parent Webinars	Monthly, 1 hour	Monthly, 1 hour

Table 3

In-Person Summer Program Treatment Schedule

	Upper Elementary/Middle School	High School
Start Time	9 AM	9 AM
Session Length	7 hours	7 hours
Frequency	10 sessions (MWF)	7 sessions (Tu, Th)
Meal type	Morning/Afternoon snacks, lunch	Morning/Afternoon snacks, lunch
Parent Meetings	Weekly, 1 hour, weekend meetings	Weekly, 1 hour, weekend meetings
Parent Webinars	Weekly, 1 hour (telemeeting)	Weekly, 1 hour (telemeeting)

In addition to the typical school-year treatment program, the LUNCH Groups® offers a summer alternative as well (see Table 3). The summer program approximates a typical camp session period, with both indoor and outdoor activities, plus field trips to the zoo, museums, bowling, and other recreational activities.

Separate parent meetings are held for the elementary level groups and for middle/high school groups. An extra meeting is available for all groups combined. Parent participation is considered mandatory. Families who do not attend are contacted to encourage participation. The program is run by the first author and previously additional master's and doctoral level staff have also run the program. Paraprofessional staff receive initial training prior to assisting plus ongoing supervision and case conferencing.

Pivoting to Online

On March 10, 2020, the last in-person program was run, with several absences. One week later, the online version of the four programs was launched, retaining approximately 90% of families. For the school year program, the format was changed to weekly meetings, and this model has been maintained for 2020-2021. During in-person sessions, natural breaks are built into the program, i.e., walking, transitioning to and from snacks, etc. For the online version, students are provided seven-minute breaks half-way through for the 60-minute meetings and seven to ten-minute breaks two-thirds of the way through the 75-minute programs. Monthly parent meetings have continued, however, strictly online.

For the summer 2020 program, the program was condensed to six 90-minute sessions. Parent participants later reported that they desired the summer program to have lasted longer and included more sessions. Our researchers are revising the program for this coming summer to meet the parents' needs.

The future plan is to offer a hybrid program, where those students who can safely participate in an in-person program will do so with proper precautions. Students who participate via telemeeting will be able to participate for an hour of the office-based portion of the program.

Membership Status

Group members are either categorized as "New" or "Alumni," the latter reserved for those who have continued or returned from the previous session. Approximately 60% of members are returning Alumni. There is no maximum number of times a participant can attend, but most families participate for two to four courses of the program. Alumni members are called upon to explain the group rules and provide related information about raffles and other activities to new members during the introductory session. They may be given additional responsibilities, including leading selected activities. There is no formal reassessment for continuing students unless they have not participated in the program in more than one year. In that case, the online assessment tool is readministered to gather baseline data, and parents are briefly interviewed to learn about major life changes.

Pivoting to Online

No change in any procedures regarding the use of membership designation occurred during the switch to online treatment.

Reinforcement Procedures

LUNCH Groups® uses a variety of reinforcement procedures, which include raffles, social beacons, and LUNCH Points™. Prior to raffles being held, students

Table 4

Online Program Treatment Schedule

	Lower/Upper Elementary School	Lower/Upper Elementary School
Start Time	3:30 PM	3:30 PM
Session Length	1 hour	1 hour
Frequency	Weekly	Weekly
Meal type	Encouraged to have snack	Encouraged to have snack
Live Parent Meetings	Monthly 60 minute telemeetings	Monthly 60 minute telemeetings
Parent Webinars	Scheduled for final 3 months	Scheduled for final 3 months

earn blue tickets for commonly expected behaviors, such as remaining attentive for sustained periods and raising their hand without calling out. During outings, students are rewarded with raffle tickets for effective listening, staying on topic, vocal intonation, and showing interest. Since it occurs in public, points are tallied on a sheet instead of physically awarding tickets. Hero tickets are reserved for important behaviors that occur less frequently, such as peer consideration, emotional regulation, and distress tolerance.

Students who already perform at high levels act as social beacons. They are sometimes rewarded in order to gain the attention of their peers, inducing them to model that behavior. Rewards may also be given to peers who notice and comment on what they observed (e.g., "Did Rick just get a ticket because he's paying attention?"). Newer participants and those with more internalizing characteristics are placed on a denser reinforcement schedule. Invariably, other students will make a positive statement upon observing this (e.g., "Wow, they never give out that many)," which enhances the rewarding event's potency. Variations occur, such as giving initial larger rewards to oppositional students for appropriate modeling or using group contingencies.

LUNCH Points™ is an online app developed to help parents effectively reinforce any of approximately 70 prosocial behaviors tied to Rapid Screener®, an online social-emotional assessment tool, to promote home generalization. Target behaviors include homework completion, hygiene, getting to bed on time, getting along with siblings, effective decision-making, and tolerating minor distress, plus levels of independence and behavioral fluidity are rated. Parents are encouraged to give the LUNCH Points™ Certificate at least a few days prior to the next session.

