Examining Parent Strategy Use within a Randomized Controlled Trial of *The Incredible Years®* *Autism Spectrum Language Delays Program*

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Abstract

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This dissertation uses a mixed methods approach to examine parent strategy use during the *Incredible Years® Autism Spectrum Language Delays (*IY-ASLD*)* program, an intervention designed to support parents of preschool-aged children with autism and language delays. The IY-ASLD program was implemented via telehealth in three waves by developer-trained group leaders across 12 groups, each running for 14 weekly sessions, with a total of 59 parents participating. This study examined three aims to understand parent strategy use. First, parental use of IY-ASLD strategies from the curriculum was measured using video coded observations of zoom-recorded parent-child interactions at baseline and post-intervention timepoints. Three IY-ASLD strategies, descriptive commenting, emotion coaching, and persistence coaching, showed a significant increase in uptake by parents between the baseline and post intervention timepoints. Second, parent conversations around strategy uptake were examined using qualitative analysis of the IY-ASLD group intervention session transcripts. The identified themes from the analysis focused on strategy utilization, parents' cognition, child development, and the family context. Findings indicated that parents' conceptualization of strategies and contextual factors, such as daily demands, routine settings and child responsiveness, were perceived by parents to have played an important role in strategy uptake. Third, associations were examined between self-reports of parental self-efficacy (baseline) with changes in use of strategies from baseline to post interventions as well as with self-reports of confidence (post intervention) and perceived usefulness of the strategies (post intervention). Findings indicated that parental self-efficacy was not associated with changes in observed strategy use. Positive associations were found between

parental self-efficacy and self-reports of confidence and perceived usefulness of strategies. The integration of quantitative and qualitative data highlighted the importance of tailoring interventions to family-specific needs to support the generalization of the program beyond structured sessions. This study contributes to the literature on autism interventions for parents by identifying factors that influence the uptake of IY-ASLD strategies in naturalistic parenting contexts.

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Chapter 1: Introduction

Autism is a complex neurodevelopmental condition that affects millions of children around the world. Estimates from 2020 indicate that 21.5 per 1,000 (or 1 in 46) 4-year-old children within the United States of America have an autism diagnosis (Shaw et al., 2023). During early childhood, individualized approaches that facilitate interactions can enhance children's communication and social skills (Baumwell et al, 1997; Bornstein et al., 2008; Fusaroli et al., 2019; Tamis-LeMonda et al., 2001; Walton & Ingersoll 2015). The changing landscape of autism interventions reflects advancements in addressing the complex needs of autistic children and their families.

Within the field, an emphasis has also been placed on parent interventions, which recognize the critical role that parents play in supporting their children's development. Parents bring a deep understanding of their child's needs and strengths and support their child in navigating challenges with communication, accessing information about interventions, and daily needs (Postorino et al., 2017; Srinivasan et al., 2021). That said, parents of autistic children often report high levels of stress and many challenges in navigating their children's support needs. Although there is a clear need for interventions to address parents' own well-being and other psychosocial factors, these factors often receive less attention in many interventions (Benson, 2010; Eisenhower et al., 2005; Hartley et al., 2010, 2012; Rezendes & Scarpa, 2011; Weiss & Lunsky, 2011).

Comprehensive training and support for parents helps them feel prepared to effectively implement intervention strategies at home (Bearss et al., 2015; Karst & Van Hecke, 2012). When parents are involved in interventions, there are a variety of factors that may inform their use of these learned strategies in the home environment, including both facilitators and barriers to the

practical application of what they learned. Additionally, the generalization of learned strategies may not always be adequately addressed in training programs (Maliken & Katz, 2013; Michelson et al., 2013). Even with the field's knowledge of effective strategies that parents can use to support their autistic children, and an understanding of methods to teach them, a gap remains in understanding parents' uptake of learned strategies, reflections, and sense of efficacy about strategies in their day-to-day life.

The *Incredible Years ® Autism Spectrum Language Delays* (IY-ASLD; Webster-Stratton, 2018) is a parent psychoeducation intervention tailored to the needs of families with preschool-aged autistic children. Informed by the tenets of the *Incredible Years® Parent Program* (IY Basic, Webster-Stratton, 2001), which was originally designed for parents of children with behavioral challenges, the IY-ASLD program specifically targets the unique needs of parents of preschool-aged autistic children and those with language delays. It addresses the gap in parent training by providing comprehensive, practical, guidance tailored to the challenges experienced by families with an autistic child.

The IY-ASLD program's strategies were developed from several theoretical frameworks: cognitive social learning, modeling, developmental cognitive stages, and attachment theories. These theories serve as a foundation for supporting positive parent-child interactions and the bond between parent and child (Ainsworth, 1974; Bandura, 1986; Bowlby, 1980; Patterson et al., 2002; Piaget & Inhelder, 1966). The IY approach is structured to support child development by empowering parents, growing their confidence and their ability to manage the needs of their children.

To understand the dynamics between the parent-child relationship, parent behaviors, and the broader contexts, this dissertation incorporates Bronfenbrenner's ecological systems theory

(Bronfenbrenner, 1979) and Belsky's model of the determinants of parenting (Belsky, 1984). These models help explain the importance of focusing on the parent-child interaction context to examine behaviors that promote children's development, and how parents' cognitions (parental self-efficacy, sense of confidence in IY-ASLD strategies, and sense of usefulness in IY-ASLD strategies) may be related to their engagement in the skills taught in the program.

Purpose of the Study

This study examined parents' use of the IY-ASLD strategies to better understand what factors might be related to parents' strategy-uptake. The aims of this study were threefold. The first aim was to examine changes in observed strategy use during interactions with their children in a naturalistic play setting before and after the intervention. It was hypothesized that parents would demonstrate a statistically significant increase in the frequency of descriptive commenting during parent-child play interactions following participation in the IY-ASLD intervention, as this is a strategy that is taught during the first session and reiterated throughout the program. It was also hypothesized that there would be a significant uptake in labeled praise, reflections, social coaching, and emotion coaching based on prior studies on the IY program that evaluated strategy uptake (Arruabarrena et al., 2022; Azevedo et al., 2013; Williams et al., 2020).

The second aim of this study was to understand parents' insights and reflections about strategy use over the course of the intervention as reflected in transcripts of check-ins at the beginning of group sessions. It was hypothesized that parents would describe increased understanding and intentional use of IY-ASLD strategies, along with identifying specific facilitators and barriers to implementation, as captured in qualitative themes from session check-ins. This is an exploratory qualitative aim; therefore, the hypothesis is framed as an expected pattern rather than a testable prediction.

The third aim of this study was to assess parents' self-efficacy from baseline to post-intervention, and to assess their confidence in using IY-ASLD strategies, as well as their perceptions of the usefulness of IY-ASLD strategies after completing the intervention. It was hypothesized that higher pre-intervention reports of parental self-efficacy would be positively correlated with greater increases in observed strategy use from baseline to post-intervention. Also, it was hypothesized that there would be an association found between parental self-efficacy and self-reports of confidence and perceived usefulness of strategies.

Chapter 2: Review of the Literature

This chapter captures an overview of the literature on autism in early child development and research on strategies to foster children's development, with a particular emphasis on the needs of families with an autistic child and the support provided to parents through parent programs. It includes an overview of the early intervention landscape with a focus on psychoeducational interventions and the evidence-based strategies that support children's development, with specific attention to the *Incredible Years* ® (IY) program (both its general version [IY-Basic] and its adaptation for parents of autistic children and children with language delays [IY-ASLD]). There is a place for further research to understand the usage of IY-ASLD strategies by parents.

Autism in Early Child Development

Autism is a neurodevelopmental condition that is often diagnosed within early childhood. Children with an autism diagnosis may have social communication differences and repetitive/restricted behaviors (American Psychiatric Association, 2022; Lord et al., 2022). The prevalence estimate, as of 2020, suggests that 21.5 per 1,000 (about 1 in 46) 4-year-old children within the United States have an autism diagnosis (Shaw et al., 2023). There can be high variability in terms of development for preschool-aged (ages 2-5 years) autistic children. Some children show restricted interests and repetitive behaviors while others may also show a preference for sameness or a specific focus on certain subjects (Lord & Bishop, 2010). Some autistic children may prefer solitary play while others engage socially. Social interactions may diverge from typical development (Jarrold, 2003).

Some autistic children may also show a stronger preference for routine due to its familiarity and show repetitive play patterns. This, however, could limit their opportunities for

learning. (Turner, 1999). Some autistic children may also be extremely detail-oriented and have an ability to focus on subjects of particular interest. This also might contribute to a strong preference for solitude in terms of play and activities (Baron-Cohen, 2009). Language development for preschool-aged autistic children can also vary widely in terms of comprehension and expressive communication (Lord et al., 2022; Lord & Bishop, 2010; Paul & Norbury, 2012). Language development can be heterogeneous (Masjedi et al., 2022). Preschool-aged autistic children have heterogeneous language development profiles, suggesting the need for specialized approaches to support their development (Weismer & Kover, 2015). The role of contextual factors, such as parents' interaction styles and the linguistic environment, is becoming recognized as influential in the language development of autistic children (Lord et al., 2022).

Parents' Role in the Early Developmental Years

Ecological systems theory (Bronfenbrenner, 1979) is one of the theoretical frameworks that grounds the work for this dissertation. It provides an understanding around the interplay between parents, children, and their contextual environments. This framework highlights that the role of parents is vital, especially given the developmental characteristics of autistic children. The specific characteristics of autistic children shape and influence the approaches required by parents who play an important role in nurturing their growth across domains like language and communication (Asta & Persico, 2022; Bronfenbrenner, 1979; Lord et al., 2021; Vivanti & Zhong, 2020). Language and communication skills and prosocial behavior contribute to positive outcomes across the lifespan, and parents are critical in supporting these areas of development (Chen et al., 2022). Responsive parenting, characterized by sensitivity to the child's needs, is particularly important for autistic children in that responsive parenting can

lead to improvements in social skills in early school-aged autistic children (Caplan et al., 2019).

Parents play a critical role in supporting social skills by providing opportunities for social engagement and also modeling social behaviors. Attachment theory emphasizes the importance of meaningful interactions (Ainsworth, 1974). Parents who are responsive parents are better able to create a secure attachment with their child. This secure attachment is then critical for fostering the foundation for healthy social and emotional development (Bowlby, 2017). A secure relationship with parents is also critical for the social and emotional development of autistic children. Secure attachment provides a sense of safety. The warmth and responsiveness of the parent within parent-child interactions contribute to the child's emotional and social development. When a child feels physically and emotionally safe, they are better able to engage in social interactions because the child feels a sense of security and confidence to do so. Parents' emotional responsiveness can promote a sense of secure attachment with their child (Karst & Van Hecke, 2012).

A secure base also opens the door for meaningful interactions, such as play. For autistic children, play can be an important avenue for developing social and cognitive skills. Within play, strategies that support problem-solving and language development are especially valuable because they create spaces that are both structured and flexible, giving children room to learn while feeling supported (Tamis-LeMonda et al., 2008; Weisberg et al., 2016). Through play, children can be introduced to more complex cognitive tasks in a gradual manner, which can optimize growth (Piaget & Inhelder, 1966). Play can take on unique forms for autistic children. Sometimes play is shaped by specific interests or styles. There is a high possibility that with guidance from parents, these moments can become even richer opportunities for

learning and connection between the parent and child (Schertz & Odom, 2007). Additionally, everyday routines such as mealtimes or getting ready for bed also offer opportunities to incorporate into learning experiences (Guradlnick, 2019). These regular daily settings provide a context that makes it easier for children to gain new skills. Parents who are able to intentionally integrate learning into day-to-day experiences for their children can support their social, emotional, and cognitive development in many ways(Landry et al., 2017). One approach that has proven particularly effective is scaffolding, where parents provide guidance and support during learning processes. This approach can be effective for autistic children because it allows them to take on challenges while still feeling supported and encouraged (Wong et al., 2015).

Parents can influence their child's learning and development through intentional interactions. With structured routines, parents provide a sense of predictability, which is beneficial for autistic children. Routines can help a child understand what to expect next and anticipate their everyday experiences. This reduces anxiety and enhances engagement, especially for a young autistic child (Boyd et al., 2014; Selman & Dilworth-Bart, 2023). Belsky's model of parenting determinants provides a strong framework for the factors shaping parent-child interactions (Belsky, 1984). This theory suggests that parenting interactions are influenced by a connection between the parent, child, and the broader social and environmental context. The parents' individual characteristics, such as their well-being and sense of parental self-efficacy, may influence the quantity and quality of the behaviors they engage in with their children. Within the context of autism, parents may face stressors related to their child or adapting their parenting approaches accordingly.

The environment surrounding a family plays a major role in shaping parent–child interactions. Access to resources and participation interventions can impact how parents and children connect with one another (Karst & Van Hecke, 2012; Lord et al., 2022; Vivanti & Zhong, 2019). There are several factors that can potentially shape how parents navigate their roles, such as the family's cultural norms surrounding disability and also the access and availability of support services (Alibekova et al., 2022; Cheng et al., 2023; Ilias, 2018). These elements are important for an effective parent intervention.

Early Childhood Interventions for Parents of Autistic Children

Coaching parents has been identified as a component in supporting parents to engage with their children. This can provide a foundation for parents to become adept at utilizing everyday teachable moments, thereby enhancing the naturalistic learning opportunities for their child. Parent coaching has been examined through a range of rigorous research designs. Randomized controlled trials (RCTs) have provided the strongest evidence for causal effects by comparing coached and non-coached parent groups (Rogers et al., 2012; Wetherby et al., 2014). There are several RCTs that consistently show that coaching interventions can increase parents' use of targeted strategies, such as positive reinforcement and breaking down tasks into manageable steps, which promote children's development. Meta-analyses also confirm the effectiveness of parent coaching on both parent implementation fidelity and child developmental outcomes (Barton et al., 2014; Nevill et al., 2018). Altogether, these studies provide evidence that coaching parents is effective and a potentially important component in early intervention.

More specifically, parent-directed interventions equip parents with effective strategies that can be used with their child. These interventions are referred to as "parent-mediated"

approaches because the parent is the one who receives the intervention and utilizes strategies with their child. The parent serves as the mediator of strategies taught by the intervention program (Althoff et al., 2019; Conrad et al., 2021). A particular challenge that parents of autistic children face is regarding their knowledge about autism and their uptake of evidence-based strategies to facilitate their children's development. Parent involvement in their child's autism interventions can be important for boosting parent confidence and effectiveness in supporting their child's needs (Kurzrok et al. 2021). Many intervention programs emphasize the role of the parent as the intervention target to equip parents with the tools and strategies needed to support their child. Engaging and coaching a parent actively in the therapy of their autistic child offers advantages over sole provider-led interventions (i.e., interventions that solely focus on a specialist directly engaging with a child). Parents are integral components of the intervention framework. Bonds between parents and children become a primary focus and learning channel (Schertz & Horn, 2018; Siller & Morgan, 2018). Importantly, evidence suggests that supporting parents to tune into their children's focus during play and other interactions can enhance their child's language acquisition (Siller & Sigman, 2008; Walton & Ingersoll, 2015).

Parent interventions have shown significant improvements in communication for autistic children (Dawson et al., 2010). Parents are given training to implement intervention strategies in the home contexts. This ensures consistency and also reinforces learning for the child. Parent involvement benefits the child by empowering parents through providing them with skills and strategies to support their child's development (Ansari & Gershoff, 2016; Naidoo & Govender, 2022). Equipping parents with evidence-based strategies that they can use at home can increase the intervention time outside of formal therapeutic or learning environments for

children. Parents can consistently adapt the skills learned with formalized and structured coaching. Such parental involvement enhances skill generalization since it can be instrumental for parents to adapt intervention strategies across varied situations (Deveney et al., 2017). Several interventions focus on strategies that support parents in following a child's lead (Kasari & Sigman, 1997; Taylor & Boyer, 2020; Webster-Stratton et al., 2018). In language-focused interventions, following a child's lead within play has been shown to improve communication skills (Paul & Norbury, 2012; Tamis-LeMonda et al., 2008). Social skills training within parent interventions shows significant improvement in the social competencies of autistic children (Kasari et al., 2012). Through meaningful interactions, interventions that support parents in supporting their child's play can significantly improve the social engagement skills of young autistic children (Landa et al., 2011). Parent interventions aimed at improving language skills in young autistic children demonstrate improvements in social communication, receptive and expressive language, parental knowledge, and social engagement with their children (Rouhandeh et al., 2022). Parents are a huge component to these interventions because they are being supported in their role as parents, therefore, supporting also their child's development.

Parent-Implementable Evidence-Based Strategies

There are evidence-based strategies, often embedded into parent interventions, that can guide parents in structuring meaningful and supportive contexts for their child. These strategies have been shown to be beneficial for the development of autistic children in a holistic way. They can bridge formal interventions and daily experiences for families (Romano & Schnurr, 2022). These evidence-based strategies, when incorporated into daily parent-child interactions, can enhance the developmental outcomes for autistic children. These strategies emphasize the importance of engaging autistic children in a meaningful way that can foster their social,

emotional, and cognitive growth (Wetherby et al., 2018). Research findings show that specific strategies are critically important for parents within the context of early child development: descriptive commenting, labeled praise, pause and wait, face-to-face, reflections, pre-academic coaching, emotion coaching, social coaching, and persistence coaching. Although much of the research evidence on specific strategies has tested their effectiveness as part of a larger curriculum, there is also some empirical evidence from studies targeting individual behaviors.

Firstly, *descriptive commenting,* which is also sometimes called descriptive language coaching (Hanf & Kling, 1973), is a foundational strategy that encourages play interactions to be child-directed and for the parent to recognize and acknowledge their child's interests and preferences. When engaging in descriptive commenting, parents describe their own actions or the child's actions. This enriches language development and also comprehension skills. This method can significantly increase the quantity and also the quality of words that children are exposed to daily. Descriptive commenting helps bridge action and language by providing context to the child's experiences and promoting understanding. With descriptive commenting, parents narrate their child's actions by providing running commentary. This makes language a pivotal part of the child's environment and, in turn, promotes fostering language and joint attention as evidenced through multiple RCTs (Carter et al., 2011; Roberts & Kaiser, 2015; Wetherby et al., 2014). Additionally, observational studies of parents of autistic children have shown that the use of descriptive commenting is associated with increased communication, joint attention, and vocabulary growth for their autistic children (McDuffie & Yoder, 2010; Siller & Sigman, 2002).