In a school year program, there are typically three raffle sessions spaced out at two and a half month intervals. Each consists of a blue ticket and hero ticket raffle, held separately. During initial sessions, students in the group discuss what kinds of prizes they wish to win. On the day of the raffle, the students' tickets are drawn. The winner goes to the adjoining room and selects their prize. Positive behavior is modeled, practiced, and reinforced even when the students retrieve a prize. Students who show more symptoms of generalized anxiety disorder (GAD) or general indecisiveness may be given a time extension, letting them know they can return after the next student has taken their turn if necessary.

Pivoting to Online

Several changes occurred in the move to online. It has been helpful to shape and reward students for positioning themselves properly online. Increasing both the number of raffles and the frequency of presenter presentations has also facilitated interest (e.g., animal expert, children's author, comedian, music composer).

Raffles are now held approximately once every six weeks, down from ten weeks. Instead of tickets, the students' names are tracked on a spreadsheet and are copied onto a digital roulette wheel. The prize levels are divided into three slightly different amounts, and the prize totals are combined into a single gift card value. After all of the students have been awarded their prize money, they shop online, the link is captured and sent to their parents along with the gift card. Parents receive instruction on how to interact with their children to make it a productive experience.

The use of social beacons has been modified. While tickets could quietly be awarded via the chat function, others would not see it unless the chat feature was made public (kept off due to previous problems). Typically, tickets are announced to the group, though individual chat messages are sent when it is determined the student might be embarrassed by having their positive behavior acknowledged publicly (especially true in the early phases with internalizing students).

Novel methods for increasing student motivation are currently being piloted. For example, after a student with previous oppositional behavior reported that he had improved in reducing homework completion time while also maintaining emotional control for his "positive share of the week" activity, an award certificate was named after him. The other students were informed that they could also opt to commit to working on challenging behavior. Several students have chosen to target specific challenging behaviors since that time. Group leaders intentionally do not inform the parents of the specific challenging behavior that the child has chosen to target for improvement. Instead, the parents receive an email one day prior to the subsequently scheduled group, asking if they have noted any behavioral changes within their child. If the parents detect a positive behavioral change corresponding with the student's targeted behavioral change, then the group participant receives an additional acknowledgement in the form of a unique certificate during group. During the four sessions in which this practice has been in effect, nearly all the students committed to changing specific behaviors. Over one-third of parents' independent reports matched with their child's improved targeted behavior.

Session Curriculum

The school year and summer programs have a clear structure. However, within that, the program is very much dynamically driven. Engaging in large and small-

group activities (e.g., computer animation projects, games, and eating out) has resulted in a naturalistic environment that uniquely targeted each child's skills deficits. Quickly switching activities, letting students take over a leadership role, and splitting up into smaller groups then returning as one large group have been effective strategies for improving executive function skills. Students are routinely rewarded for spontaneous participation, consideration toward peers, inoffensive humor, self-regulation, and behavioral fluidity.

The eating aspect had been a major component. For the elementary school age groups, working on shopping skills, awareness of others, effective communication in public, regrouping to eat together, and trying new foods have been primary targets for skill development. For the middle and high school groups, trying novel restaurants, behaving politely in a restaurant, pacing while eating, and hygienically sharing items (e.g., appetizers, splitting meals) are some of the related life skills addressed.

In both programs, the naturalistic and comforting environment associated with consuming food serves as a petri dish for growing and developing conversational skills.

Pivoting to Online

The loss of being able to shop for and consume snacks and go out to eat together has been a significant change to the program, and many alumni students have stated they miss this activity. Students are encouraged to have snacks during online meeting time, but it just is not the same. The focus has narrowed to enhancing tele-social and tele-learning skills while devising other means to promote generalization. The creation of online games to promote leadership and social interaction has helped to take the place of social activities previously derived from sharing meals together in-person

Using Computer Animation

The process of creating PowerPoints, animations, and strip comics has been compelling and flexible. Aligned with research on parent praise for effort rather than outcome (Gunderson et al., 2013), there is a greater focus on the process of creating a project as opposed to trying to make it perfect. Some students are selected for more prominent roles (i.e., speaking parts), while others may select a specific character, create dialogue, choose music, pick a specific background or theme, or act in a myriad of other ways to participate effectively. Examples include joke-telling projects, creating and narrating original stories, and making group holiday cards.