Second, *labeled praise,* or *behavior-specific* praise, is a specific type of praise that boosts a child's self-esteem and motivates them (e.g., "I like how you hold onto the railing so

you won't fall!" vs. "Good job!"). This is done through highlighting specific positive behaviors and learning moments for a child. By clearly communicating the behaviors that are appreciated, parents are effectively reinforcing those actions, leading to their repetition and enhancement of social and communicative skills. The evidence for labeled praise comes mainly from single-case experimental designs and systematic reviews that were conducted on behaviors observed in the classroom across general and special education settings (Drake & Nelson, 2021; Ennis et al., 2019; Leighton et al., 2018; Newton et al., 2024; Royer et al., 2018). There are several RCTs suggesting that labeled praise supports child engagement (Weeland et al., 2022). A few implementation studies have also demonstrated that labeled praise may support on-task behaviors and self-regulation skills (Devine et al., 2022; Raver et al., 2003). Labeled praise is a widely incorporated strategy within autism interventions, but empirical support remains limited and largely includes single case designs or studies with small sample sizes (Barnes et al., 2024; Polick et al., 2012; Stevens et al., 2011)

Third, the *pause and wait* strategy is an approach that involves intentionally pausing after asking a question or making a demand, allowing extra time for the child to process language and respond. There is evidence that suggests that children pause longer than adults within conversation (Strivers et al., 2018) and that giving a child enough wait time can lead to longer responses from the child (Tobin, 1987). Autistic children may experience differences in processing speed and expressive communication, which can make responding immediately challenging (Tager-Flusberg et al., 2005). Observational studies suggest that pausing, for at least a few seconds, can significantly increase child-initiated communication, specifically among minimally verbal children (Koegel et al., 1998; Wetherby & Prizant, 2000). The pause and wait strategy is frequently embedded in naturalistic developmental behavioral

interventions and parent-implemented programs, such as the Early Start Denver Model and Pivotal Response Treatment. These interventions encourage more child-led interactions (Rogers & Dawson, 2010; Schreibman et al., 2015). There is evidence from education research (Tobin, 1987; Rowe, 2012) and autism intervention research (Charlop et al., 1985; Kasari et al., 2006) that highlights how intentional pausing can support children's language and engagement with the environment and others.

Fourth, the face-to-face strategy, also referred to as "getting down to the child's level," is fundamental to support engagement and communication in young children. This strategy involves the adult positioning themselves directly in the child's line of sight, either by sitting or kneeling at eye level. The concept is that it increases the changes for opportunities for mutual engagement. Autistic children often experience differences in social attention and may not naturally orient themselves to others' faces or eyes, which may affect opportunities for interactions (Dawson et al., 2004). By using face-to-face positioning, parents can make their facial expressions, gestures, and speech more accessible, helping the child associate communication with social interaction. There is evidence from observational studies and RCTs that this strategy can increase the frequency of child gaze shifts and vocalizations in children (Adamson et al., 2001; Kasari et al., 2008). According to a systematic review, parent-mediated interventions that emphasize responsive interactions can significantly improve communication in young autistic children (Oono et al., 2013). Randomized controlled trials of intervention curricula that embedded face-to-face further support that face-to-face positioning can improve communication skills for autistic children (Dawson et al., 2010; Pajareya & Nopmaneejumruslers, 2011).

Fifth*, reflections*, also referred to as “mirroring”, is a strategy that supports language development and social interaction through a form of responsiveness. This strategy generally involves the parent or adult repeating back the child's verbalizations to affirm the attempts they were making to communicate(Girolametto et al., 2000). Studies found that parents who used reflections as a strategy with their toddlers had more associated gains in expressive language in their toddlers (Masur, 1997; Tamis-LeMonda et al.,2001). For autistic children, who may exhibit expressive language challenges with echolalia or atypical prosody, reflective responses can support turn-taking in conversation (Paul et al., 2008). When used consistently, reflections can also increase the frequency of spontaneous language (Wetherby & Prizant, 2000). Among autistic children and those with developmental delays, reflections are a key component of evidence-based interventions that emphasize repeating the child’s utterances to maintain engagement and also to support comprehension (Carter et al., 2011; Yoder & Warren, 2002). An experimental pre-post study found that reflections were associated with autistic toddlers showing increased responsiveness (Katagiri et al., 2010). Within the empirical literature, reflections were not a strategy typically isolated within trials; however, there are several randomized controlled trials that have reflections embedded within broader parent-mediated interventions and were highlighted as an important component for joint attention and language for autistic children (Hampton et al., 2010; Kasari et al., 2010; Parsons et al., 2017)

Sixth*, pre-academic coaching* refers to the meaningful integration of early learning concepts for children within the context of play or daily routines. This strategy includes labeling animals, colors, shapes, letters, and directions. For young autistic children, who may learn best through interest-driven experiences, this strategy supports school readiness (Wong et al., 2015). Pre-academic coaching is a strategy that scaffolds the understanding of academically

relevant concepts into the child's daily routines. For example, a parent might name the colors while stacking the respective blocks. Another example is that a parent counts the toy animals during a play session. This approach is particularly effective for autistic children because it can build on the child's interests while reducing the pressure associated with a more structured learning environment (Rogers & Dawson, 2010). Intervention studies have demonstrated empirical gains in vocabulary (Toub et al., 2018), and longitudinal work shows that early vocabulary growth is associated with the development of executive functioning (Kuhn, 2016).

Seventh, *emotion coaching* focuses on supporting children in labeling and understanding their feelings (Bougher-Muckian et al., 2016; Gottman & DeClaire, 1997; O'Connor, 2020). This strategy is primarily used by helping a child name emotions in real-time (e.g., "You seem really frustrated right now") and also by modeling self-regulation strategies. Autistic children may find navigating emotions as complex and confusing; therefore, emotion coaching can support the skill of emotion regulation (Johnstone et al., 2022; Morgan et al., 2018; Rao et al., 2008). RCTs suggest that when parents use the emotion coaching strategy with their child, it can support emotional development and also self-regulation skills (Burkhardt et al., 2024; Havighurst et al., 2022). Findings from systematic reviews and RCTs also provide evidence that emotion coaching is beneficial for supporting the emotional development of autistic children (Hendrix et al., 2022; Nuske et al., 2023)

Eighth, *social coaching* is a broad strategy that encompasses supporting children in their social skills and peer interactions through modeling and prompting within play. Through social coaching, parents typically can scaffold and teach their children to turn-taking, making requests, giving a greeting, and responding to others. Social coaching may also include pretend play to help support the understanding of social interactions. For example, a parent may use a

puppet to engage a child in understanding and practicing social interactions like daily greetings. This strategy is a key component of a few interventions, including Pivotal Response Treatment (PRT) and JASPER, that demonstrate positive outcomes in social engagement, communication, and play (Kasari et al., 2015; Koegel et al., 2012). A meta-analysis by Wolstencroft et al. (2018) also supports the use of social coaching in autism intervention, especially those that are play-based or have parent-mediated components. These findings highlight social coaching as an adaptable strategy for supporting meaningful social interactions for autistic children.

Lastly*, persistence coaching*, also referred to as adaptive persistence within other research literature, is a strategy that supports frustration tolerance and promotes resilience. This strategy helps young children understand how to navigate complicated tasks. A parent provides verbal encouragement and breaks down tasks into manageable steps using modeling and scaffolding (Sanders & Mazzucchelli, 2013). For example, during a puzzle activity, if a child expresses frustration, a parent might say, "Let's try putting this block on top together. Good job placing it one at a time. It's okay if it's tricky; you are doing your best! " This type of scaffolding helps the child internalize the belief that effort can lead to improvement. This also normalizes challenges for a child and helps them understand the feelings associated with learning something that may be challenging at first. This strategy emphasizes the resilience needed to navigate daily tasks (Conner, 2019; Nowell et al., 2019). There are only a few studies that isolate persistence coaching as a stand-alone strategy; however, it is embedded into several interventions and has been shown to support emotion regulation and executive functioning skills (Diamond et al., 2007; Domitrovich et al., 2007; Webster-Stratton et al., 2008).

Psychoeducation as a Method of Delivering Parent Intervention

Psychoeducation is designed to equip parents with evidence-based strategies to support their autistic child (Bearss et al., 2015; Cheng et al., 2023). Psychoeducation places a strong emphasis on the emotional and social health of parents and their bond with their children (Shalev et al., 2022).

Parent well-being influences parents' engagement in meaningful interactions with their child (Bunning et al., 2022). Parents often report juggling between their child's needs and their own needs, often putting their own needs aside (Mason et al., 2019). Misunderstandings about autism and stigma can also lead parents to experience judgment from others, resulting in feelings of isolation and fewer support networks (Iadarola et al., 2017). There is a recognized need for parents to prioritize both mental and physical well-being (Khanna et al., 2010). Parent/peer support groups are a valuable resource for parents of autistic children. Parents of an autistic child often experience feelings of isolation and stress, and interventions that are formatted as parent support groups can enhance parents' understanding of intervention concepts while providing a space for social support (Lee et al., 2023).

Support groups for parents of children with disabilities have been highlighted as beneficial by reducing feelings of isolation, supporting coping skills, enhancing knowledge, accessing resources, and fostering resilience (Solomon et al., 2001). Parents who frequently engaged with support networks and groups experienced fewer feelings of isolation (Jones et al., 2018). These types of platforms provide parents with a sense of belonging and a space to share their challenges and their wins. Support networks give families a space to share experiences, receive advice, and get emotional validation (Garcia & Rodriguez, 2022). Participating in

psychoeducational sessions has been shown to lower parents' levels of stress and increase their self-efficacy (Jones et al., 2018; Martin & Harris, 2021).

Even though there are many benefits to psychoeducation based programs, there are also some challenges to programs like this. Access to in-person psychoeducational sessions can be limited because of geographical distance and scheduling conflicts/logistics. A telehealth format presents a solution that is convenient and accessible for parents to participate in psychosocial programs from the comfort of their own homes. For group-based interventions for parents of autistic children, several studies have shown that both in-person and virtual delivery methods are equally effective in improving parents' fidelity of uptake and providing supportive peer interactions. Additionally, telehealth allows interventions to be more accessible for families (Brian et al., 2022; Marino et al., 2020; Pan et al., 2023).

The *Incredible Years® Parent Program*

The Incredible Years® Basic Parent Program (IY-Basic) is a psychoeducation program that was originally created for parents of children ages three to eight who show early signs of behavioral challenges (e.g. conduct problems and aggression) (Webster-Stratton, 2001). The program is guided by established theories in cognitive social learning (Patterson et al., 2002), social learning theory and modeling (Bandura, 1986), developmental cognitive stages (Piaget & Inhelder, 1966), and attachment theories (Ainsworth, 1974; Bowlby, 1980). IY-Basic provides a structured space for parents of young children that fosters strong parent-child bonds, guiding parents towards positive methods and moving away from negative disciplinary practices (Webster-Stratton, 2001). Since its development, the program's versatility has catered to more age ranges and populations of learners with various developmental needs.

IY-Basic uses a manualized approach (Webster-Stratton, 2001) that provides support to parents in a group setting where parents learn from two trained group leaders about the importance of building relationships through child-focused play, academic, social, and emotional guidance. The later sessions in the program begin to introduce consistent routines and also teach behavior management strategies. The program spans 12 to 14 weeks.
This program promotes parent group discussions through videos and role-playing sessions. (Webster-Stratton & Reid, 2010). The program's group-based format promotes discussions around skill development and fosters a support system for parents. This approach has been adapted across diverse cultural and socioeconomic contexts, showing that this intervention is also applicable across various contexts (Pidano & Allen, 2015). RCTs demonstrate the program's impact on reducing child behavioral challenges and improving positive parenting (Jones et al., 2007; Leijten et al., 2018; Menting et al., 2013; Pidano & Allen, 2015).

To cater to the distinctive needs of parents of autistic children, an adapted version, IY-ASLD, was developed and piloted that made some changes while still emphasizing active parent involvement through responsive parenting and positive parent-child relationships (Dababnah & Parish, 2016; Hutchings et al., 2016; Webster-Stratton et al., 2018). Specific adaptations made include extra time dedicated to emotion coaching, self-regulation skills, focus on communication, and discussions about parents' experiences of stress. These adaptations were guided by research pointing to these areas of need for autistic children and children with language delays and their parents. IY-ASLD sets several key objectives to support children's communication and social development. Within sessions, parents discuss various evidence-based strategies to encourage social communication, using language tailored to the child's verbal ability, waiting for the child's response, and demonstrating enthusiasm for

the child's actions. Past work has shown the efficacy of these strategies, which are considered evidence-based practices for autistic children. In the present study, it will be important to understand how the IY-ASLD program influences parents' uptake of these types of strategies, their confidence in strategy use, and their perceptions of such strategies as useful.

The IY-ASLD program is delivered over 12-14 weekly 90-minute in-person group sessions by two trained group leaders. The program covers eight topic areas that are aligned with aforementioned evidence based parent strategies: (1) child-directed narrated play, (2) pre-academic and persistence coaching, (3) social coaching, (4) emotion coaching, (5) fostering imagination through pretend play, (6) promoting children's self-regulation skills, (7) utilizing praise and rewards for motivation, and (8) effective limit setting and behavior management. The program utilizes video, group discussions, role plays, and home-based activities (Webster-Stratton, 2015). There are some published evaluations (Dababnah & Parish, 2016; Hutchings et al., 2016; Webster-Stratton et al., 2018) and one randomized controlled trial evaluating the IY-ASLD program (Williams et al., 2020).

Impact of the *Incredible Years*® on Parents' Observed Strategy Use

The use of evidence-based strategies can be fundamental for parents in order to foster meaningful interactions with their children (Dunst et al., 2011). Through evidence-based strategies, parents are supported to foster learning environments that promote emotional and social skills in their children (Trivette et al., 2010). Prior studies have shown how the usage of these strategies leads to improvements in children's communication, children's emotional regulation skills, and parents' confidence in their parenting roles (Trivette et al., 2010). The IY-Basic programs emphasize the enhancement of parent-child interactions through several practical and applied strategies, facilitated by video vignettes, role-plays, and group

discussions. Past work on IY-Basic has used observational paradigms like the Dyadic Parent–Child Interaction Coding System (DPICS) to quantify the interactions and behaviors between parents and children (Robinson & Eyberg, 1981). This allows researchers to score various behaviors during parent-child interactions and to calculate the quality and quantity of particular types of interactions by denoting whether behaviors are present or not. Findings from studies suggest that such observational coding can capture parent behaviors in IY-Basic. For example, Azevedo et al. (2013) examined IY-Basic on supporting positive parenting captured in a formal lab setting. This showed significant improvements in positive parenting within the IY-Basic intervention group. Similarly, Arruabarrena et al. (2022) examined praise during parent-child play sessions in a child welfare context in Spain. The study demonstrated significant positive shifts in parenting practices because of participation in the IY-Basic program, particularly in the increased use of praise. Given the more recent development of IY-ASLD, relatively fewer studies to date have reported observational outcomes of the program. In one example, Williams et al. (2020) examined change based on parent strategies using categories from DPICS, which include praise, social-emotional coaching, and reflections, finding moderate effect sizes for these strategies.

Observing and measuring parent-child interactions has been instrumental in assessing the parents' use of strategies targeted within the IY programs. Specifically, it sheds light on the interactions that result from various IY based strategies. However, the extent of the observational measurements and the empirical evidence gathered varies across different IY program adaptations, particularly between IY-Basic and IY-ASLD. The IY-Basic program was designed for a broad range of behavioral and emotional differences in children and has a well-established evidence base that is supported by numerous studies. These studies have

demonstrated that observations of parent-child interactions captured significant changes in the strategies taught in the program. While theoretical and anecdotal evidence suggest that the changes in parent-child interactions should mirror those observed in the IY-Basic program, the empirical base for IY-ASLD remains limited. This discrepancy supports the need to apply observations of parents' behaviors before and after the IY-ASLD context program to empirically assess changes in parents' use of IY strategies with their autistic children.

Parent Reflections During the Intervention

Parents' reflections about their experiences are valuable insights, especially during the intervention sessions, in order to understand the usage of IY-ASLD strategies. Belsky's model (1984) shows that parents are shaped by their own characteristics, beliefs, their child's needs, and their environmental context. Understanding these factors can provide a more comprehensive understanding of strategy use by parents. Some IY studies have used qualitative approaches to identify parent experiences around strategy use, primarily through post-intervention interviews or questionnaires. Parents have emphasized that using certain strategies has helped them more effectively manage challenging behaviors and engage their children (Dababnah et al., 2019; Hutchings et al., 2016). Through post-intervention interviews, parents shared about difficulties in applying program content to children with sensory or self-regulation challenges, and this demonstrates the need for more adaptable strategies (Dababnah & Parish, 2016). Parents have also highlighted the need for an increased focus on parent self-care (Dababnah & Parish, 2016; Williams et al., 2020), suggesting the possibility that inadequate parent self-care could hinder the use of strategies. Such preliminary findings offer insights into parent experiences with the IY-ASLD program and provide new ways of understanding the program.

While previous studies on the IY program have predominantly focused on gathering insights from parents through exit interviews, the initial segment of each IY session, termed the 'check-in,' is a way to understand real-time insights from parents. The 'check-in' is a dedicated part of the intervention session for parents to discuss their experiences from the past week with both the session leaders and group members, specifically focusing on their attempts to implement the strategies learned in the program. The 'check-in' portion provides a shared reflection environment for parents, and it also serves as a rich source of data in understanding the nuances of parent experiences within the IY-ASLD program. These initial discussions are instrumental in capturing the real-time reflections parents have in implementing the IY-ASLD strategies. The data from these 'check-in' sessions provides an opportunity to examine how parents navigate the intervention in real time. These live reflections provide immediate feedback on the program's applicability that is not otherwise garnered from post-intervention observational data (Green et al., 2010).

Parents' Confidence and Perceived Usefulness of Strategies in the IY Program

A parent's level of self-confidence can influence how they learn within an intervention. One concept that helps explain this is parental self-efficacy, which refers to a parent's belief in their own ability to handle certain situations (Bandura, 1977). Self-efficacy refers to the confidence parents have in their role, which can make a difference in whether parents try new strategies and how hard they stick with them when things get tough. Using evidence-based strategies often means adjusting and responding to their child's specific needs in everyday moments (Jones & Prinz, 2005). Parents who feel more confident are usually better at using these strategies more consistently and also understanding how to adjust or adapt them when needed. Parents who feel less confident may struggle more with implementing or maintaining

these strategies. Those who report more self-efficacy tend to report less parenting stress, as they believe in their ability as parents and therefore are more likely to persist and maintain their effort even when their child's progress is slow or challenges occur (Dai et al., 2024; Kurzrok et al., 2021; Zhou et al., 2019). Additionally, consistently and confidently applying strategies can potentially lead to better developmental outcomes for children (Glatz & Buchanan, 2015).

Self-efficacy is important as it influences the parents' confidence in using the strategies and their perceived usefulness of the strategies from psychoeducation programs. The IY programs have been shown to have a positive impact on parenting practices and increase parental confidence by teaching effective strategies (Arruabarrena et al., 2022; Kong & Au, 2018). Importantly, parents report high satisfaction with the program, which reinforces that the IY curriculum appears to be impactful in imparting knowledge and making parents feel more capable and confident in their roles. However, findings show that parents may vary in their satisfaction with the perceived usefulness of certain strategies. Parents have expressed a preference for positive reinforcement strategies, like praise (Azevedo et al., 2013). The IY programs have an emphasis on positive parenting practices rather than disciplinary measures to manage behaviors (Webster-Stratton, 2001). The feedback from the Incredible Years Questionnaire (IYQ) demonstrates a broad acceptance of these methods. For example, strategies like time-out receive less favor due to the program's focus on positive behavioral reinforcement (Azevedo et al., 2013; Kong & Au, 2018). In the context of the IY-ASLD program, parents reported significant satisfaction and noticeable improvements in their confidence and application of strategies, especially for enhancing social and emotional behaviors in children with autism and language delays; however, there was a decline in the use

of parent strategies over time at 12 and 18 month follow-up time points. To sustain the usage of parenting strategies over time, this provides evidence for the need for ongoing support (Azevedo et al., 2013). The varying use of specific strategies highlights the importance of adapting interventions to meet the diverse needs of families.

Summary and Study Rationale

This study aims to investigate parents' application and experiences with IY-ASLD, a parent psychoeducation intervention designed specifically for families with autistic children. Despite the recognition of effective strategies to support autistic children and methods to teach them to parents, gaps remain in understanding how parents perceive and use these strategies in their daily lives. This study will explore changes in parent strategy use in naturalistic play settings before and after the intervention, examine parents' insights and reflections throughout the program, and assess their confidence and perceived usefulness of the learned strategies post-intervention. Through the examination of the alignment between parents' reflections, self-reports, and observational changes, the study aims to understand how parents generalize learned IY strategies within daily contexts.

Aims & Hypotheses

This study addressed three interconnected aims to better understand parent experiences throughout the intervention by using multiple methods:

- Aim 1: *First, this study examined whether parents changed their frequency of using IY-ASLD strategies during a naturalistic play interaction following participation in IY-ASLD.* Based on the effect sizes found in the prior IY-ASLD study that relied on observations of parent strategies (Williams et al., 2020), it was hypothesized that parents would significantly increase their frequency in use of strategies (which includes labeled

praise, social coaching, emotion coaching, and reflections) in a post-intervention naturalistic play interaction compared to a baseline interaction, demonstrating successful transfer of skills from the psychoeducational sessions to parent-child interactions. This suggests that parents were able to apply the knowledge they gained from the intervention. An effect size was not hypothesized for those strategies that have not been extensively tested in isolation (i.e., outside of a larger curriculum), or those that have not been shown to individually change in prior IY-ASLD research, such as face-to-face and pause and wait.

- *Aim 2: Second, this study examined parents' experiences when applying strategies from IY-ASLD, using a qualitative framework to identify themes from their reflections on their day-to-day experiences with the strategies.* This approach focused on what parents reported during weekly intervention check-ins regarding their use of strategies. It was hypothesized that these insights would reveal practical aspects of strategy use, including benefits and challenges, thereby providing a deeper understanding of the intervention's impact in everyday settings.
- *Aim 3: Finally, this study examined the potential role of parental self-efficacy in influencing parents' use of IY-ASLD strategies and their perceptions regarding these strategies.* Specifically, the study examined whether initial levels of parental self-efficacy (i.e., at baseline) were related to changes in the extent to which parents implemented IY-ASLD strategies, as assessed in observations of parent-child interactions from baseline to post-intervention, and self-reported perceived confidence and perceived usefulness of strategies at post-intervention. It was hypothesized that parents with higher overall parental self-efficacy would demonstrate a greater increase in the use of IY-ASLD

parenting strategies from baseline to post-intervention compared to those with lower parental self-efficacy. It was also hypothesized that an increase in the use of evidence-based strategies from baseline to post-intervention would be positively correlated with parents' subsequent reports of confidence and usefulness of the strategies at post-intervention.

Chapter 3: Method

Data for this dissertation were collected from an individually randomized waitlist-controlled intervention study of the IY-ASLD parent program. The study utilized a rigorous recruitment procedure and multi-method data collection methods. All procedures received Institutional Review Board (IRB) approval from the Teachers College, Columbia University IRB.

Study Design

The participants within the study were randomly assigned to one of two groups: the immediate intervention group or the waitlist control group. This design enabled maximum control of threats to internal validity. The immediate intervention group began the IY-ASLD program right away, whilst the waitlist control group served a control period for 14 weeks. They then received the same intervention afterwards. All participants had access to the intervention, addressing ethical considerations regarding withholding potentially beneficial intervention. An a priori matching strategy was used to achieve balance across conditions on potential confounds (Diehr et al., 1995), including child emotion dysregulation (Behavior Rating Inventory of Executive Function-Preschool [BRIEF Emotion Control]; Gioia et al., 2020) and child language level (Early Learner Curriculum and Achievement Record [ELCAR]; Greer et al., 2020).

Recruitment

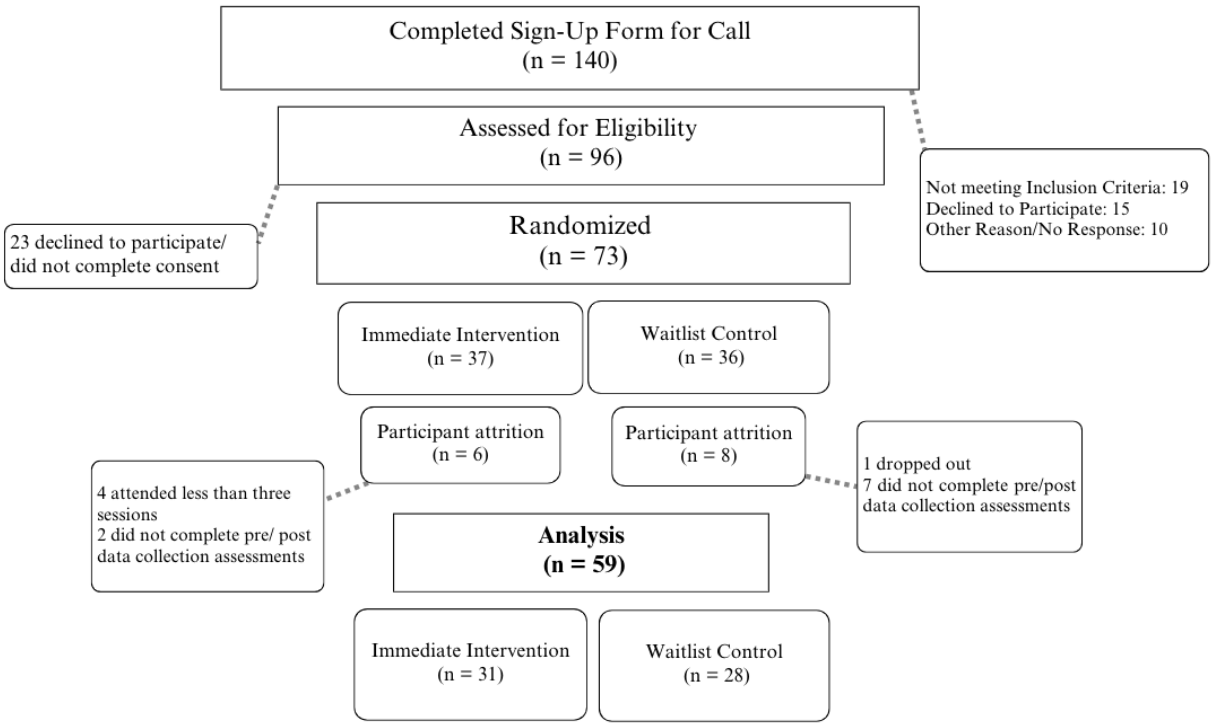
Recruitment for this study occurred during the beginning of the academic school years of 2021-2022, 2022-2023, and 2023-2024. The research team distributed information about the study to parents from schools that serve approximately 300 eligible parents. The schools were Applied Behavior Analysis (ABA) center-based schools with three locations that offered early intervention (EI) and preschool programs. Most children were referred to the center by their local

school district or county. Although the children had developmental delays or disabilities, they may not have been formally classified with a specific diagnosis (e.g., autism) because official classifications in the state typically begin in elementary school. Instead, all enrolled children had Individualized Family Service Plans (IFSPs) or Individualized Education Programs (IEPs) under the broader category of developmental disability to receive appropriate services and support during the preschool years.

The parents were told about the IY-ASLD program through announcements at back-to-school night, paper flyers in backpacks, and emails sent by the school (see Appendix A). These communications included links to a website for more information and a QR code for online registration. Three schools participated and distributed information on behalf of the research team. This outreach occurred over a 1-month period in September at the start of each academic school year (2021-2022, 2022-2023, and 2023-2024). Approximately 300 parents were contacted. In total, 140 parents completed the sign-up form and consented to a screening call to confirm interest and eligibility, and 96 parents were determined to be eligible and received consent forms. Following consent, 73 parents ultimately filled out consent forms and enrolled to begin the intervention. Most parents (N=59) completed the 14-week program and the baseline and post-intervention assessments with limited study attrition (14 parents; 23.73%). Recruitment information can be found in Figure 1.

For participation in this study, children had to be between 18 months (about 1 and a half years) to 5 years old and have either an IEP or an Individualized Family Service Plan (IFSP) for those in EI (ages 0-3) that included the need for speech and language services. Additionally, parents needed to be available to participate in the intervention and assessment process spanning three months.

Figure 1. Participant Enrollment Process



This flowchart illustrates the recruitment and enrollment procedure for the study, detailing methods of parent outreach, steps from initial contact through consent, and final enrollment and completion rates.

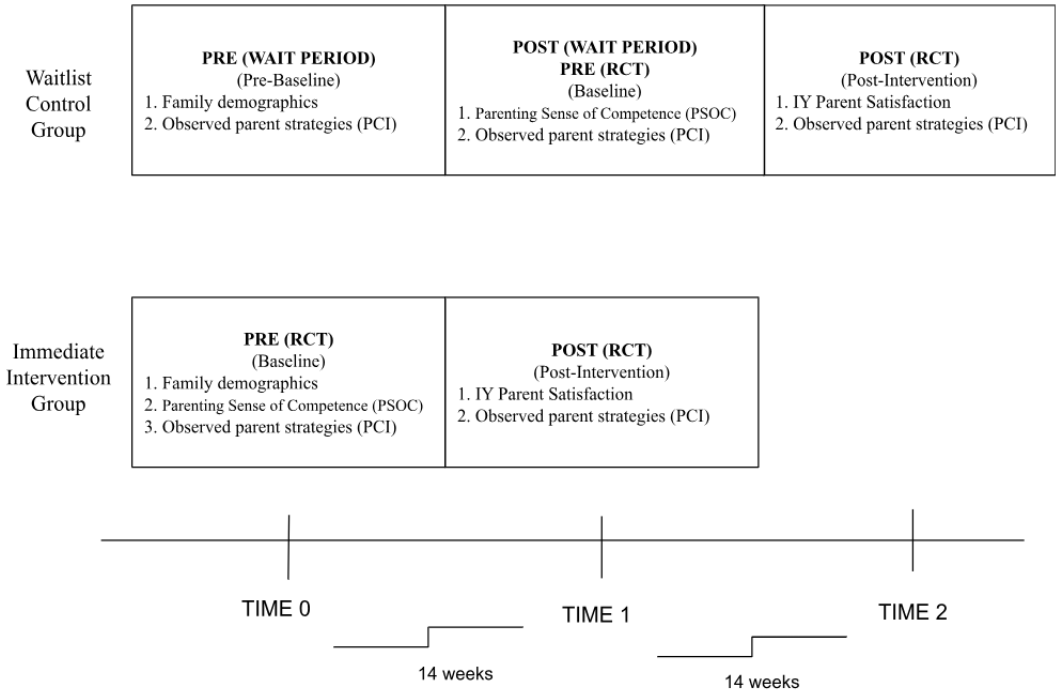
Data Collection

For the waitlist control group, data were collected at three distinct timepoints: (1) prior to the wait period, (2) following the 14-week wait period (which also served as the baseline for the intervention phase), and (3) after completion of the 14-week intervention itself. Before entering the wait period, participants completed measures including the PCI assessment and a self-report questionnaire on family demographics. At the end of the 14 weeks, data were collected again, serving as both post-wait data and baseline intervention data (PCI assessment and a self-report questionnaire on parental self-efficacy). Once the intervention concluded, participant data were

collected again (a post-intervention PCI assessment and the self-report questionnaire on parent confidence in using IY strategies and parent perceived usefulness of the IY strategies).

For the intervention group, data were collected at two distinct timepoints: (1) baseline for the intervention and (2) after completion of the 14-week intervention. The data collected at baseline included a baseline PCI assessment and a self-report questionnaire on family demographics and parental self-efficacy. The data collected at post-intervention included a post-intervention PCI assessment and the self-report questionnaire which was the IY Parent Satisfaction questionnaire on parent confidence in using IY strategies and perceived usefulness of the IY strategies. The data collection items and the distinct time points for each respective group are outlined in Figure 2.

Figure 2. Data Collection Assessments and Procedures



This figure outlines the timeline and methodology for data collection across three assessment points, including PCIs and parent questionnaires for the immediate intervention group and waitlist control group.

PCI Videos

All PCI sessions, during baseline and post-intervention, were conducted via Zoom with parents and children remotely attending from their homes. For the 12-minute sessions, parent-child pairs were advised to be seated together at a table or on the floor in a space with few distractions and asked to complete a series of tasks, which included a building task, free play task, and cleanup (see Appendix F for setup instructions and assessor script). The device used for recording, either a laptop or tablet, was placed in front of them. Parents were asked to have various toys ready for the different tasks, including building blocks, Lego bricks, Magna-tiles, dolls, action figures, stuffed animals, etc. After each session, the PCI videos were uploaded to a folder on the shared laboratory drive, identified by a unique 5-digit ID code assigned to each participant pair.

Participants

The study participants are 59 parents. The demographic information of the participants is detailed in Table 1. The ages of the parents ranged from 24 to 48 years, with a mean age of M = 35.96, *SD* = 7.13. Most of the parents were mothers (93.2%, n = 55), and the rest were fathers (6.7%, n = 4). For ethnicity, 30.5% identified as Hispanic (*n* = 18), 25.4% as White (*n* = 15), 23.7% as Black (*n* = 14), 11.9% as Asian (*n* = 7), and 8.5% as Other (*n* = 5). Child gender included 81.4% boys (*n* = 48) and 18.6% girls (*n* = 11). Child age ranged from 25 to 57 months (approximately 2.1 to 4.8 years). With respect to parent nativity, a total of 62.7% of parents were born in the United States (*n* = 37), and 37.3% were born outside the United States (*n* = 22).

Among parents born outside the United States, countries of origin included India, Nigeria, Mexico, the Dominican Republic, China, the Philippines, Haiti, Jamaica, Japan, Pakistan, Belarus, and South Africa. Parents' ages at immigration ranged from infancy to 39 years. In terms of highest level of education, 8.5% held a GED or high school diploma (*n* = 5), 11.9% had some college without a degree (*n* = 7), 8.5% held an associate's degree (*n* = 5), 27.1% held a bachelor's degree (*n* = 16), 44.1% held a graduate level degree with included a masters or doctoral degree (*n* = 26). A total of 8.5% reported a household income of less than $34,999 (*n* = 5), 13.6% reported $35,000–$74,999 (*n* = 8), 18.6% reported $75,000–$99,999 (*n* = 11), 27.1% reported $100,000–$149,999 (*n* = 16), 13.6% reported $150,000–$199,999 (*n* = 8), 16.9% of families reported an annual income of $200,000 or more (*n* = 10).

Table 1. Participant Demographics

Demographic Characteristics	**N**	**Percentage**
Parent Type		
Father	4	*6.8*
Mother	55	*93.2*
Parent Nativity		
U.S.	37	*62.7*
Outside U.S.	22	*37.3*
Parent High Education Level		
High School Diploma/GED	5	*8.5*
Some College (no degree)	7	*11.9*
Associates Degree	5	*8.5*
Bachelor's Degree	16	*27.1*
Graduate Degree	26	*44.1*
Household Income		
Less than $34,999	5	*8.5*
$35,000-$74,999	8	*13.6*
$75,000-$99,999	11	*18.6*
$100,000-$149,999	16	*27.1*
$150,000-$199,999	8	*13.6*
$200,000 or more	10	*16.9*

Race/Ethnicity		
Hispanic	18	*30.5*
White	15	*25.4*
Black	14	*23.7*
Asian/Pacific Islander	7	*11.9*
Other	5	*8.5*
Child Gender		
Boy	48	*81.4*
Girl	11	*18.6*

Intervention

This study implemented the IY-ASLD intervention, a group-based parent training program designed to equip parents with strategies to support their children's development (Dababnah & Parish, 2016; Hutchings et al., 2016; Webster-Stratton et al., 2018). The IY-ASLD program was delivered over 14 weekly 90-minute sessions, facilitated by two trained group leaders via telehealth.