Pivoting to Online

The use of computer animation during sessions has changed very little between in-person and online program formats, although projects take longer than they did in the office. More importantly, during in-person, students would often engage in short, quiet conversations with nearby peers while some technical aspect occurred, such as resizing a graphic or rendering an effect. Helping them practice keeping their voices down and returning their attention to the group task appeared to help with self-monitoring and conversational skills. This has not been possible online. Students were initially permitted to use the "chat feature" built into telemeeting software, but this resulted in more inattention and one-sided, disjointed chat exchanges. As tele sessions have progressed, students appear to be taking more of an interest in one another's lives. Most sessions begin with students relaying a positive event from the previous week, and it has been impressive observing this practice evolve with an accompanying sense of camaraderie and prolonged spontaneous interaction.

Parent Intervention

Parent support and education have multiple components. These include live in-person, or recorded orientation webinars to help parents understand the program's theoretical orientation (a blend of applied behavior analysis, social cognitive theory, and cognitive-behavioral theory), ways to support their child, and specific strategies to use (and avoid). The kinds of behaviors covered in the program are discussed. Additionally, how sessions operate, safety and emergency procedures, and specific intervention strategies, are reviewed. An important element involves how to drop off and pick up their child. This seemingly simple activity often is the genesis for problems. Examples that interfere with program participation include arguing on the way to group, threatening a child with a negative consequence to occur after group because of a school report, promising the child a treat for attending group, and telling them to "try it," while informing them a parent will be nearby if they do not like it.

During in-person sessions, parents review snippets of recent group videos. Additionally, webinars were held covering many of the procedures and techniques used in the group. These include teaching techniques such as instructional control, behavioral momentum, contingency management, differential reinforcement, prompting and modeling, and cognitive-behavioral interventions designed to help their children use more effective problem-solving strategies. Parents also use email consultation

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Pivoting to Online

The parent support component has been one of the easiest and most successful changes. Previously, parents would sign up for office meetings, canceling at the last minute due to transportation, childcare problems, and other unexpected events. Now that parent meetings are solely online, attendance at parent meetings has tripled. Additionally, while video snippets either had to be compiled or shown in an unedited format, now there is a single continuous video recorded for each session.

Managing the Administrative Process

Fortunately, much of the existing procedures occurred in an online environment before the pandemic. The HIPAA-compliant version of Formsite.com is used to create and manage intake forms, treatment agreements, release forms, Rapid Screener® data, and feedback surveys. Reports are created and stored in the HIPAA-compliant version of Google. Outcome data is posted on the program website.

Below are some of the amendments made to the Office Policies and Agreement for LUNCH Groups® in the move to online services. These were designed to improve client confidentiality and safety, facilitate increased attention, reduce distractions, address emergency situations, and provide a means for managing technological challenges:

- I will not permit photographing or recording of the on-screen images of any of the participants.
- Another responsible adult or I will be on site but not in the immediate vicinity during the time my child participates in the Telehealth session (except briefly to solve technical problems).
- I will provide my child with a quiet space that is free of distractions during the time they participate in the Telehealth meeting.
- I agree to be responsible if my child or I experience a crisis or medical situation during the course of the Telehealth meeting.
- I will let LUNCH Groups® staff know if I encounter problems using the technology.

Program Analysis

Attrition

Attendance to group sessions was reviewed as an objective measure of program feasibility, clinical utility, and engagement. Analyses were primarily conducted using archived data originally collected for internal program evaluation purposes and to engage group participants and their families in the clinical process. As such, raw quantitative and qualitative data collection were not standardized across programs. Similarly, the duration and number of sessions ranged across programs. All attendance data were standardized by calculating and comparing the proportion of sessions attended.

Group attendance was analyzed to compare the potential impact of moving from in-person to online. Between July 2019 and December 2020, we compared the attendance percentage across our summer and school year programs during five different time periods (see Fig 1 below). Due to the brief but intensive nature of the summer programs (2019-in-person; 2020-Online), attendance to all sessions was calculated. Conversely, a three-month period was assessed for each of the school year programs (2019-2020-in-person; 2019-2020-Online; 2020-2021-Online). Doing so kept the number of sessions and time duration per sample relatively balanced.

A total sample of 178 data points was collected across all five programs. Students were able to participate in multiple programs if they were determined to be clinically appropriate for continued services. In the Summer 2019 in-person program, there were zero early terminations, and this was maintained for our Summer 2020 online program. Six students, 12%, dropped out during the in-person 2019-2020 program, higher than usual. Reasons for drop out included severity of problem behaviors, transportation issues, scheduling conflicts, and loss of interest. In transitioning to online, an additional four students did not continue. Once the online program was underway, with 38 unique students, three students terminated early due to preference for in-person services. Since then, no families have terminated early (through December 2020).