Intervention Sessions

The sessions utilized video, group discussions, role-plays, and home-based activities (Webster-Stratton, 2015). The program was facilitated by eight IY-trained group leaders, each leading 3-8 participants, in accordance with the IY-ASLD program guide. Each group leader was assigned a trained co-leader to assist with the group sessions. Participants attended 14 weekly, 90-minute sessions held via Zoom. Following the guidance of the intervention developer, the virtual format reduced session lengths while maintaining the program's engaging and interactive structure in an online format.

Each week's intervention session followed a uniform framework that was outlined in the IY-ASLD guide. Each week, the sessions followed the same overall structure: a check-in which encouraged participants to share updates on their at-home practices and experiences from

the previous week's topics, followed by the group leader introducing new strategies corresponding to the session's topic, then the incorporation with video examples showcasing real-life scenarios of parents and their children. The group leaders facilitated discussions that prompted parents to discuss the strategies and how they were utilized in their home context. Role-playing exercises further provided opportunities for practicing and refining these new strategies with feedback.

Session Check-in

The check-in portion of the intervention lasts approximately 10 minutes per session. It is the time when group leaders facilitate discussions among parents to share their challenges and successes from the previous week. Intervention sessions of each of the group leaders were recorded on a laptop computer. The videos were uploaded to a folder on the shared laboratory drive. The check-in was transcribed and coded, and during the transcribing, participant names were de-identified. The qualitative dataset consisted of transcripts from 12 intervention groups collected during each of which held 14 weekly sessions as part of the IY-ASLD program. Each group session included a 10-minute ‘check-in’ discussion, during which parents were prompted by the group leaders to reflect on their use of a specific parenting strategy introduced the previous week. These ‘check-ins’ were transcribed verbatim and used as the primary qualitative data source for analysis. The dataset comprised a total of 152 transcripts. This excludes the first session from each group, as it served as an introduction to the IY-ASLD program and did not include strategy-specific ‘check-in’, due to four session recordings being missing or unusable due to technical challenges.

Activities Outside of Intervention

Interventionists conducted midweek phone calls with parents alongside the weekly session. These phone calls were individualized for each parent and lasted about 2 to 10 minutes each. The phone calls provided an optional opportunity for parents to receive any additional support. Parents also received materials via email, including worksheets and recommended readings, to support ongoing learning and application at home. While in intervention, parents were The Incredible Years Helping Preschool Children with Autism (2-5 years): Parents and Teachers as Partners (Webster-Stratton, 2021), a book related to the IY-ASLD intervention. Participants in the control condition received no intervention other than the workshops offered by the school and specific help with skills acquisition from the school staff if requested.

Training and Supervision of Group Leaders

The eight group leaders participated in a comprehensive 5-day telehealth training specifically for the IY-ASLD program before leading their intervention groups. All were pursuing or had completed advanced degrees in school psychology or special education. Each group leader had experience working with young children, families, and children diagnosed with autism. Throughout the intervention period, the group leaders adhered to the program's manual for session structure. The sessions were recorded on video for review purposes. For ongoing professional development and program fidelity, the group leaders engaged in bi-weekly virtual meetings with the program's developer for supervisory sessions. These meetings were an opportunity for all group leaders to present video clips from their sessions, discuss their goals, reflect on their practice, and seek advice on specific challenges.

Implementation Fidelity

For each group, the co-leader (a trained group leader who, for that group, was serving as co-leader rather than the main group leader) filled out a checklist at the conclusion of every

session. This checklist assesses the intervention session items the group leader completed during the session (e.g. showing specific videos, conducting role-plays). Additionally, a blind coder also completed a separate checklist for each session after reviewing the Zoom sessions. The same coder coded all of the sessions for one group. Both checklists were then reviewed, and the proportion of content completed was calculated to assess fidelity and intervention integrity.

Measures

Parent participation, observed behavior, and perceptions related to IY-ASLD were evaluated. The measures included (a) dosage; (b) an observational coding system of parent–child interaction sessions to quantify parents' use of IY-ASLD strategies; (c) baseline self-reports of parenting self-efficacy; and (d) post-intervention self-reports of confidence and perceived usefulness of IY-ASLD strategies.

Dosage

Each group's attendance was recorded. Research assistants examined recordings of each parent's Zoom session at 15-minute intervals. Parents who were visible at each interval received full credit for the 90-minute session. Inter-rater reliability for dosage coding was assessed using percent agreement. One coder coded all the IY-ASLD session videos of the 12 intervention groups (14 sessions per group), while a second coder coded 36% of the videos for reliability purposes. For each group, the percent agreement between coders was calculated across all double-coded videos and ranged from 84% to 100% with a mean of 97.33% in agreement across intervention session videos. The mean number of sessions attended by participants is 10.07 out of the14 intervention sessions.

Observational Measure of IY Strategies (Baseline, Post-Intervention)

PCI sessions were coded in 15-second intervals as present or absent, with coding schemes derived from prior literature (Robinson & Eyberg, 1981) and tailored for Zoom recordings. Videos were coded to capture parent use of nine different IY strategies: descriptive commenting, reflections, face-to-face, and labeled praise, pre-academic coaching, social coaching, emotion coaching, and persistence coaching.

Strategies were coded by observers who had gone through training and showed adequate reliability (see Table 1 for coding definitions and inter-observer reliability scores). Coders underwent training to code specific strategies, demonstrating at least 80% agreement before coding videos for the study. Of the recorded videos, 33% were selected for assessing inter-observer reliability. Because the strategies were coded as frequency counts, intraclass correlation coefficients (ICCs) were calculated using a two-way random effects model with absolute agreement (ICC[2,1]). Results indicated acceptable inter-rater reliability across all nine parenting strategies (Koo & Li, 2016). See Table 2.

Table 2. IY-ASLD Strategies and Definitions

	Reliability ICC	**Definition**
Reflections	.81	Repeating, paraphrasing, or elaborating on what the child said. It is a declarative phrase or statement.
Face to Face	.75	Parent and child looking at the partner's face. This could look like social referencing, an attempt to make eye contact, being cued into the interaction, looking to share a moment, or get information.
Descriptive Commenting	.73	Describing exactly what the child is doing by labeling developmentally appropriate actions, objects, and concepts (sportscasting).
Pause and Wait	.71	Waiting and giving time for the child to express wants; giving time to think and process what is said.

Labeled Praise	.78	A specific type of praise that clearly communicates to a child what they have done correctly or admirably. It involves explicitly stating the behavior being praised.
Pre-academic Coaching	.77	Naming, modeling, or prompting basic concepts/academic language that includes numbers, letters, colors, body parts, prepositions, locations/relative concept (under/above, behind); foods and drinks, utensils, animals, toys, art supplies (crayons), or transportation. Includes labeling the objects, attributes, and prepositions to describe what the object is doing.
Persistence Coaching	.76	Naming, modeling, prompting when being curious, patient, trying again, staying calm, or working hard through a difficult task. Parents could also name their own internal cognitive state. Often includes an element of trying to support the child to do the task independently.
Social Coaching	.74	Naming, modeling, or prompting social interactions and social skills. Examples include turn taking, friendship, sharing, manners (please & thank you), introductions, greetings, waiting, helping, validating the experience, first-then/negotiating what to do first.
Emotion Coaching	.73	Naming, modeling, or prompting emotion language and emotional expression (e.g., crying, smiling, frowning). Could include a visual prompt (e.g., drawing a smiley face).

Parent Self-Reported Sense of Efficacy (Baseline)

The Parenting Sense of Competence (PSOC) scale was used to assess parent self-efficacy (Gibaud-Wallston & Wandersman, 1978). For the purposes of this study, only the efficacy subscale was utilized. In the original validation study, the efficacy subscale demonstrated acceptable internal consistency, with a Cronbach's alpha of .76 (Johnston & Marsh, 1989). This measure was used to assess the baseline level of self-efficacy in parents regarding their parenting skills and perceived ability to manage parenting challenges. The scale consists of seven items that capture parental self-efficacy, including role familiarity and confidence in their parenting skills. The items were structured as statements about self-perceptions of parenting. Parents were asked to rate their level of agreement with each statement, reflecting their confidence and

perceived competence in handling parenting duties. Example items include, "The problems of taking care of a child are easy to solve once you know how your actions affect your child, an understanding I have acquired." Another example is, "I honestly believe I have all the skills necessary to be a good parent to my child." Each item is rated on a scale ranging from 1 ("Strongly Disagree") to 7 ("Strongly Agree"). In the present study, this scale showed acceptable internal consistency at baseline (alpha = .764).

Parent Self-Reported Confidence in Strategy Use (Post-Intervention)

Parents' perceived confidence in strategy use was assessed with the Incredible Years Parent Satisfaction Questionnaire, which measures the confidence of parents in their ability to use specific strategies taught during the intervention. The assessment, which occurred post-intervention, consists of twelve items that each correspond to a different strategy introduced in the IY-ASLD program. Each item is a statement that parents respond to, reflecting their confidence in implementing the specified strategy. Example items include: "Setting up structured play dates to help your child practice specific social skills?" Parents rate their confidence on a 5-point rating scale ranging from 1 ("Very Unconfident") to 5 ("Very Confident"). In the present study, this measure showed strong internal consistency at post-intervention (alpha=.95).

Parent Self-reported Usefulness (Post-Intervention)

Parents' perceived usefulness of strategies was measured using the Incredible Years Parent Satisfaction Questionnaire, which measures parents' perceptions of the usefulness of various parenting techniques they were taught and practiced during the intervention. The assessment was conducted post-intervention to determine parents' perceptions around the value of these strategies. The measure consists of 8 items, each targeting a specific strategy. Example items include "narrated child-directed play" or "emotion coaching." Parents rated the usefulness

of each strategy using a 7-point rating scale ranging from 1 (“Extremely Useless”) to 7 (“Extremely Useful”). In the present study, this measure showed strong internal consistency at post-intervention (alpha=.96).

Analytic Plan

To address the first aim (i.e., examining changes in parents’ use of strategies from the IY curriculum during play interactions with their child before and after participating in IY-ASLD), a series of statistical tests was conducted on measures of parent observed behaviors at baseline and post-intervention. A doubly multivariate repeated-measures general linear model was conducted, with individual parent strategies as the dependent variables. The within-subjects factor was time (baseline and post), and the between-subjects factor was group (immediate intervention and waitlist control). This analysis examined changes in parents’ strategy use from baseline to post-intervention. The analysis determined whether these changes varied as a function of group membership between the immediate intervention and waitlist control groups, thereby providing a robust test of the intervention's impact. If potential demographic covariates were identified as related to changes in specific parents' strategies in preliminary analyses, the analytic plan was to follow up on the above-mentioned analyses with univariate analyses that controlled for these covariates.

To address the second aim (i.e., understanding parents’ experiences of applying strategies by using a qualitative framework to identify themes from their reflections), the transcripts of 10 minutes of the check-in portion of each intervention session were analyzed using a thematic analysis approach (Braun & Clarke, 2006). A six-phase approach to thematic analysis was followed (Braun & Clarke, 2006, 2012). The first step involved getting familiar with the transcribed data (Phase 1) and generating notes specific to the information provided during these

check-in sessions. These interpretations helped guide later theme development. The second step was to generate descriptive and interpretive codes (Phase 2) using these notes to capture family experiences. Two research team members worked independently to identify meaningful codes and met weekly to engage in discussion regarding codes. A codebook was developed using the combination of deductive and inductive approaches, drawing from the IY-ASLD program content and the initial pilot coding phase. Once a set of codes was established, themes were identified from these codes (Phase 3) to better explain broader patterns emerging from the codes. The review of potential themes (Phase 4) began using a recursive process that considers how themes relate to codes. To ensure consistency, coders continued to meet weekly to discuss excerpts, refine definitions, discuss discrepancies, and adjust the codebook as needed. Over time, codes were aggregated and collapsed into primary and secondary themes that captured the complexity of parents' experiences with strategy usage.

Once finalized, identified themes were defined and named (Phase 5). Coders collaborated to finalize themes, generate definitions, and identify representative quotes across sessions. Each identified theme had a singular focus, may be related to but not overlap with other identified themes, and was directly related back to the primary aim (Braun & Clarke, 2012). Select quotes were identified to provide tangible examples of the identified themes. The final step involved producing a report on these themes, which includes refining notes through this process and formally writing up all analyses (Phase 6).

To enhance transparency in the qualitative analysis, it is important to describe the positionality of the coders. As the first coder and author of this dissertation, I served as the primary coder. I am a trained interventionist in the IY-ASLD program and have experience delivering the intervention, as well as interacting directly with families. I am also a former

special education teacher and received doctoral-level training. These experiences provided me with knowledge about the program content and an understanding of families with an autistic child. There was a potential risk of assuming an understanding of parent discussions. I worked to mitigate this risk through discussions with the second coder and systematic application of the coding framework. The second coder is the parent of an autistic child and holds a master's degree in developmental disabilities. This coder did not participate in or deliver the IY-ASLD intervention but received a brief overview of the program prior to starting the qualitative coding process. The second coders' lived experience provided a valuable perspective for interpreting the 'check-in' transcripts and understanding parent conversations. The coding process was collaborative, involving weekly meetings between coders to review transcripts. These meetings involved integrating complementary perspectives. The ongoing dialogue between the coders supported enhanced reliability and contributed to the overall credibility and trustworthiness of the qualitative findings.

The qualitative data analysis was conducted using Dedoose, a cloud-based qualitative coding application that enables real-time collaboration among coders as well as features to support the identification of patterns and trends across the data. Within Dedoose, excerpts were created directly from the transcripts to serve as the units of analysis. Most excerpts were created at the sentence level to capture discrete moments in parent discussions. The coding team also allowed for flexibility when a parent expressed a more complex idea, in which longer excerpts were selected to preserve the meaning of the parent's statement. This approach ensured that details and context were captured.

Transcripts were organized by strategy topic because each IY-ASLD intervention session focused on a distinct IY-ASLD strategy. This allowed the research team to identify

strategy-specific patterns. Additionally, this allowed for comparisons across IY-ASLD strategies. Final themes were grouped for each respective IY-ASLD strategy. It is important to note that several transcript quotes were double-coded because they had reflected multiple primary themes or secondary themes. This helped to capture the complexity and nuances of parent conversations within the intervention sessions.

Although the IY-ASLD program includes nine parenting strategies (descriptive commenting, labeled praise, pause and wait, face-to-face, reflections, social coaching, pre-academic coaching, persistence coaching, and emotion coaching), only six were included in the qualitative analysis. The strategies pause and wait, reflections, and face-to-face were excluded from this particular analysis because they were not explicitly the focus of any of the sessions. Instead, these strategies were embedded throughout sessions and not consistently prompted by group leaders during the 'check-in' discussions. As a result, parents did not reliably discuss these strategies during 'check-ins,' and the available transcripts did not contain sufficient data to support a meaningful thematic analysis of these strategies.

To address the third aim (i.e, tests of the associations between parents' self-reported self-efficacy, changes in their strategy use, their reports of confidence, and their reports of strategy usefulness after participating in the intervention), descriptive data were first examined to determine whether parent self-reported variables (self-efficacy, confidence, and usefulness) were normally distributed. A Pearson correlation was used to assess the strength and direction of the relationship between parent self-efficacy (at baseline), changes in strategy use (i.e., calculated with a residualized change score), self-reported confidence in the use of strategies (post-intervention), and self-reported perceptions of the usefulness of strategies (post-intervention). Residualized change scores for each strategy were calculated by regressing the

post-intervention total strategy score on the baseline score and saving the unstandardized residual score.

Chapter 4: Results

Aim 1: Changes in Observed IY-ASLD Strategy Use

Preliminary Analyses for Aim 1

Prior to conducting study analyses, descriptive data on all study analyses was examined (see Table 5). Examination of observational data revealed that one strategy, pause-and-wait was extremely low occurring. This behavior had a mean occurrence of .254 (SD = .544, range = 0-2) at baseline and a mean of .237 (SD = .532; range = 0-3) at post-intervention; the majority of parents did not use this behavior (79.7% at baseline and 84.7% at post-intervention). Given the study's modest sample size relative to the number of variables being tested, it was decided that this behavior would be removed from subsequent analyses.

Next, correlations were assessed between parent strategies and key demographic variables that were considered to be potential covariates based on their empirical and theoretical relevance to parent behaviors (i.e., family income, parent education, parent age, and child age). No significant associations that emerged so no potential covariate in subsequent univariate or bivariate analyses were focused on.