Figure 1

Timeline of LUNCH Groups® Programs from June 2019 to January 2020 and Number of Students Analyzed, Per Group

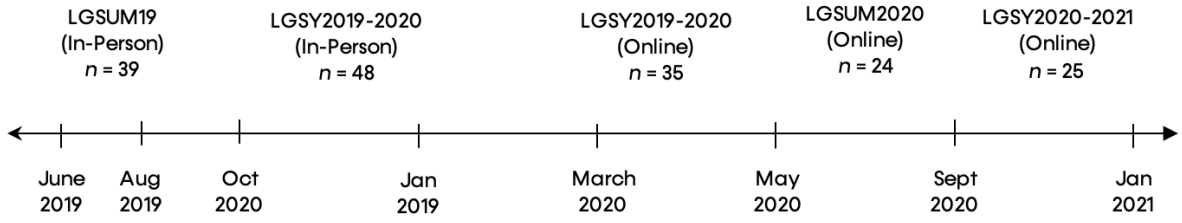

Table 5

Summary of Rates of Attrition for Students Across LUNCH Groups® Programs

Program	Platform	Baseline	Terminated	Completed	
		n	*n*	*n*	%
Summer 2019	In-Person	39	0	39	100
School Year 2019-2020	In-Person	52	6	46	88
School Year 2019-2020	Online	38	3	35	92
Summer 2020	Online	24	0	24	100
School Year 2020-2021	Online	25	0	25	100

Reviewing rates of attrition across programs suggests zero attrition during both intensive summer programs, regardless of the environment (In-Person and Online). At the three-month mark, attrition rates were similarly consistent with the Online LUNCH Groups® 2020-2021 program. Conversely, greater attrition rates were observed during the in-person and online LUNCH Groups® 2019-2020 School Year Program, with 88% and 92% of participants completing the program, respectively.

Attendance

Looking at the rate of attendance, significant differences were noted in comparing five different LUNCH Groups® programs, $F_{(4, 166)} = 8.155$, $p < .001$. Using the Tukey method for posthoc comparisons, those in the online version of the 2019-2020 LUNCH Groups® School Year Program ($M = .887$) and those in the Online 2020-2021 LUNCH Groups® School Year Program ($M = .944$) had significantly higher rates of attendance relative to those in the traditional, in-person version of the 2019-2020 LUNCH Groups® School Year Program ($M = .764$), with 95% CIs of [.022, .222] and [.069, .290], respectively. Rates of attendance did not significantly differ between the two online versions of the School Year program, 95% CI = [-.060, .175], $p > .05$. Similarly, rates of attendance did not significantly differ between the in-person and online versions of the Summer Programs, 95% CI = [-.104, .128], $p > .05$.

Before the pandemic, attrition and attendance rates reflected common logistical limitations of traditional psychological services, including travel and scheduling-related challenges, particularly during the school year. Problems have arisen given that students are spending their full day in class and then require the caregiver or other supportive adult involvement to commute to our program. Observed differences in rates of attrition and attendance across timepoints may suggest that online-based services lower the barriers to attendance. The slight drop off in the number of students enrolled in the program following the transition to online services may be linked to the stress of adjusting to "pandemic life," technology fatigue, lack of familiarity and understanding associated with telehealth services, or program changes that no longer appeared aligned with the family's goals for treatment. However, when caregivers and their children were aware of and had committed to telehealth treatment, they may have been able to adapt implicitly held expectations for the family and therapist roles, the therapeutic process and environment, and outcomes. In particular, when expectations for online services were made clear at intake, rates of engagement and attrition appeared similar across programs.

Results

Feedback from the Students and Families

Due to the clinical nature of the LUNCH Groups® program in unity with the unanticipated transition to online services, data collection was not systematic across programs; however, direct feedback was elicited from students and families at various points in order to inform the development of ongoing online programs. Data from 23 children enrolled in the Summer 2020 online Program indicated that 83% of students would recommend that "other children come to a group like this," 4% of students indicated that they would "maybe" recommend the program, and 13% indicated that they would not recommend the program. This is consistent with parent feedback for this same period indicating that 96% of parents would recommend the program to other families. It is also consistent with prior parent-report data indicating that 85%-95% of students reported enjoying the program, 65%-74% made significant gains, and 40% of students showed evidence of generalization (Gale 2012).

More extensive feedback was gathered from the families who completed the interim survey half-way through the School Year 2020-2021 program (a total of 26 families participated in the school year program). A total of 26 families participated in the school year program. Data were excluded for four families that had only recently joined the program. With a sample of 22 students, 77% of parents reported that the program structure and curriculum appeared to meet their child's needs, while 18% reported "No Opinion" and the remaining 5% disagreed. Regarding positive behavioral changes associated with the program,

68% of families reported observing at least one major change in their child (would have been 64% with *N* = 26), and 82% of families reported observing minor changes. Overall, 64% of families rated the program positively; 28% of families rated the program as "excellent"; 36% rated it as "very good"; 32% of families rated the program as "good"; and 4% rated it as "fair." Parents cited their children's global overuse of virtual communication following the pandemic as the most common reason major behavioral changes might not have been observed.