Table 3. Descriptive Statistics of Study Variables

	N	Min.	Max.	Mean	Std. Deviation
Observations of Parent Strategies					
Descriptive Commenting Pre Intervention	59	.00	7.00	1.29	1.78
Descriptive Commenting Post Intervention	59	.00	21.00	2.17	3.76
Pause and Wait Pre Intervention	59	.00	2.00	0.254	0.544
Pause and Wait Post Intervention	59	.00	3.00	0.237	0.625

Face to Face Pre Intervention	59	.00	21.00	0.881	3.03
Face to Face Post Intervention	59	.00	8.00	0.728	1.61
Reflections Pre Intervention	59	.00	12.00	2.49	3.15
Reflections Post Intervention	59	.00	17.00	2.94	4.16
Labeled Praise Pre Intervention	59	.00	5.00	0.71	1.26
Labeled Praise Post Intervention	59	.00	9.00	0.69	1.75
Pre Academic Coaching Pre Intervention	59	.00	49.00	16.40	11.30
Pre Academic Coaching Post Intervention	59	.00	43.00	18.20	10.93
Persistence Coaching Pre Intervention	59	.00	7.00	1.05	1.56
Persistence Coaching Post Intervention	59	.00	6.00	1.05	1.77
Social Coaching Pre Intervention	59	.00	23.00	3.81	4.63
Social Coaching Post Intervention	59	.00	11.00	4.27	3.00
Emotion Coaching Pre Intervention	59	.00	6.00	.65	1.39
Emotion Coaching Post Intervention	59	.00	6.00	.86	1.44
Parents' Self-Reports					
Parent Self Efficacy Pre Intervention	58	17.00	42.00	28.46	5.63
Strategy Confidence Post Intervention	56	12.00	60.00	45.55	9.11
Strategy Usefulness Post Intervention	48	32.00	56.00	50.20	6.75
Demographic & Intervention-related Data					
Household Income	58	1.00	10.00	7.53	1.99
Child Age in Years	58	2.08	4.75	3.46	0.72
ParentAge	53	25.00	48.00	35.77	7.15
Session Attendance	59	3.00	14.00	10.71	3.00

Primary Analyses for Aim 1

To assess changes in parent strategy use from baseline to post-intervention, a series of general linear models were conducted to test the effects of time (pre intervention vs. post intervention) as the within-subjects factors and group (intervention vs. waitlist control) as the between subjects factors. Because there were eight distinct parent strategies observed during the parent-child interaction (descriptive commenting, face-to-face interaction, social coaching, emotion coaching, pre-academic coaching, persistence coaching, reflections, and labeled praise), an omnibus test (i.e., a doubly multivariate repeated-measures general linear model) was first conducted to identify effects at the multivariate level and this analysis was followed by individual repeated measures analyses of variance for significant effects, while controlling for multiple comparisons using a Bonferroni adjustment. For this analysis intervention comes from the treatment group whereas the waitlist group serves as business-as-usual control for 14 weeks.

Test of Multivariate Effects. A doubly multivariate repeated-measures general linear model was conducted with time (pre, post) as the within-subjects factor and group (intervention, waitlist control) as the between-subjects factor, and with eight parent strategies tested as dependent variables. Results from the multivariate test revealed a statistically significant between subjects group effect, indicating that overall strategy use differed between the intervention and control groups, $F(8, 50) = 2.149$, $p = .048$, partial $\eta^2 = .256$ for at least one parent strategy. The within-subjects effect of time was not significant $F(8, 50) = 0.590$, $p = .781$, partial $\eta^2 = .086$, suggesting no uniform change in strategy use over time across both groups. Finally, the time x group interaction was significant, $F(8, 50) = 2.880$, $p = .010$, partial $\eta^2 = .315$, indicating that the change in strategy use over time varied by group for at least one parent strategy. These analyses

were follow-up with post-hoc univariate tests that used a Bonferroni correction to control for multiple comparisons.

Post-Hoc Tests of Univariate Between-Subjects (Group) Effects. Follow-up univariate analyses examining between group differences (intervention vs. waitlist control) revealed significant group effects for three strategies: descriptive commenting $F(1, 57) = 9.835$, $p = .003$, partial $\eta^2 = .147$, pre-academic coaching $F(1, 57) = 4.478$, $p = .039$, partial $\eta^2 = .073$, labeled praise $F(1, 57) = 8.009$, $p = .006$, partial $\eta^2 = .123$. For all three behaviors the intervention group was observed to show a significantly higher frequency of the behavior, overall, than the waitlist group.

No significant between-group differences were observed for face-to-face interaction, $F(1, 57) = 0.388$, $p = .536$, partial $\eta^2 = .007$; social coaching, $F(1, 57) = 0.526$, $p = .471$, partial $\eta^2 = .009$; emotion coaching, $F(1, 57) = 2.880$, $p = .095$, partial $\eta^2 = .048$; and persistence coaching, $F(1, 57) = 0.031$, $p = .861$, partial $\eta^2 = .001$; and reflections, $F(1, 57) = 2.440$, $p = .124$, partial $\eta^2 = .041$. For reflections, a follow-up controlling for parent education was not tested, given that no significant effect was observed at the multivariate level.

Post-Hoc Tests of Time x Group Interaction Effects. There was a significant time × group interaction for descriptive commenting, $F(1, 57) = 4.213$, $p = .045$, partial $\eta^2 = .069$, for emotion coaching, $F(1, 57) = 13.153$, $p < .001$, partial $\eta^2 = .187$, and for persistence coaching, $F(1, 57) = 4.137$, $p = .047$, partial $\eta^2 = .068$. The time x group interaction was not significant for face to face, $F(1, 57) = 0.017$, $p = .898$, partial $\eta^2 = .000$; social coaching , $F(1, 57) = .101$, $p = .751$, partial $\eta^2 = .002$; pre academic coaching, $F(1, 57) = 1.0248$, $p = .316$, partial $\eta^2 = .018$; reflection, $F(1, 57) = 0.154$, $p = .697$, partial $\eta^2 = .003$; labeled praise, $F(1, 57) = 1.071$, $p = .305$, partial $\eta^2 = .018$.

Follow-up Pairwise Comparisons for Time x Group Effects. For those parent strategies that showed a significant time x group interaction, follow-up pairwise comparisons were conducted to examine differences between the means of the intervention and waitlist control groups within levels of the time variable (baseline and post-intervention), while adjusting for multiple comparisons using a Bonferroni p-value correction. With regard to descriptive comment, there was a significant increase in parents' use of these strategies from baseline to post intervention for the intervention group $F(1, 57) = 4.213$, $p = .045$, partial $\eta^2 = .069$, but no significant change for the waitlist control group from baseline to post intervention.

Additional pairwise comparisons showed that for emotion coaching, parents in the intervention group showed a significant increase in strategy use from baseline to post-intervention $F(1, 57) = 13.153$, $p < .001$, partial $\eta^2 = .187$. See Figure 4.

For persistence coaching, the intervention group made a significant change, coaching $F(1, 57) = 4.137$, $p = .047$, partial $\eta^2 = .068$, suggesting variability in response to this strategy (See Figure 5).

Figure 3. Follow-up Pairwise Comparisons for Descriptive Commenting

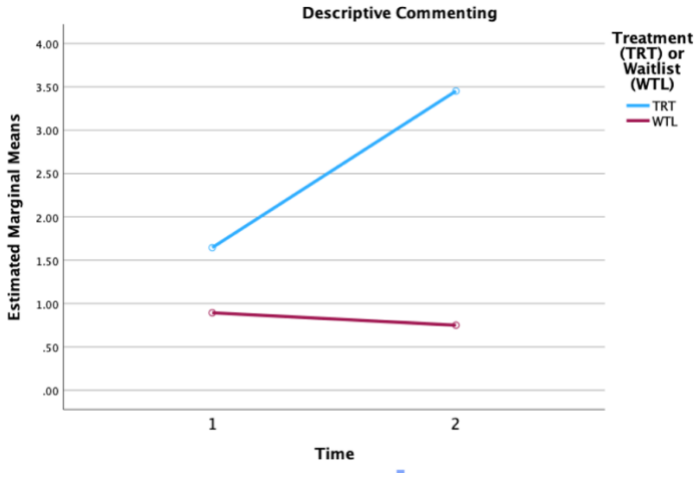


Figure 4. Follow-up Pairwise Comparisons for Emotion Coaching

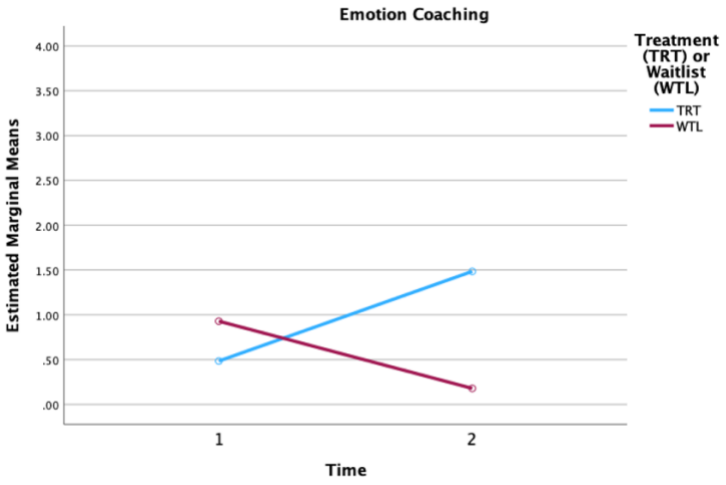
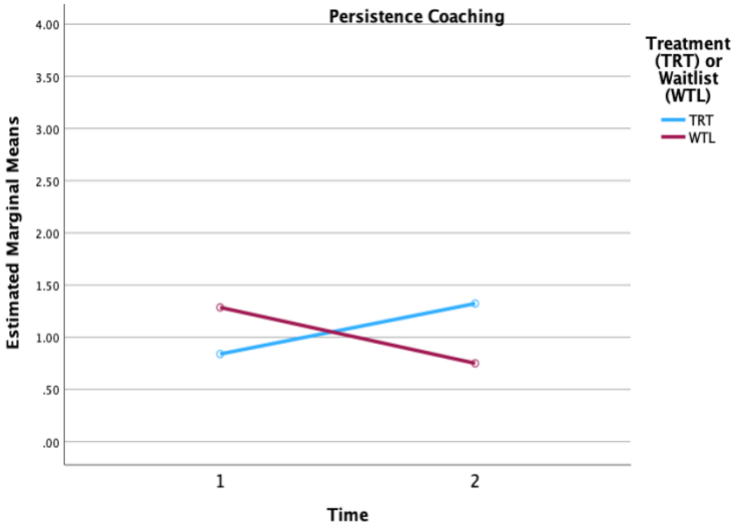


Figure 5. Follow-up Pairwise Comparisons for Persistence Coaching



Aim 2: Parent Discussions on Strategy Use: Thematic Analysis of Session Check-Ins

Thematic Coding Framework

Four primary themes emerged related to parents' usage of intervention strategies: *strategy utilization, cognition, child development,* and *family context*. Each theme encompasses multiple secondary themes that reflect parents' experiences in using the IY-ASLD strategies. Table 4 provides a brief definition of each secondary theme with an example quote and the total number of times the label occurred throughout all coded session data.

Table 4. Primary and Secondary Themes from Parent Discussions of IY-ASLD Strategies

Primary and Secondary Themes	**Definition**	**Quote Example**	**Code Count**
Strategy Utilization	**How and when parents use the IY-ASLD strategies and the factors that support or hinder their usage of those strategies.**		**437**
– Context	How and when parents apply specific strategies taught within the intervention. Situational or environmental factors influencing the use or non-use of strategies.	*I definitely tried persistent coaching. So instead of doing it for him, I would just tell him, 'you can do it, just keep trying, push push.*	242
– Child resistance	Instances where the child is unresponsive or oppositional to the parent's attempts at strategy use.	*It does get challenging, 'cause she doesn't always want me involved. She says, 'No Mommy,' and takes the toy back.*	54
– Child receptiveness	Moments where the child is open, responsive, or engaged when strategies are used.	*She started seeing that with me. She was like, 'Oh no, Mama.' So it was like, yeah. She started to, like, repeat what I was saying.*	143

– Parent capacity	The parent's availability (emotional, cognitive, logistical) to implement strategies.	*I feel like it's hard sometimes, like at the end of the day when I'm tired... I just wanna do it for him, but I try to push through.*	156
Cognition	**Parents' internal processing of strategies and how they understand and reflect on their use and impact.**		**302**
– Knowledge of the application of strategies	Parents' understanding of how to adapt, interpret, and apply intervention strategies in ways that fit their child's needs and daily routines.	*It's awkward, you know? It's like retraining your brain... I have to remind myself to say the encouraging stuff, not jump in to fix it.*	97
– Foundational Knowledge & Insights	General awareness or insights about parenting, child behavior, or development.	*He did something really interesting this week. When I named his feeling, he looked at me like, 'oh you get it' and I think I realized that's what he needs more of.*	89
– Efficacy and Confidence	Parents' belief in their ability to successfully use strategies and impact their child.	*It just takes time and patience. I feel bad that I did that to my husband and Max didn't get the things he needed. I feel like a bad mom.*	29
– Emotions associated with strategy use	Experiences related to parenting or strategy use.	*I feel bad if I raise my voice just out of frustration, even when I know he's trying. It's something I'm working on.*	40
– Coping/Wellbeing	How parents manage stress and prioritize their mental and physical health.	*I try to take deep breaths and remind myself it's okay if everything doesn't go to plan.*	29

– Sense of support/community from the parent group	Feelings of connection, validation, and shared experience from other group members.	*I wanted to join the group so that we can exchange ideas and also I want to learn from other parents too.*	23
– Parenting perspective	Shifts or growth in how parents view their role or approach to parenting.	*My father was very strict. I had to do things out of fear. I was starting to do the same thing. I said to myself, this isn't working. I don't feel good about yelling at my child.*	44
Child Development	How parents notice their child's growth.		199
– Reflection from parents on aspect of child development	Parents' observations and insights about their child's growth, behavior, and developmental changes.	*She didn't used to calm down that fast, but now when I say, 'you're sad, you miss Daddy,' she actually listens and nods.*	173
– Parent-child interactions/relationship	Parent observations of the quality and dynamics of interactions between the parent and child.	*He kept pulling me into what he was doing. He wanted me there with him.*	26
Family System	How family shapes parenting and strategy use.		48
– Family dynamics	Specific relationships, roles, and patterns within the family unit.	*A lot of having my son and him having autism has been me showing my mother more how to be a better parent she always resorted to yelling at us.*	48
– Sharing knowledge of IY with others in the family	Instances where parents pass on strategies or insights to other family members.	*I also talked to my husband about using some of the calm-down strategies we practiced.*	8

The first theme, **strategy utilization**, captured how and when parents applied strategies introduced in the intervention. This theme reflected both the frequency and quality of strategy

use, as well as the situational and emotional conditions that supported or hindered uptake of the strategy. Four secondary themes occurred under this broad theme. *Context* refers to the situational settings and routines, such as mealtimes, transitions, or play, where parents applied strategies. *Child receptiveness* refers to moments when the parent describes their child as responding positively to a strategy, often through eye contact, imitation, verbal engagement, or shared attention. In contrast, *child resistance* captured instances when the parent described their children as rejecting or ignoring strategy attempts, such as walking away, saying "no," or physically resisting. *Parent capacity* refers to moments when a parent describes the emotional, physical, and mental readiness to implement strategies. For example, when parents stated that strategy use was more difficult due to feeling tired, overwhelmed, or distracted.

The second theme, **cognition**, captured how parents spoke about what they were learning and how their perspectives may be shifting regarding parenting. Five secondary themes occurred under this primary theme. *Knowledge of strategy application* is when parents demonstrate some understanding of the underlying reasons for applying the strategy or how to use the strategy effectively. *Foundational knowledge and insights* are when parents articulated their learning about parenting and child behavior that went beyond the IY-ASLD strategy itself. *Efficacy and confidence* referred to parents' own beliefs in their ability to apply the IY-ASLD strategy. *Emotions* captured parents' emotional reactions to using specific IY-ASLD strategies such as frustration when a technique didn't work. *Parental well being* describes the broader self-regulation and wellness practices parents used to manage stress and sustain their capacity to engage with the intervention. This included practicing self-care or seeking social support.

The third theme, **child development**, referred to the moments parents thought back on their child's growth. *Reflections on developmental change* are the instances parents discuss

progression or regression of various developmental skills for their child. For example, parents noted an improvement in verbal expression. *Parent–child relationship* refers to moments parents share about their interactions with their child. For example, they may share feeling positive during play interactions or a better sense of warmth or friendliness from their child.

The fourth theme, **family system**, reflected the broader family dynamics, histories, and relationships that influenced strategy uptake. For example, some parents discussed how differing parenting styles between parents, prior experiences with behavior management, or support from extended family members shaped their ability to consistently apply intervention strategies. *Family dynamics* captured how parents described the roles, relationships, and histories within their family such as those involving spouses, child's siblings, or their own parents and how these dynamics shaped their parenting approaches. S*haring knowledge with family members* referred to instances where parents described actively passing on strategies or insights from the intervention to others in the household to promote a shared understanding and consistent caregiving approach.

Table 5 showcases the occurrence of each theme as the number of times that they appear within the transcripts.

To assess the consistency of qualitative coding across raters, inter-rater reliability was calculated using Cohen's Kappa statistic (Cohen, 1960), a robust measure for evaluating agreement beyond chance for nominal data. A Cohen's Kappa of 0.84 was obtained across all codes, indicating substantial to almost perfect agreement based on the benchmarks proposed by Landis and Koch (1977), where values between 0.61–0.80 are considered substantial and values above 0.81 represent almost perfect agreement. Across primary and secondary themes, Cohen's kappa values were consistent, reflecting substantial to almost perfect agreement (Landis & Koch, 1977).

Table 5. Strategy-Specific Occurrences of Primary and Secondary Themes

	Descriptive Commenting	**Labeled Praise**	**Social Coaching**	**Pre Academic Coaching**	**Emotion Coaching**	**Persistence Coaching**
Strategy Utilization	**76**	**12**	**59**	**25**	**48**	**56**
Context	42	5	39	16	30	32
Parent Capacity	20	6	16	6	16	21
Child Resistance	14	2	4	6	1	4
Child Responsiveness	29	6	21	8	7	23
Parent Cognition	**54**	**5**	**21**	**10**	**36**	**33**
Knowledge of Application	21	1	4	2	14	8
Efficacy & Confidence	3	0	0	3	3	5
Foundational Knowledge	19	2	8	2	9	11
Emotions	5	1	4	0	9	0
Coping/Well-being	1	0	1	0	5	1
Community	4	0	1	2	0	4
Parenting Perspective	11	1	3	1	6	8
Child Development	**24**	**4**	**31**	**7**	**18**	**16**
Reflections on Development	17	4	28	7	13	12
Parent-Child Relationship	7	0	3	0	5	4

Family Context	**10**	**0**	**3**	**0**	**1**	**6**
Family Dynamics	9	0	3	0	1	4
Sharing of IY with family	1	0	0	0	0	2

Note: Values reflect the number of times the theme occurred with regard to a specific IY-ASLD strategy. Instances where the secondary theme occurrence does not sum to the total for the primary theme reflects cases where the same excerpt referred to two or more secondary themes.