Sample qualitative feedback received from parents (*N* = 22) regarding behavioral changes and outcomes observed in relation to participation in the School Year 2020-2021 program included:

- "His class interactions have improved, especially in breakout sessions with the other kids. He really struggled at the beginning of the school year and was typing things in chat and being disruptive. I think having the LUNCH Group® be in a similar format to school has helped."
- "Improved regulation when faced with unwanted demands."
- "More respectful"
- "More organized...keeping up with the schedule without or very little prompts."
- "He is learning to control his emotions better. When things don't go his way he always puts his face in his hands. I noticed he does less of this and he seems to be happier in life."
- "He became more patient than before."
- "Not sure. It sounds like she wasn't exhibiting behaviors early on"
- "I have noticed no changes."
- "Increased ability to sit, pay attention and follow instructions."
- "Engaging in more socially appropriate ways online."
- "He is starting to acknowledge when you ask something."
- "[Student] has shown better affect regulation in the past 6 months."
- "More flexibility "
- "Frustration tolerance improved"
- "More control over his urge to play with the mouse and keyboard even though not a completely resolved problem"

In general, rates of reported behavioral change fell slightly below those obtained from parents participating in prior in-person programs which averaged 74% observed major gains for the period 2008 to 2017 (Gale, 2018). Conversely, these rates suggest improvement from the online 2020 Summer program (Gale, 2020). The most common comment raised by parents in the 2020 Summer Program was that the limited duration of the overall program (six sessions) was not enough to identify and work on behavior change. The online 2020-2021 School Year program addressed this feedback by reinstating the treatment duration to October through May while limiting the weekly session length to 60 or 75 minutes of the group per week to reduce fatigue. The present results suggest that 92% of families are comfortable with the frequency of online meetings while 8% would hope for more frequent meetings. Eighty-five percent of families are comfortable with the duration of each meeting, while 8% perceive the sessions as too long and 8% perceive the sessions as too short. Concerns related to session frequency and length in the present online program was "NOT the length of the program; it's that everything's online and it's become too much," as one parent enunciated.

Parents with children who had previously participated in one of the traditional, in-person programs (*N* = 16) were specifically asked to highlight perceived benefits and challenges associated with each environment.

- "Nothing compares to the in-person program! However, the goals of social skills and adaptive skills are the same regardless of the platform."
- "Online social skills are new and so difficult."
- "In the in-person meeting, you were able to practice a different lifestyle & that was a new & good experience for [Student], like going to different food places & trying new things."
- During online meetings, [Student] can lose focus easier, he doesn't have the drive to participate in conversation, it is more difficult for him to try to make friends."
- "[Student] really misses the in-person program. I think he really enjoyed being social in-person and going out to dinner."
- "Online feels very controlled and productive. We miss the in-person social interaction that gives better feedback about social skills."
- "Lots of pros. [Student] likes computers so tele-Heath has helped him."
- "in-person - super effective for kids and parents alike. Virtual - mostly effective for us parents as an ongoing review of how to better manage with [Student]."
- "Online keeps him calmer, but nothing beats in-person socializing."
- "The only pro of the online program is saving time on travel, but that's negligible. Otherwise, can't wait for the program to be back to in-person mode."
- "Less personal time for kids to chat with other kids."

Themes emerged within the feedback offered by parents, identifying both strengths and drawbacks associated with the implementation of an online model for social skills groups. Reported benefits of the online program have included more personalized interactions with peers and staff, more practice with reading peers' facial expressions, increased opportunities for students to practice self-management and self-regulation, as well as increased engagement among students with interest in computers and technology. Feasibility and acceptability were also highlighted as key benefits of the online model. In particular, the reduced commute appeared to increase access to group activities and parent meetings. Challenges associated with the online program have included limited naturalistic interactions among the students/increased staff guidance in the group environment, reduced opportunities to practice community-based activities (e.g., going out to dinner), and increased difficulty maintaining focus.

The research suggests that the present online model of the online LUNCH Groups® program may hold clinical utility and be an effective support for children with transdiagnostic challenges, particularly when online services serve as an adjunct to in-person engagement. However, the pandemic and lockdown circumstances surrounding the implementation of a purely online model may be interfering with the potential for, and generalization of, gains. This may indicate that the online model of the LUNCH Groups® program may serve as a beneficial tool for supporting students overall and may be perceived more positively when integrated as an adjunct to in-person engagement. The biggest limitation is that generalization is presently limited to face-to-face family interactions and tele-socializing due to social distancing. We know that practice with peers is an essential part of the process. Once this element has returned, it will be interesting to see how online treatment compares to in-person.

Discussion and Conclusions

The utility of in-person social skills programs has been firmly established through a variety of intervention models. The sudden emergence of a world-wide pandemic has sharpened the need to confirm the efficacy of online variants. While in-person service may provide a superior treatment experience for some students, online treatment benefits have emerged as well. For some families, the barriers to treatment involving transportation and other logistics may result in no treatment, inconsistent treatment, or premature termination. For these families, telehealth delivery for group treatment may be their best option.

Some of the challenges associated with the development of telehealth-based social skills groups include the development of a curriculum that is both meaningful and sufficiently engaging for students. One of our greatest challenges has been with middle school students who appear to be playing games, watching videos, or otherwise engaged in distracting activities during group. A few interventions are currently being piloted to address this concern. Fortunately, looking at the program as a whole, this has been a problem for only about 15% of our participants. Finding a suitable spot to participate in the group that provides comfortable seating and little environmental interference has also been a challenge to the online delivery model. During session, environmental interference has included parents walking in the background, on their own phone calls, unaware that the group is hearing everything they can say.

After treating about 70 students for nearly a year across three different program delivery models (in person, virtual limited-treatment summer session, and virtual school year session), fortunately, there have been no significant crises and the emergency procedures of contacting the parent by phone or email when a serious concern has arisen have worked out as expected. However, a HIPAA violation nightmare was narrowly averted when a parent snapped a photo of her daughter during a session and planned to post it online. Apprising families of the limitations and potential risks of online treatment and maintaining a vigilant approach is essential.

Learning to reformulate the pace of treatment services in the area of parent education has been an important element. Wearing so many hats right now, parent, teacher, hall monitor, technology support, and playmate, parents are understandably stretched thin. Accordingly, while collecting data, being consistent in their approach to their child, and managing stress are all viable parent goals, although, those goals may seem a bit lofty at present. Understanding each family's situations and resources can lead to more tailoring parent group support. Our researchers are currently piloting such a system using two programs, Knowmia and Teachable, to provide more individualized support. As neither of these solutions is out-of-the-box HIPAA compliant, we are looking at a workaround.

It is extremely important to be familiar with the technology used for telehealth. To that end, videos have been created to help families understand how bandwidth works and what to do if they have an unstable connection. As a provider, whenever possible, a wired connection has proven to be most effective (50 feet network cables come in quite handy).

Our researchers have not normally collected data mid-program, but that turned out to be extremely useful this year, and we will plan to continue this

moving forward. We have modified our survey data to reflect the differences between in-person and online better. Eventually, we will likely need to modify it again when moving to a hybrid model. The greatest challenge to the LUNCH Groups® program has been collecting sufficient standardized pre-post data to document quantitative outcomes. Our survey tools have been sufficient for writing reports and satisfying funding requests from schools and agencies, but they might not be sufficient for broad scale generalization and evidence of efficacy. Our program would benefit from increased quantitative data to support our observations and conclusions. This quandary highlights one of the major challenges with collecting research data within the confines of clinical programs that are not grant-funded. Collecting additional data would require additional staff, materials, time, and funds. In general, families who participate in clinical programs do not remain enrolled if they do not see a clinical benefit. This is especially true during our eight-month program.

One parent phrased it nicely, "Being virtual [at this time is a] necessary evil." Many families are holding hope for the return to purely in-person sessions where their children can practice social skills in naturalistic and community settings. However, while options are currently limited due to the pandemic, we have observed and heard that there is both hope and value in the online model of the LUNCH Groups®. Another parent noted, "During a very isolated time in our teenage daughter's life, she has a community and sense of belonging and social interaction."

The current situation may not be ideal, but in reviewing parent perceptions of major and minor behavioral change, it appears that an online social skills program holds tremendous potential for benefiting students. Furthermore, our study revealed that parent education and support provided via telehealth, may be equal to, if not superior to in-person parent meetings (especially when all of the logistical elements are considered).

An especially rewarding aspect of the program has been to hear from families who participated in earlier years and to learn how their children have flourished. Working with 1600 families since the inception of LUNCH Groups® has provided a rich clinical database that continues to help us address a wide range of child social behavioral challenges. While there remains room for improvement and further refinement of the online, and anticipated hybrid delivery model, the overwhelmingly positive parent feedback of the online LUNCH Groups® model suggests that the online delivery model holds both clinical and functional utility in supporting the social development of children.