Descriptive Commenting

During descriptive commenting sessions, the most prominent theme that emerged was *strategy utilization* (occurring 76 times). Among the secondary themes, parents frequently noted *context* (42). Parents often described how they actively tried to incorporate descriptive commenting in their child's daily routines and tried to shift their interaction style from questioning to observation-based commentary. Parents also mentioned how narrating their child's actions felt uncomfortable especially in making the shift from posing questions to narrating their child's actions. For example, one parent brought up, "I usually ask him questions, so just saying stuff felt weird." In this comment, the parent captures a subtle but significant cognitive process required to move from questioning (the default mode) to commentary and narration. This quote suggests that even though the strategy might initially feel unnatural, the intentionality of trying descriptive commenting in daily activities helps practice and integrate it into their communication style with their child. Several parents also discussed *parent capacity* (20), acknowledging mental bandwidth or emotional state as influencing factors. For example, one parent shared, *"*This week just ran by, I couldn't try as much as I wanted to" highlighting that day to day demands can hinder opportunities to attempt descriptive commenting with their

child. Some parents observed *child resistance* (14), describing avoidance behaviors or disinterest when trying to implement the strategy. Meanwhile, many parents noted *child responsiveness* (29), highlighting a perceived increase in engagement, such as through non-verbal behaviors (e.g. "He smiled when I described what he was building like he liked that I was noticing"). The high occurrence of child responsiveness suggests that it was reinforcing to continue the usage of the strategy as their child was responding positively to the descriptive commenting.

The primary theme of *parent cognition* also emerged frequently (54) across descriptive commenting sessions. Many parents shared information aligned with *knowledge of application* (21). This included times where parents may have felt initially confused about how to apply the strategy (e.g., "Um, and then I tried it again yesterday, and I was like, I don't even know if I'm doing it right. I was just trying to narrate what he was doing."; "I feel like I'm talking so much. Am I supposed to say this much? I just kept describing everything, but it felt unnatural"). This suggests that even though parents were unsure if their usage of descriptive comment was the "right" way, they were often attempting to use the strategy regardless. *Foundational knowledge* (19) also came up quite frequently, highlighting instances where parents revealed specific insights about their strategy use, such as times where parents better understood how to engage with their child: "I realize I have to be interested in what she's doing, not just pretend, but really see it through her eyes. That changed how I commented." This suggests that parents were internalizing the descriptive commenting strategy and understanding the reason why this strategy is developmentally beneficial and appropriate. Other secondary themes that emerged but not as frequently discussed were *efficacy and confidence*, *emotions*, *coping/well-being*, *community*, and *parenting perspective*.

Parents often made references aligned to *child development* (32), mainly around *reflections on development* (21) and *parent-child relationship* (11). *Reflections on development* mostly included opportunities where parents discussed how they used descriptive commenting in relation to modeling and imitation (e.g., "He doesn't really imitate a lot, but I've noticed that since I've been describing his play, he tries to copy what I say sometimes.") and using non-directive approaches for relationship building (e.g., "Yea, I'll say umm I played with both my kids and it felt really nice. Like we were just in it together, not correcting or teaching, just playing.").

Relatively few parents included discussions that were coded under *family context* (10). Most of these attributions fell under *family dynamics* (9), specifically mentioning the dynamics with siblings. Parents discussed using descriptive commenting in a multi-child household: "It worked when we had him alone. When the siblings were around, it all kind of fell apart." Parents also discussed moments when it brought family members to interact with one another (e.g. "I played with both my kids and it made it very engaging. I think it brought us all together"). Only one parent was coded for *sharing of IY with family* (1), which occurred when the parent within the group would share the IY-ASLD strategy with their spouse who would also attempt using the strategy with their child (e.g. "My husband was doing that. And my husband's like, 'she rolled her eyes at me, but I still kept, like, following her'").

Labeled Praise

Among the excerpts from the labeled praise sessions, the theme of *strategy utilization* (12) emerged as the most prominent primary theme (but the lowest across all sessions for this theme). Parents mentioned applying labeled praise across a variety of *contexts* (5), including mealtime, potty training, transitions, and play. Parents brought up that the flexibility of

intentional embedding into routines was helpful. As one parent explained, “With potty training, it wasn’t even the lollipop that worked, it was all the ‘Oh my gosh! You did great with the potty!’ that really motivated him.” The secondary theme of *parent capacity* (6) also emerged, with parents reflecting on their emotional bandwidth and stress as factors that influenced consistent implementation (e.g. “Throughout the week, I just forgot to use it. I think I was just overwhelmed, and my mind was on other things.”). The strategy of labeled praise required parents to be mindful of being specific and intentional with their praise. This proved challenging under stress or fatigue, as one parent admitted, “I keep forgetting to be specific. I just default to ‘good job,’ especially when I’m tired.” The secondary theme of *child resistance* (2) was mentioned only a couple of times from excerpts in which parents discussed moments that their child did not respond to labeled praise: “For him to run away and actually listen to praise it was hard. He just wanted to keep going.” The secondary theme of *child responsiveness* (6) was brought up more times with parents in terms of their child giving a clear positive reaction to labeled praise (e.g. “He thrives on all the praise. The more I say it the more he lights up and listens”). This sense of responsiveness toward labeled praise suggests that positive response are a motivating factor for parents to continue using the strategy.

Parent cognition (5) was another primary theme that emerged, particularly around the *knowledge of application* (1) and *foundational knowledge* (2) as secondary themes. Parents described how labeled praise helped them shift to targeted encouragement. Many parents noted that while praise was already part of their parenting style, the transition to labeled praise, which required explicitly naming the behavior, needed a deliberate cognitive shift. Parents noted that children are beginning to get used to this style of praise (e.g. “I said, ‘Good job using your spoon!’ instead of just ‘yay!’ He hears it more now and even expects it,”). Parents reflected on

the reasoning as to why labeled praise is an important strategy for children. One parent expressed, “It’s not just about correcting him, it's about lifting him up. Helping him feel seen.” In this, the parents shift the focus from managing misbehavior to nurturing their child’s worth and recognition, converting intentional effort to build up their child’s confidence. These comments suggest that for some parents, the value of labeled praise lies not only in reinforcing behaviors but also strengthening their child’s self-esteem. The secondary themes of *efficacy and confidence, coping/well-being, and community* were not mentioned by parents.

Lastly, few parents link labeled praise to *child development* (4) specifically with the secondary theme of *reflections on their child’s development* (4). In these accounts, parents moved from describing their use of labeled praise to sharing concrete examples of how their child’s communication has developed. One parent reflected, “Before she would grab your hand and then just look at you. Now she’s starting to say the word or at least try.” Also mentioning, “She is telling me that she needs something instead of just crying like, she's using her words now.” These statements about labeled praise suggest that parents perceived a connection between consistently acknowledging specific positive behaviors and their child’s increased verbal attempts. These described changes were within day-to-day moments that signaled meaningful growth. The secondary theme of parent-child relationship was not mentioned.

The primary theme of family context did not get mentioned by parents in relation to the strategy of labeled praise.

Social Coaching

Parents frequently reflected on their usage of social coaching, with *strategy utilization* being the most prominent primary theme (59 times). In terms of secondary themes, the *context* (39) in which parents applied the strategy was noted. Many parents described moments of

attempting to support peer interactions, group play, or turn-taking (e.g. “When we're doing these social coaching things, I have to help them take turns or just notice each other more, and that’s hard sometimes”). Some parents highlighted how they tried to intentionally model or prompt social behaviors during everyday moments, for example, “So I was like, ‘Oh look, she wants to play with you,’ and I tried to help him respond.” Several parents also reflected on how their own emotions or mental load impacted implementation, aligning with the *parent capacity* (16) code (e.g. “It’s a lot to remember. Like I’m supposed to coach him every time he plays? That’s exhausting”). This suggests that social coaching may have been a challenging strategy for parents to understand how to embed seamlessly and without a lot of cognitive load on themselves. *Child responsiveness* (21) was another commonly mentioned theme. Some parents shared experiences of positive engagement from their children when using social coaching and reflected on how their child may have felt. For example, one parent mentioned, “He smiled and looked at me when I said, ‘Look, she’s building a tower too!’ like he felt noticed.” Fewer parents described mixed reactions in relation to child resistance (4). One parent shared how they were unsure if the strategy of social coaching was even working for their child stating that, “He kind of ignored me or just kept playing. I don’t know if he’s really taking it in.” Similar comments reflected parents’ difficulty determining the child’s level of engagement or responsiveness when using the strategy and suggested a broader pattern of parents questioning the child’s awareness or uptake of social coaching during use.

Another primary theme that identified was *parent cognition* (21). In particular, *foundational knowledge* (8) emerged most frequently, showing how parents are building their own understanding of providing developmentally appropriate expectations and also recognizing gaps in both their children's and their own knowledge. For example, one parent shared, “It’s not

just for her, it's also for me, because I have to learn how to break it down and teach her. And I'm like, 'Oh, I didn't realize she didn't know that." In this example, the parent described a process of simultaneously teaching and learning, adjusting their own approach while becoming aware of previously unnoticed skill gaps in their child. *Knowledge of application* (4) also emerged as a secondary theme. Some parents described initial confusion and uncertainty about what social coaching should look like, expressing a lack of clarity around expectations, saying "I think I'm doing it? Like I try to say something when they're together, but I'm not sure if that counts." The theme of p*arenting perspective (4)* emerged with parents trying to balance implementing intervention strategies for social coaching while honoring their child's individuality*,* "It is a hard balance and I know we have to encourage and coach them, but it's also like, let them be who they are." Parents spoke about navigating the priorities of promoting social skill development and respecting their child's unique personality and preferences.

The *child development* theme was also notable (31), with subthemes such as *reflections on development* (28) like their child's language/communication and behavioral skills. Parents observed both progress in their children's social development (e.g. "He's definitely talking more now and will go up to his sister and say things like 'wanna play?' That's huge"). Significant milestones in their child's ability to initiate social interaction were often discussed suggesting that parents viewed these moments as meaningful indicators of developmental progress and as reinforcement for continuing to use strategies like social coaching. Parents also mentioned challenges in their child's social development which posed difficulties in implementing social coaching (e.g. "Sometimes he just doesn't get how to start talking to another kid. I try to help but he still doesn't always get it"). Such comments reflected situations where limited social initiation skills made it harder for parents to apply the strategy as intended during peer interactions.

Although mentioned less frequently, the *family context* (3) was also present. Parents discussed how sibling dynamics affected social coaching moments, especially when there were multiple children involved (e.g. "It's easier when I just have him alone. With both of them, it's chaos trying to coach social stuff"). This reflects how competing demands for attention and the unpredictability of sibling interactions could limit parents' ability to apply the strategy consistently. At the same time, some parents noted that other family members began to adopt the coaching language, creating a more supportive environment for its use. Additionally, a few noted that family members began to pick up on the coaching language and joined in. For example, one parent shared that her spouse had been using social coaching, stating, "Now my husband sometimes says things like 'let's share' when he sees them playing. That helps." These examples suggest that while family context can pose logistical challenges, it can also serve as a facilitator when multiple caregivers engage in the same strategies, potentially reinforcing skill use across different interactions.

Pre-Academic Coaching

Parents frequently reflected on their usage of pre-academic coaching, with *strategy utilization* emerging as the most prominent primary theme (42). Parents often noted the *context* (29) in which they applied the strategy, describing its use during daily routines like bath time, getting dressed, or while engaging with books and puzzles (e.g. "We did the shapes while brushing our teeth. I was like, 'Let's find the triangle on your shirt!' It made it more fun"). Many described how they integrated academic concepts such as letters, numbers, colors, and early literacy skills into play-based interactions (e.g. "I started pointing to letters when we were coloring, like, 'Look, that's an A just like in your name!'"). Few parents mentioned moments of *child resistance (6)*, noting that their children didn't always engage with academic prompts. For

example, one parent shared “He walked away when I showed the flashcards, so I tried again with the blocks instead and he still walked away.”

The theme of *parent cognition* (10) was identified less frequently. Subthemes occurred around *knowledge of application (2) efficacy and confidence (3), community (2), and parenting perspective (1)*. Parents described uncertainties about whether their academic prompting was developmentally appropriate or aligned with the IY-ASLD program’s intentions (e.g. “I’m not sure how much to push. Like, am I doing too much school stuff instead of just playing?”. Some parents expressed uncertainty and a low confidence or understanding in implementing pre academic coaching (e.g. “Sometimes I feel like I don’t know what counts as coaching. Is just saying the color enough?”). These reflections also indicated that, for some, pre-academic concepts were already familiar and part of their regular interactions with their child, which may have influenced both their perceptions of the strategy and the way they applied it.

The primary theme of *child development* (7) occurred quite infrequently, with the secondary theme of *reflections on development (7)*. Several parents shared that their child began labeling or recognizing pre-academic content after repeated coaching attempts (e.g. “He now knows all his colors, and he’s even starting to count. I didn’t think he was picking it up, but then he said ‘five’ the other day”). These comments reflected moments when parents noticed their child demonstrating knowledge unexpectedly, often outside of formal teaching moments. Some parents connected pre-academic skills with broader cognitive or language development (e.g. “He’s been talking more, especially when we do the alphabet puzzle. He’ll say some of the letters now”). Such reflections showed how parents often interpreted mastery of pre-academic concepts as part of a larger trajectory of developmental growth.

Also mentioned less frequently was the *family context* (7). Parents described how siblings or extended family members occasionally joined in. For example one parent shared, "My older daughter helped with the numbers game. It made it more exciting for him." In this case, the sibling's involvement appeared to enhance the child's engagement, adding a playful and social element to the learning activity.

Emotion Coaching

Parents frequently reflected on their use of emotion coaching, with *strategy utilization* emerging as the most prominent theme (48). Many parents acknowledged that implementing this strategy required emotional awareness, intentionality, and flexibility. While the concept made intuitive sense to parents, consistent use in real time often proved difficult, particularly when trying to identify and label emotions accurately during escalated moments (e.g., "I try to say 'Mommy's sad' when he throws something, but I don't know if he gets it. It's like I'm trying, but there's not a clear response." The *context* in which emotion coaching was used appeared frequently (30), especially during emotionally charged routines such as sibling conflicts, transitions, or mealtime. Some parents incorporated the strategy into pretend play or book reading, while others adapted their approach using facial expressions or toys to match their child's developmental level (e.g. "He was upset he couldn't have more milk, so I said, 'You're sad. But you'll be happy when I tickle you!' and he started laughing"). *Parent capacity* (16) was also a notable barrier, with parents highlighting fatigue, stress, or external pressures that limited their ability to engage in the strategy, particularly in public or overstimulating environments. For example, one parent shared, "At the nail salon, he had a meltdown. I was just trying to get out of there. I couldn't do anything emotional at that moment." Even so, parents shared that when they felt more regulated and supported, they were better able to apply the strategy and even felt

empowered by its effects. Some began to reframe their parenting around supporting emotional development (e.g. “It’s not just about him doing the right thing, it’s about helping him understand how he feels and why”). Several parents commented on how their children showed subtle signs of understanding or emotional recognition in terms of *child responsiveness* (7). For example one parent shared “I don't know if he understands the word happy, but he always claps when I say it, like he knows it's good.” Another parent shared, “He’s been using the word ‘mad’ a lot now, even for me! He’ll say ‘Mommy mad’ if I look upset”. Only one parent reflected on a moment where emotion coaching attempts were ignored or backfired in terms of *child resistance (1)*, *“*We were practicing with the taking turns thing, and he just screamed. I said ‘You're frustrated’ but he didn’t want to hear it. Sometimes when I name the emotion, he just shuts down. Like I’m saying too much and he doesn’t want to deal with it.”

The theme of *parent cognition* (36) also emerged prominently, with several parents discussing *knowledge of application (14)*. Many described the cognitive demands of emotion coaching having to pause and think intentionally about how to label or model feelings, while also trying to remain emotionally regulated themselves. One parent shared, “It’s hard to remember to label it when you’re in the middle of everything. Sometimes I don’t even know how I feel.” Another parent shared, “I feel like I’m overthinking it. Like, am I doing this right? I try to name his feelings, but I don’t always know what he’s feeling.” Some parents began shifting their view of their role through the lens of emotion coaching (e.g. “Before I would just tell him to stop crying. Now I try to think about what he's feeling instead of shutting it down”).

The theme of *child development* (18) was also frequently mentioned, with the subtheme of *reflections on developmen*t (13) occurring mostly. Some described their children labeling emotions in themselves or others, showing signs of increased empathy (e.g. “We have to add

more emotions to it... but we are starting with happy and sad"). Parents shared moments of labeling emotions for others (e.g. "I asked him 'What do you think your brother is feeling right now?' and he said, 'mad.'"). Parents also noted that emotion coaching helped strengthen the *parent-child relationship (5)*, fostering a sense of connection and attunement (e.g. "I'm just trying to create that communication space between me and him so he knows like I understand").

Persistence Coaching

The primary theme of *strategy utilization* (56) as the most commonly coded theme. Many parents described the strategy as useful but cognitively demanding because it required a shift from correction to encouragement when their child encountered moments of challenges. Persistence coaching often involved active modeling and verbal encouragement to help children stay engaged in a task (e.g. "I tell her, 'You got this. Let's do it together.' I'm doing that persistent coaching and everything like that"). The *context* of strategy use was frequently discussed (32), with parents embedding persistence coaching into daily routines involving resistance or low motivation such as getting dressed, brushing teeth, or cleaning up toys. Many emphasized that these were the moments when their children were most likely to give up or become distracted, requiring a gentle push (e.g. "He got frustrated and started to walk away, but I said, 'Try one more time' and he actually did it!"). This was accompanied by reflections on *parent capacity* (21), where parents discussed how emotional regulation, patience, and daily stress impacted their ability to implement the strategy (e.g. "I feel bad if I raise my voice. I'm trying to stay calm and say something encouraging, but it's hard"). Another parent shared, "Sometimes I just don't have the energy. Like I know I'm supposed to say 'You can do it,' but I'm exhausted." The theme of *child receptiveness* (23) emerged in parent reports about how their children responded to persistence coaching. While some noted encouraging signs of growth such

as repeated effort, new independence, or emotional resilience others described mixed responses. Children sometimes showed understanding but would still disengage or become distracted, leaving parents unsure whether the coaching had an impact. One parent shared, “She smiled, but then she ran off. I just have to be persistent.” Another parent shared, “He actually finished cleaning up without me saying it twice, that was new.”