References

Anthony, C. J., Elliott, S. N., DiPerna, J. C., & Lei, P.-W. (2020). Multirater assessment of young children's social and emotional learning via the SSIS SEL Brief Scales – Preschool Forms. *Early Childhood Research Quarterly, 53*, 625–637. https://doi.org/10.1016/j.ecresq.2020.07.006

Bandura, A., Jeffery, R. W., & Gajdos, E. (1975). Generalizing change through participant modeling with self-directed mastery. *Behaviour Research and Therapy, 13*(2-3), 141–152. https://doi.org/10.1016/0005-7967(75)90008-x

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191–215. https://doi.org/10.1037/0033-295X.84.2.191

Barlow, D. H., & Farchione, T. J. (Eds.). (2017). *Applications of the unified protocol for transdiagnostic treatment of emotional disorders*. Oxford University Press. https://doi.org/10.1093/med-psych/9780190255541.001.0001

Berler, E. S., Gross, A. M., & Drabman, R. S. (1982). Social skills training with children: Proceed with caution. *Journal of Applied Behavior Analysis, 15*(1), 41–53). https://doi.org/10.1901/jaba.1982.15-41

Chu, B. C., Temkin, A. B., & Toffey, K. (2016). *Transdiagnostic mechanisms and treatment for children and adolescents.* Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199935291.013.10

Coles, E. K., Pelham, W. E., Gnagy, E. M., Burrows-Maclean, L., Fabiano, G. A., Chacko, A., Wymbs, B. T., Tresco, K. E., Walker, K. S., & Robb, J. A. (2005). A Controlled Evaluation of Behavioral Treatment With Children With ADHD Attending a Summer Treatment Program. *Journal of Emotional and Behavioral Disorders, 13*(2), 99–112. https://doi.org/10.1177/10634266050130020301

Cui, L., Yufeng, W., & Xilin, W. (2004). The role of social skills training in treatment of children with behavior problems. *Chinese Mental Health Journal, 18*(9), 603–606.

Davies, L., LeClair, K. L., Bagley, P., Blunt, H., Hinton, L., Ryan, S., & Ziebland, S. (2020). Face-to-face compared with online collected accounts of health and illness experiences: A scoping review. *Qualitative Health Research, 30*(13), 2092–2102. https://doi.org/10.1177/1049732320935835

Didehbani, N., Allen, T., Kandalaft, M., Krawczyk, D., & Chapman, S. (2016). Virtual Reality Social Cognition Training for children with high functioning autism. *Computers in Human Behavior, 62*, 703–711. https://doi.org/10.1016/j.chb.2016.04.033

Fabiano, G. A., Schatz, N. K., & Pelham, W. E., Jr. (2014). Summer treatment programs for youth with ADHD. *Child and Adolescent Psychiatric Clinics of North America, 23*(4), 757–773. https://doi.org/10.1016/j.chc.2014.05.012

Fernández-Martínez, I., Orgilés, M., Morales, A., Espada, J. P., & Essau, C. A. (2020). One-Year follow-up effects of a cognitive behavior therapy-based transdiagnostic program for emotional problems in young children: A school-based cluster-randomized controlled trial. *Journal of Affective Disorders, 262*, 258–266. https://doi.org/10.1016/j.jad.2019.11.002

Gale, B. (2018, December 5). Methodology and Outcomes for LUNCH Groups®, a transdiagnostic time-limited social learning program. Children's Hospital, Los Angeles Grand Rounds.

Gale, B. (2020). Return to Services Survey. [Data set]. BehaviorTech Solutions, Inc. https://sites.google.com/bgalephd.com/rcvendorsurveyresults/introduction?authuser=0

Gale, B. M. (2011). Oppositional Defiant Disorder. In C. Draper & W. T. O'Donohue (Eds.), *Stepped Care and e-Health: Practical Applications to Behavioral Disorders* (pp. 181–202). Springer. https://doi.org/10.1007/978-1-4419-6510-3_10

Gale, B. M. (2020). 2020 SUMMER LUNCH GROUPS®. [Data Set] BehaviorTech Solutions, Inc.

Gale, B., Mazor, J., & Harrell, A. (2017). Developing/Running Transdiagnostic Social Skills Intervention Programs for Children & Adolescents. The Los Angeles Psychologist, Fall. https://www.researchgate.net/publication/319631508_DevelopingRunning_Transdiagnostic_Social_Skills_Intervention_Programs_for_Children_Adolescents

Gates, J. A., Kang, E., & Lerner, M. D. (2017). Efficacy of group social skills interventions for youth with autism spectrum disorder: A systematic review and meta-analysis. *Clinical Psychology Review, 52*, 164–181. https://doi.org/10.1016/j.cpr.2017.01.006

Goldstein, F., & Glueck, D. (2016). Developing rapport and therapeutic alliance during telemental health sessions with children and adolescents. *Journal of Child and Adolescent Psychopharmacology, 26*(3), 204–211. https://doi.org/10.1089/cap.2015.0022

Gunderson, E. A., Gripshover, S. J., Romero, C., Dweck, C. S., Goldin-Meadow, S., & Levine, S. C. (2013). Parent praise to 1- to 3-year-olds predicts children's motivational frameworks 5 years later. *Child Development, 84*(5), 1526–1541. https://doi.org/10.1111/cdev.12064

Harrell, A., & Gale, B. (2014). Cross-Validation of an Online Behavior Assessment Tool; Parent Support as a Significant Mediator in Behavioral Intervention. Unpublished data.

Horne, A. M., Nitza, A., Dobias, B. F., Joliff, D. L., Raczynski, K. A., & Voors, W. (2012). Empower teen peers to prevent bullying: The Bully Busters program for high school. In *Empower teen peers to prevent bullying: The Bully Busters program for high school*. (pp. xii, 18 – xii, 18). Research Press.

Kandalaft, M. R., Didehbani, N., Krawczyk, D. C., Allen, T. T., & Chapman, S. B. (2013). Virtual reality social cognition training for young adults with high-functioning autism. *Journal of Autism and Developmental Disorders, 43*(1), 34–44. https://doi.org/10.1007/s10803-012-1544-6

Laugeson, E. A., Frankel, F., Gantman, A., Dillon, A. R., & Mogil, C. (2012). Evidence-based social skills training for adolescents with autism spectrum disorders: the UCLA PEERS program. *Journal of Autism and Developmental Disorders, 42*(6), 1025–1036. https://doi.org/10.1007/s10803-011-1339-1

Lavrič, M., & Naterer, A. (2020). The power of authoritative parenting: A cross-national study of effects of exposure to different parenting styles on life satisfaction. *Children and Youth Services Review, 116*, 105274. https://doi.org/10.1016/j.childyouth.2020.105274

Mandelberg, J., Laugeson, E. A., Cunningham, T. D., Ellingsen, R., Bates, S., & Frankel, F. (2014). Long-Term Treatment Outcomes for Parent-Assisted Social Skills Training for Adolescents With Autism Spectrum Disorders: The UCLA PEERS Program. *Journal of Mental Health Research in Intellectual Disabilities, 7*(1), 45–73. https://doi.org/10.1080/19315864.2012.730600

Papazoglou, A., Jacobson, L. A., & Zabel, T. A. (2013). Sensitivity of the BASC-2 Adaptive Skills Composite in detecting adaptive impairment in a clinically referred sample of children and adolescents. *The Clinical Neuropsychologist, 27*(3), 386–395. https://doi.org/10.1080/13854046.2012.760651

Payne, L., Flannery, H., Kambakara Gedara, C., Daniilidi, X., Hitchcock, M., Lambert, D., Taylor, C., & Christie, D. (2020). Business as usual? Psychological support at a distance. Clinical Child Psychology and Psychiatry, 25(3), 672–686. https://doi.org/10.1177/1359104520937378

Schohl, K. A., Van Hecke, A. V., Carson, A. M., Dolan, B., Karst, J., & Stevens, S. (2014). A replication and extension of the PEERS intervention: examining effects on social skills and social anxiety in adolescents with autism spectrum disorders. *Journal of Autism and Developmental Disorders, 44*(3), 532–545. https://doi.org/10.1007/s10803-013-1900-1

Soares, E. E., Bausback, K., Beard, C. L., Higinbotham, M., Bunge, E. L., & Gengoux, G. W. (2021). Social skills training for autism spectrum disorder: A meta-analysis of in-person and technological interventions. *Journal of Technology in Behavioral Science, 6*, 166-180, https://doi.org/10.1007/s41347-020-00177-0

Spence, S. H. (2003). *Social skills training with children and young people: Theory, evidence and practice. Child and Adolescent Mental Health, 8*(2), 84–96. https://doi.org/10.1111/1475-3588.00051

Steinberg, L., Lamborn, S. D., Dornbusch, S. M., & Darling, N. (1992). Impact of parenting practices on adolescent achievement: authoritative parenting, school involvement, and encouragement to succeed. *Child Development, 63*(5), 1266–1281. https://doi.org/10.1111/j.1467-8624.1992.tb01694.x

Trip, S., Bora, C., Sipos-Gug, S., Tocai, I., Gradinger, P., Yanagida, T., & Strohmeier, D. (2015). Bullying prevention in schools by targeting cognitions, emotions, and behavior: Evaluating the effectiveness of the REBE-ViSC program. *Journal of Counseling Psychology, 62*(4), 732–740. https://doi.org/10.1037/cou0000084

US Department of Education. (2001). Individuals with Disabilities Education Act (IDEA) 1997. https://www2.ed.gov/about/offices/list/oii/nonpublic/idea1.html

Weinberg, H. (2020). Online group psychotherapy: Challenges and possibilities during COVID-19—A practice review. *Group Dynamics: Theory, Research, and Practice, 24*(3), 201–211. https://doi.org/10.1037/gdn0000140