The theme of *parent cognition* (33) was highly salient, particularly regarding the *knowledge of application (8)* and the mental shift parents experienced. While the concept made sense, many expressed that it initially felt awkward, especially if they were used to correcting or taking over (e.g. “It's awkward, you know? It's like retraining your brain... I keep telling my husband it sounds weird and silly. It’s not natural”). One parent shared, “To reprimand, or whatever it is you wanna call it, was my instinct. But now I try to just encourage.” These suggest that adopting the strategy required unlearning ingrained responses and consciously replacing them with more supportive approaches.The strategy prompted a broader shift in *parenting perspective (6)* , especially in how parents viewed their role in supporting problem-solving and task completion. Several described greater patience, scaffolding, and willingness to co-regulate with their child instead of enforcing immediate compliance (e.g. “I used to think he needed to just do it. Now I try to break it down and help him through it”). Rather than focusing on immediate compliance, parents spoke about developing patience, intentionally scaffolding tasks, and engaging in co-regulation to help their child persist. These accounts illustrate how implementing the strategy involved both practical skill adjustments and deeper changes in how parents conceptualized their interactions with their child.

Patterns Across IY-ASLD Strategies

Across IY-ASLD strategies there were several recurring patterns that came up that were not limited to any single strategy but instead reflected broader themes influencing parents' engagement with the IY-ASLD program. Parents' motivation and consistency in using strategies were often reinforced by *child responsiveness* such as imitation, shared attention, or verbal engagement. This seemed to validate their effort and encourage continued use. The *context* of daily routines like mealtimes or outdoor play frequently served as natural opportunities for strategy practice. Strategy usage was limited when life circumstances came up, including health issues, shifting schedules, or multiple caregiving responsibilities.

Parent cognition played a central role, with self-doubt and emotions such as stress or frustration affecting strategy usage. The peer connection within the parent group helped reduce feelings of isolation and fostered strategy uptake through shared experiences and modeling.

Family context also shaped implementation, as parents reflected on intergenerational parenting patterns and shared IY concepts with extended family. For example, one parent noted, "He's been super gentle to his brother," while another reflected, "Having my son and him having autism has been me showing my mother more how to be a better parent, because my mother never had patience with us."

Others described intentional shifts away from harsh discipline, as one parent explained, "So when I first had my son, and he still hadn't been diagnosed, I was kind of starting to do the same thing as what my father used to do, the yelling and the screaming. I just said to myself, this isn't working. You know, I don't feel good about yelling at my child. I don't feel good about it."

These overarching themes highlight the interplay of personal, relational, and contextual factors that supported parents' use of IY-ASLD strategies.

Aim 3: Parental Self-Efficacy, Confidence, and Perceived Usefulness

Preliminary Analyses for Aim 3

Because the observational data revealed that pause-and-wait was extremely low occurring and also, given the study's modest sample size relative to the number of variables being tested, it was decided that this IY-ASLD strategy would be removed from subsequent analyses. Residualized change scores were calculated for each of the eight IY-ASLD strategies to capture changes from baseline to post-intervention in parents' use of each of the strategies: reflections, face-to-face, descriptive commenting, labeled praise, pre-academic coaching, persistence coaching, social coaching, and emotion coaching. Residualized change scores were calculated by regressing the post-intervention total strategy score on the baseline score, and saving the unstandardized residual score to be used in analyses.

Relationships between baseline parent demographic characteristics (parent education, household income, parent age, and child age) and the self-report study variables (self-efficacy, post-intervention confidence, and post-intervention usefulness) were examined using a series of Pearson correlations. Higher education level (coded as high vs. low) was significantly associated with higher household income, $r(58) = .50$, $p < .001$. Household income was also positively associated with parent age, $r(52) = .31$, $p = .026$. Child age was positively correlated with parental self-efficacy, $r(57) = .27$, $p = .045$. All correlations were conducted using pairwise deletion for missing data, and sample sizes ranged from 47-59.

Finally, prior to conducting analyses for Aim 3, Shapiro-Wilk tests were used to examine whether key parent-report variables were normally distributed. Parenting self-efficacy at baseline ($W = .967$, $p = .199$) did not significantly deviate from normality; the distribution of this variable was approximately symmetric, with a skewness value of .020, indicating a normal distribution. .

Perceived usefulness ($W = .787$, $p < .001$) and post-intervention confidence ($W = .924$, $p = .004$) were found to deviate from normality. Post-intervention confidence scores were moderately negatively skewed (skewness = –0.751) and usefulness scores showed a substantial negative skew (skewness = –1.539), indicating a tendency for parents to score highly on items related to confidence and also highly on items related to usefulness of strategies following the intervention.

Primary Analyses for Aim 3

To address the third aim of the study, whether parent-reported self-efficacy was related to parents' use of intervention strategies and their self-reported perceptions of the confidence and usefulness of IY-ASLD strategies, a series of Pearson correlation analyses were conducted.

Correlations Between Parent Self-Efficacy Observed Strategy Changes.

Analyses examined the relationship between parents' baseline reports of self-efficacy and residualized change scores of IY strategies that were found to increase as a function of intervention. Contrary to expectations, self-efficacy was not found to be significantly associated with residualized changes in observations of parent use of any of the eight strategies. Correlations between self-efficacy and changes in each individual strategy ranged from $r = –.19$ to $r = .18$ and were all non-significant (all $ps > .30$), indicating that self-efficacy alone may not be directly linked to observable behavior change from baseline to post- intervention.

Correlations Between Parent Self-Efficacy/Parents' Reports of Confidence/Usefulness of the Strategies.

Analyses examined the relationship between parents' baseline reports of self-efficacy, post-intervention ratings of confidence in using the IY-ASLD strategies, and ratings of the perceived usefulness of those strategies. Parent self-efficacy was positively correlated with

both confidence, $r(56) = .397$, $p = .002$, and perceived usefulness of strategies, $r(48) = .294$, $p = .042$.

Correlations between Parents' Reports of Confidence and Usefulness of the Strategies and Changes in Observations of Parent Strategies

Analyses examined the relationship between self-reported confidence and usefulness of IY-ASLD strategies and residualized change scores of those parenting strategies that were found to change from baseline to post-intervention. Parents' post-intervention reports of confidence in using strategies and their perceived usefulness of the strategies were not significantly associated with residualized changes in observed strategies. Although many parents reported high levels of post-intervention confidence and perceived usefulness of the strategies at post-intervention, such ratings were not significantly associated with observed increases in their use of strategies during parent-child interactions.

Table 6 . Correlations Between Parental Self Efficacy and Study Variables

		Parent Self Efficacy	Confidence	Usefulness	Parent Education	Household Income	Parent Age	Child Age
Parent Self Efficacy	Pearson Corr							
	Sig. (2-tailed)							
	N							
Confidence	Pearson Corr	**.397****						
	Sig. (2-tailed)	.002						
	N	56						
Usefulness	Pearson Corr	**.294***	.230					
	Sig. (2-tailed)	.042	.120					
	N	48	47					
Parent Education	Pearson Corr	-.102	-.175	.106				
	Sig. (2-tailed)	.445	.196	.476				
	N	58	56	47				
Household Income	Pearson Corr	-.119	-.112	.106	**.504****			
	Sig. (2-tailed)	.378	.415	.476	<.001			
	N	57	55	47	58			
Parent Age	Pearson Corr	-.045	-.087	-.010	-.043	**.309**		
	Sig. (2-tailed)	.753	.548	.948	.762	.026		
	N	52	50	44	53	52		
Child Age	Pearson Corr	**.266***	.071	.259	.152	.105	.068	
	Sig. (2-tailed)	.045	.607	.078	.255	.432	.631	
	N	57	55	47	58	58	52	

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Chapter 5: Discussion

This dissertation used a mixed-methods design to examine how parents of preschool-aged autistic children used strategies from the IY-ASLD program. Specifically, it examined changes in observed parenting behaviors across nine IY-ASLD strategies, parents' qualitative reflections on their experiences using the strategies in conversations during IY-ASLD intervention sessions, and associations between baseline parental self-efficacy, post-intervention confidence, and post-intervention perceived usefulness of IY-ASLD strategies. This chapter provides a discussion of these findings in relation to existing literature, considers practical and theoretical implications, acknowledges study limitations, and offers directions for future research and practice.

Integrating Observational and Thematic Analyses of IY-ASLD Strategy Uptake

In the section that follows, quantitative data from the observational measure of parents' strategy-use is integrated with that from the qualitative data on parents' experiences with the strategies. Overall, observational data showed that participation in IY-ASLD was associated with meaningful increases in parents' use of several IY-ASLD strategies when measured in parent-child interactions before and after IY-ASLD, specifically, descriptive commenting, emotion coaching, and persistence coaching. Consistent with expectations, findings supported the effectiveness of IY-ASLD in promoting parents' use of these strategies, which are closely aligned with the program's emphasis on the development of children's language, social-emotional skills, and resilience (Webster-Stratton et al., 2017). Several other strategies, which included, face to face, reflections, labeled praise, pre academic coaching, and social coaching, did not show a significant increase as a function of the intervention. Data from thematic analysis of the 'check-in' portion of intervention sessions provide rich insights into parents' experiences using the above-mentioned IY-ASLD strategies, specifically their learning process, challenges,

and perceptions of IY-ASLD strategy use. The qualitative data suggested that parents experienced meaningful internalization across all strategies. Understanding the nuances of strategy uptake through qualitative data highlights the complexity of measuring IY-ASLD strategy uptake solely through 12-minute PCIs. As is described in more detail below, the qualitative data provided a more nuanced understanding of parents' IY-ASLD strategy uptake, including how and why some strategies may have increased as a function of intervention while others did not.

Through integrating the observational and thematic analyses, it can be understood that parents engage as active interpreters of these strategies. This highlights a more dynamic conception of IY-ASLD strategy usage and one that provides rich context. Parent conversations across the intervention highlighted several themes that influenced strategy uptake. Parents conversed about varying levels of comfort and success with different strategies. Many parents described a shift in their own intentionality over time. Strategy use was dependent on child responsiveness and on contextual factors such as competing responsibilities. These findings highlight that the IY-ASLD strategy usage is not a linear process, but rather one shaped by the ongoing negotiation between the strategy, parent cognitions, child responsiveness, and context. To integrate findings across the qualitative and quantitative parts of this dissertation, a strategy-level triangulation approach was used. Given that participant-level identifiers were not available across qualitative data, direct linking of individual transcripts to corresponding observational data was not possible. Instead, integration was conducted by comparing overall patterns of observed change in parenting strategies with thematic trends from parent conversations during sessions. This approach aligns with recommended practices in mixed methods research where meta-inference is drawn from convergence, divergence, or complementarity across data sources

(Creswell & Plano Clark, 2018; Fetters et al, 2013). In particular, this was to examine whether strategies that demonstrated quantitative gains in observed behavior also appeared in qualitative themes from parents' session conversations as being used more consistently, valued more highly, or better understood.

Descriptive commenting emerged as a strategy that had a significant uptake, according to both quantitative and qualitative data. The intervention group showed a significant increase in its use from baseline to post-intervention. It is important to note that descriptive commenting is the first strategy introduced within the IY-ASLD program. Its strong uptake may be attributed to its clarity, continued practice within IY-ASLD sessions, and also its ease of integration in everyday routines. According to parents' reflections during IY-ASLD sessions, descriptive commenting was discussed as a more easily adopted strategy within IY-ASLD. Many parents reported coming to the realization that narrating their child's behavior could increase engagement. They also shared an enjoyment in the play interaction because demands are lifted. Importantly, children's positive responses, such as increased verbalization or shared attention, appeared to further reinforce parent use. This aligns with prior research that supports the loop that occurs when children's positive responses reinforce parents' use of certain behaviors (McDuffie & Yoder, 2010; Siller & Sigman, 2002). Parents also noted that the strategy was easy to integrate into daily routines, such as during play or household activities, allowing for repeated and meaningful practice. Thus, this strategy's success may reflect its ease in being generalized to multiple contexts, its simplicity, low demand for modification, and immediate child feedback, resulting in both a high frequency of use and measurable behavioral change.

Observations of emotion coaching showed an increase in these strategies as a function of intervention. Qualitative data revealed that parents expressed that emotion coaching shifted their

perspectives and described a greater attunement to their child's emotions and more confidence in labeling and validating feelings. Parents often implemented emotion coaching during emotionally charged moments (e.g., meltdowns, transitions). These conversations suggest that emotion coaching is deeply internalized and used intentionally within many moments with their child. These findings align with prior evidence that structured guidance can equip parents to foster emotion literacy, validate emotions, and support co-regulation in children with developmental differences (Gottman et al., 1997; Wilson et al., 2013).

Observational data also revealed that persistence coaching significantly increased from baseline to post-intervention. Qualitative data support this finding as parents described moments of letting go of rescuing behaviors and instead promoting child independence through gentle encouragement and scaffolding. This change was often tied to broader transformations in the mindset of parents through recognizing the value of struggle and frustration. Moreover, qualitative data indicate that parents observed concrete developmental gains (e.g., longer task engagement, greater frustration tolerance) that reinforced continued use. These findings echo prior research showing that resilience-promoting strategies may be sustained when they are both emotionally meaningful and reinforced by observable child progress (Dawson-Squibb & Davids, 2016). The PCI activities, like building tasks, clean up, and free play, also offered ideal and ecologically valid opportunities for using persistence coaching. The tasks were suitable for capturing how parents supported their children in problem-solving through a task and promoting their frustration tolerance. The contextually driven aspect of this strategy likely contributed to the observed gains.

For labeled praise, though the quantitative results show no significant change, the qualitative findings showed this to be a highly valued strategy. Notably, within the qualitative

analysis, there were many fewer excerpts overall relating to labeled praise. Given that praise is not a new concept to parents, the nuanced construct of *labeled* praise may not have been perceived as novel or salient of a topic, in comparison to other strategies, to elicit considerable attention. Therefore, it is possible that group leaders may not have emphasized this strategy as strongly in discussion or that other strategies may have dominated the conversation. Future work can explore this possibility. If this were the case, it could have led to fewer opportunities for parents to converse about this strategy in check-in transcripts. According to qualitative data, parents seemed already familiar with praise, but struggled to shift from broad encouragement to specific, labeled praise in real time. While emotional and developmental benefits were noted, some parents admitted to forgetting to use the strategy or reverting to old habits of using nonspecific praise. Thus, the finding that this strategy did not change significantly from baseline to post-intervention may have been a function of parents' difficulty remembering to apply it precisely, rather than a lack of value or impact perceived by the parent. The challenge may lie in the execution and needing more practice in order to use and sustain the strategy. Prior research suggests that successful behavior change depends on initial familiarity and also skill maintenance over time (Carruthers et al., 2023; Durlak & DuPre, 2008; Wandersman et al., 2008). Furthermore, potential measurement insensitivity or high baseline usage may have masked more subtle growth.

With respect to pre-academic coaching, although this was not a behavior that showed significant change in observations of parent-child interactions, qualitative data indicated that parents widely appreciated pre-academic coaching, particularly when reframed as a play-based and relationship-centered strategy. Many noted that they had already engaged in forms of this behavior before the intervention, which was consistent with the quantitative data which showed

this behavior was observed with a high frequency at baseline. As such, the lack of significant change may have been due to ceiling effects, such that parents were already engaging in high amounts of the behavior at baseline (Durlak & DuPre, 2008; Odom et al., 2010). Recent work also suggests that parents' pre-intervention strategy use can meaningfully influence both the fidelity and long-term maintenance of intervention strategies (Shih et al., 2025). Qualitative accounts indicate that the intervention may have refined *how* parents approached learning opportunities by focusing more on child-led play, scaffolding, and verbal engagement. The subtlety of these shifts may not have translated into detectable differences in coded frequency, despite the fact that there may be meaningful changes in delivery style and intentionality (Hume et al., 2008; Justice et al., 2015).

Social coaching did not show significant change in quantitative analyses, yet parents spoke of it as an emotionally resonant strategy. They described moments modeling social behavior. Prior findings also show that parents perceive social coaching strategies as meaningful, even if the observed behavioral change is small (Kasari et al., 2012; McConnell, 2002). However, implementation of the strategy was inconsistent. There were some parents that struggled to find opportunities for use. There were other parents mentioning a philosophical shift in viewing their child as capable of social connection (Dunst & Trivette, 2009). These internal shifts are important but they may not have translated into observable behavior change in structured PCI sessions, highlighting limitations in demonstrating the behaviors during the observational context (Fettig & Barton, 2014; Hampton & Kaiser, 2016). It also could be that parents may need more practice or refinement with social coaching (Durlak & DuPre, 2008; Fixsen et al., 2005), therefore, a post intervention PCI did not completely capture their final learning of the strategy.

Face-to-face and reflections did not show measurable change, and no qualitative data provided additional context to further understand this. Some factors may help explain this. Both strategies require sensitivity to child cues, which can be challenging to do, particularly with children who may have reduced tolerance for close proximity (Adamson et al., 2001; Mundy & Newell, 2007). Face-to-face positioning is also context-dependent and may not align with a structured PCI session. Parents may default to directive communication patterns, especially when trying to maintain engagement (McDuffie & Yoder, 2010). These strategies also often occur in brief moments that may be difficult to capture reliably through interval-based coding. There also could have been limited emphasis or modeling during group sessions, which could further reduce opportunities for skill development and reinforcement (Roberts & Kaiser, 2011).

An interesting finding that emerged in the preliminary analyses was that pause and wait had an extremely low frequency of use across timepoints. As a result, this strategy was excluded from the main study analyses. According to qualitative data, this strategy was difficult for parents to implement. This was probably due to discomfort with silence or uncertainty about how long to wait before prompting. This aligns with prior work showing that latency-based strategies may be challenging to adopt without extended modeling and practice (Wong et al., 2015). Its removal from analysis highlights the importance of evaluating not only the theoretical value of strategies but also their feasibility in real-world settings.

A final consideration is that the implementation of the IY-ASLD study via telehealth may have influenced the types of strategies that were found to change. Telehealth options for intervention delivery help reduce travel burden and expand access. Practicing strategies at home for parents may have enhanced contextual relevance and ecological validity. Although telehealth delivery has become increasingly prominent in parent-mediated interventions, with evidence

suggesting that it has high levels of parent satisfaction and is comparable to in-person formats in parent knowledge and strategy use (Ellison et al., 2021; Ingersoll et al., 2016; Pickard et al., 2016), it is possible that telehealth delivery may also undermine the uptake of certain strategies. Strategies requiring fine-grained physical modeling (e.g., face-to-face and social coaching) or nuanced observation of child cues (e.g., reflections and pause and wait) might be more effectively demonstrated and supported through in-person coaching where the interventionist can physically demonstrate and adjust the parent's positioning or timing (Hall et al., 2021; Parsons et al., 2017). Prior research has shown that telehealth may be challenging for providing effective instruction and conducting role plays where there may been constraints by camera angles and home distractions, potentially limiting the feedback given to parents (Meadan & Daczewitz, 2015; Vismara et al., 2018). Given that telehealth delivery has advantages, future research could examine whether hybrid intervention models, combining remote group sessions with occasional in-person coaching, are effective (Camden & Silva, 2021; Pickard et al., 2016).

Overall, this integrative understanding provides valuable insight into how and why certain strategies were utilized more post-intervention and how other IY-ASLD strategies may require more contextualization in delivery or measurement. A consistent pattern emerged across strategies. Those that were easily integrated into natural routines, reinforced by child response, and emotionally meaningful were more likely to result in measurable behavioral change, as seen with descriptive commenting, emotion coaching, and persistence coaching. In contrast, strategies that required subtle linguistic shifts, required practice for refinement, or parents already familiar with the strategy often resulted in appreciation but limited behavioral change. Parent conversations highlight that implementation is not merely about frequency but also about intention and also contextual fit.

Table 7. Integrated Quantitative and Qualitative Findings for IY-ASLD Strategies Use

Strategy	**Quantitative Finding** **Time x group interaction**	**Qualitative Finding** **Coded Themes**	**Integration Summary**
Descriptive Commenting	Significant change in observed strategy	-Cognitive shift led to consistent practice -High child responsiveness reinforced use -Strategy adaptation to routines and interests -Strengthened emotional connection	**Well-understood**, **personalized**, and **reinforced by both child responsiveness**, which likely explains its **significant improvement from baseline to post-intervention**.
Emotion Coaching	Significant change in observed strategy	-Strong foundational understanding -Reinforcing child responses encouraged sustained use -Used in emotionally salient, high-impact moments -Reflections of growth and reframing parenting role	**Deeply internalized, emotionally resonant, and applied during key relational moments**, even if imperfectly, contributing to its **significant increase in observed use** post-intervention
Persistence Coaching	Significant change in observed strategy	-cognitive and behavioral shift was clear -clear developmental gains observed by parents -Parenting mindset shifted which created sustained change	Parents adopted the strategy in authentic, repeated ways, and during moments that allowed it to be coded (e.g., PCI play tasks). The combination of **mindset change, visible child developmental gains, and context-aligned use** likely contributed to the **significant quantitative gains** observed.
Labeled Praise	No significant change in observed strategy	-Some baseline existing familiarity -In-the-moment specificity was hard to sustain -Emotional and developmental benefits were clear	Labeled praise was highly valued by parents. The lack of significant change in quantitative data may reflect **high baseline usage**, **measurement insensitivity**, and **inconsistent in-session application** rather than a lack of strategy usage. However, there were also challenges in remembering to use the strategy.
Pre Academic Coaching	No significant change in	-High baseline familiarity -Subtle shift in approach, not frequency	Well-received and meaningfully applied by parents, especially when

	observed strategy	-Notable child gains mentioned -Natural integration into routines	reframed as play-based and relationship-centered. However, it was commonly **embedded into routines**, combined with **prior use and subtle shifts in delivery style**, likely contributed to **non-significant quantitative findings**
Social Coaching	No significant change in observed strategy	-Usage seemed strong, but varied -Prompted parent mindset shift but did not translate into strategy use -Measurement sensitivity	Parents' narratives suggest they found it **highly meaningful**, **emotionally resonant**, and **aligned with their values**. The lack of significant observed change may reflect **measurement limitations** rather than absence of impact. The strategy may have needed more practice or refinement by parents.

Understanding the Gap Between Parent Beliefs and Observed Behavior

This study also examined the role of parental self-efficacy, post-intervention confidence, and perceived usefulness in relation to changes in observed parenting strategy use. Parents' reports of their parental self-efficacy at baseline was not associated with increases in observed strategy use across any of the parenting behaviors. This finding aligns with some prior research that suggests that self efficacy alone may not be sufficient for observable behavior change as there can be constraints like contextual barriers, competing demands, or lack of practice opportunities (Bandura, 1997; Durlak & DuPre, 2008; Sheeran & Webb, 2016).

Parental self-efficacy was significantly associated with the usefulness of the strategy. This is interesting in that this occurs even if it does not directly translate into observable behavioral change. This association is consistent with prior findings in the research literature (Jones & Prinz, 2005; Coleman & Karraker, 1998). Post-intervention confidence and perceived usefulness were positively correlated. This likley indicates that parents who felt more confident

in their ability to use the strategies also tended to rate them as more useful. However, post-intervention confidence and perceived usefulness were not significantly associated with observed changes in parent behavior. This suggests that high perceptions of the intervention may not be sufficient to drive behavior change. This pattern aligns with evidence from both parenting and broader health behavior research showing that favorable attitudes and intentions often fail to translate into consistent practice without additional support, opportunities for additional practice, and fit with the context (Ajzen, 1991; Durlak & DuPre, 2008; Sheeran & Webb, 2016).

Taken together, these findings suggest that parent beliefs (e.g., self-efficacy, confidence, and perceived usefulness) may shape how strategies are understood and valued, but do not necessarily predict uptake of strategies. This highlights the complexity of translating knowledge and belief into action, and highlights the need to consider additional motivational, contextual, and other factors that may influence parents' ability to implement strategies consistently. Parents in this study adapted IY-ASLD strategies based on child needs, child's responsiveness to the strategy, and their everyday routines. These adaptations are consistent with ecological and parent-centered perspectives(Bernheimer & Weisner, 2007; Bronfenbrenner, 1979). It is also important to understand a specific IY-ASLD strategy because that is factored into their modification of the strategy with their child. Just because a strategy did not have an observable change does not necessarily mean resistance to the strategy. While parental self-efficacy may shape how parents evaluate and value intervention content, it does not necessarily predict actual behavior.

The significant association between post-intervention confidence and perceived usefulness suggests a reinforcing cycle in which belief in one's ability supports the perceived value of the strategy, and vice versa. However, the lack of correlation between these variables

and behavioral change highlights a potential intention-behavior gap, a documented concept in health psychology and implementation science (Bandura, 1997; Gollwitzer & Sheeran, 2006; Sheeran & Webb, 2016). This gap suggests that even when individuals intend to use a strategy and believe it is effective, they may face contextual or cognitive barriers that prevent execution. Even parents who feel capable may encounter real-world barriers that interfere with strategy implementation such as child resistance, stress, competing demands, or lack of environmental support.

Within the autism intervention literature, similar gaps have been observed. For example, Kuhn and Carter (2006) found that while higher parental self-efficacy in families of autistic children was associated with greater reported strategy use, external stressors and child-related factors moderated whether these strategies were implemented consistently. Factors such as child resistance, competing parenting demands, and parental stress can disrupt application (Davis & Carter, 2008). Research on families with multiple children further suggests that sibling dynamics can alter the feasibility of intervention use, parents may need to divide attention, adapt strategies for sibling inclusion, or manage sibling jealousy, all of which can shift priority away from consistent use of the target strategies (Hastings, 2003).

Parents who expressed strong confidence in their ability to use strategies sometimes described situational barriers that interfered with execution (Brookman-Frazee et al., 2009; Stahmer et al., 2017). Qualitative data from the current study echoed these complexities. For example, several parents noted that while they knew *how* to use a strategy such as social coaching or labeled praise, they struggled to apply it when their child was dysregulated, when siblings were competing for attention, or when household demands created time pressure. Others described making “in the moment” choices to prioritize calming a child, completing a task, or

avoiding conflict over using a newly learned technique which is a contextually driven process documented in other parent-mediated interventions (Bernheimer & Weisner, 2007; Kemp & Turnbull, 2014). These accounts suggest that confidence and perceived usefulness may be necessary but not sufficient conditions for sustained behavioral change, real-world implementation requires supportive contexts, and opportunities for repeated, successful practice under varied conditions (Durlak & DuPre, 2008; Fixsen et al., 2005; Kazdin, 2017).

Strengths of the Study

This study offers several methodological strengths that contribute to the growing literature on parenting interventions for young autistic children. A major strength of this study is the use of a mixed-methods approach in integrating qualitative and quantitative data. This allowed for a more comprehensive understanding of parent strategy use and capture not only which behaviors change but why and how those changes may have occurred from the perspective of the parents. Integrating behavioral and thematic data strengthens the interpretations of the findings and also highlights the importance of examining both the outcome and the process of the IY-ASLD strategy use. Moreover, the qualitative analysis of the parent conversations during the intervention session provided rich insight in parent cognitive, emotional, and contextual experiences. This component of the study elevated the voices of the parents and provided a deeper understanding of barriers and facilitators of strategy use.

The study used detailed observational coding of PCI across pre and post intervention timepoints providing structured and objective evidence of strategy use. Observational methods offer a valuable alternative to self report, reducing bias and capturing the usage of IY-ASLD strategies. This strengthens the internal validity of conclusions regarding intervention effects.

In addition, it is important that this study disaggregated the individual IY-ASLD intervention strategies rather than examining parenting behavior overall (Hutchings et al., 2007; Leijten et al., 2018; Webster-Stratton et al., 2004). This strategy-level analysis provided a way to identify which strategies were more often used and which ones had more difficulties in usage. The type of approach provides practical implications for future refinement of the intervention and tailoring of support for parents. This approach aligns with the parenting intervention literature to identify "active ingredients" within curricula that have several components in order to identify which specific parts are the most responsible for positive outcomes. This way programs can be refined and streamlined for efficient and maximum impact (Chorpita et al., 2005; Collins et al., 2014; Weisz et al., 2012).

The study assessed important psychological constructs like parental self-efficacy, post-intervention confidence, and post intervention perceived usefulness of IY-ASLD strategies. Examining these constructs alongside observed behavior highlights the complex relationship between beliefs and usage and contributes to implementation science literature on behavior change mechanisms in parent interventions. In this sample, overall ratings of perceived usefulness for IY-ASLD strategies were relatively high, suggesting that parents viewed the program strategies as relevant and meaningful which is an indicator of social validity (Wolf, 1978), the extent to which intervention is acceptable and valued by participants. High perceived usefulness ratings suggest that, from the parents' perspective, the IY-ASLD strategies were worth learning and aligned with their needs, even when observable behavioral changes were small. Perceived usefulness data provided one form of social validation for the IY-ASLD strategies.

This study adds to the body of research literature evaluating early interventions for preschool-aged autistic children that are adaptable, developmentally appropriate, and ecologically valid. The study focuses on real-life implementation, making the findings highly relevant. Findings from both the observational and qualitative strands can inform the presentation of intervention strategies during group sessions. Insights into which strategies were most or least accessible, and why, offer guidance for improving parent training for parents of autistic children.

Limitations

There are limitations that should be considered for the interpretation of these findings. The sample size was relatively modest which limits the statistical power of the quantitative analyses, particularly in detecting small or moderate effects. This also limits the full ability to generalize findings to broader populations of parents. Because there is such a variability in parenting experiences and family contexts, larger and more representative samples are needed to draw more definitive conclusions.

Observed parenting behaviors were limited to be coded during a 12-minute PCI. This format was standardized across families and sessions but may not have fully reflected the range of contexts in which IY-ASLD strategies could be used. The observational coding system provided structured data on strategy use but it may not have been able to fully capture the nuances of some strategies, especially those that are more subtle or cognitive. Moreover, observations may have been a function of factors outside of the parent and child, such as the child's overall affect and attention on a given day, which may have influenced the types of behaviors parents could and could not demonstrate in observations. Additionally, parent self-reported ratings of post intervention confidence, and perceived usefulness could have

encountered a social desirability bias, potentially limiting the variability and making it challenging to find associations with these reports.

Data were collected immediately after the conclusion of the intervention which provided insight into short term changes but may not have captured long-term maintenance and generalization of strategy use. It is possible that parents need more time to internalize and practice the strategies across contexts. Future work, using follow-up data on parents' strategy use will allow for the study of whether changes are sustained and/or more changes emerge over the longer follow-up period.

Implications and Future Directions

The findings contribute to both theoretical and applied understandings regarding IY-ASLD strategy use and what factors influence uptake. This study has the potential to influence the body of research literature on parent interventions and parent behavior change. This study highlights the complexity of behavior change within parent interventions, especially regarding the variability and influences for strategy uptake (Durlak & DuPre, 2008; Fixsen et al., 2005). Although some strategies (e.g., descriptive commenting, emotion coaching, persistence coaching) had shown a significant increase in observed use, others did not even though they were described as relevant by parents. This variability supports the need for a better understanding of intervention implementation and also what factors influence how parents adopt strategies (e.g. cognitive, contextual) (Bernheimer & Weisner, 2007; Brookman-Frazee et al., 2009). The differences in parent self-efficacy ratings and observed behavior reinforces the theories of the intention–behavior gap (Ajzen, 1991; Sheeran & Webb, 2016), suggesting that self belief may not actually translate into real-world implementation (Jones & Prinz, 2005; Morawska et al., 2009).

Findings suggest that interventions like IY-ASLD may benefit from enhanced support for strategies that are perhaps more challenging to apply and understand for parents (e.g., pause and wait, reflections, social coaching). Some suggestions for intervention include providing individualized coaching, more frequent real-time modeling, more role-playing, and providing parent feedback may support uptake of these strategies. From other early intervention and parent-mediated programs, these additional supports have been linked to higher fidelity and sustained use of practices (Kaiser & Roberts, 2013; Snyder et al., 2015; Wainer & Ingersoll, 2015). By incorporating parent voices into the intervention can also help ensure strategies are culturally responsive, developmentally appropriate, and tailored to family experiences. These approaches align strongly with social validity and cultural adaptation frameworks that may be important for future work with intervention enhancement (Bernal et al., 2009; Damschroder et al., 2009; Wolf, 1978). Importantly, this study highlights that parents are not passive recipients of intervention content. Parents actively interpret and personalize strategies based on their child's needs, developmental readiness, and environmental contexts. It's important that the intervention honors parent expertise and adaptation. Interventions could be refined to be more strengths-based and flexible for parent learning (Dunst & Trivette, 2009; Weisz et al., 2012).

Additionally, future research can prioritize cultural sensitivity and family values. These factors can be critical for understanding parent perceptions of the strategies and their own strategy usage. There are cultural adaptation frameworks that emphasize aligning intervention goals and delivery with participants' beliefs and sociocultural contexts which can enhance engagement, fidelity, and child outcomes (Bernal et al.,2009; Kumpfer et al., 2002). Participatory and community-engaged approaches can be particularly valuable for informing interventions to better meet the needs of families (Israel et al., 2013; Parette et al., 2010). These

approaches are ways to build trust within an intervention group, improve cultural sensitivity and responsiveness, yield adaptations that support social validity, and could improve strategy uptake.

Future research could also build on these findings by examining the long-term maintenance of strategy use beyond the structured parent-child interactions used in this study. Maintenance can be one kind of indicator of intervention success yet often can be underexamined in parent programs (Bearss et al., 2015; Stokes & Baer, 1977). Understanding if parents continue to use IY-ASLD strategies across varied routines and emotionally charged contexts (e.g., transitions, mealtimes, or behavioral challenges) could offer valuable insight into sustained behavior change. In addition, future studies should assess the links between specific parenting strategies and child developmental outcomes (e.g. communication and emotion regulation) (Ingersoll & Dvortcsak, 2010; Landry et al., 2006). Evaluating these relationships using multi-method designs could potentially clarify and provide a nuanced understanding of how parent behavior contributes to child progress over time (Collins et al., 2014; Yoder & Warren, 2002).

Another important direction is to investigate the intention–behavior gap observed in this study. It is interesting that while many parents reported high levels of confidence and perceived strategy usefulness, these beliefs did not consistently predict actual strategy uptake. Applying frameworks from implementation science such as the Consolidated Framework for Implementation Research or the Theoretical Domains Framework may help identify cognitive (e.g., memory, decision-making), motivational (e.g., prioritization, self-regulation), and environmental (e.g., time constraints, competing responsibilities) barriers that interfere with strategy use (Cane et al., 2012; Damschroder et al., 2009). Integrating these frameworks into

future studies could support the design of targeted supports to bridge the gap between parent intentions and real-world strategy usage.

Lastly, it is potentially very important to examine intervention fidelity and variation in facilitator delivery. These factors may influence how parents learn and use strategies and it is an interesting area to understand the associations between this and parent behavior change. Fidelity of implementation is a well-established determinant of intervention outcomes within the research literature. Higher fidelity is often associated with greater participant skill uptake (Dane & Schneider, 1998; Durlak & DuPre, 2008). In parent-mediated interventions, facilitator techniques such as modeling, use of video vignettes, structured role-play, and fostering productive group dynamics have been shown to enhance parent engagement, comprehension, and confidence in strategy use (Parsons et al., 2013; Kaminski et al., 2008; Wainer & Ingersoll, 2015). Also, how facilitators introduce, model, and reinforce strategies can be associated with participant outcomes and generalizability across settings (Fixsen et al., 2005; O'Cathain et al., 2019). Understanding which facilitator techniques contribute most to success with parents can be an essential component for refining training protocols and ensuring consistent and effective program delivery.

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Appendix A: Recruitment Material for IY-ASLD

Sign up for Virtual Parent Groups

Dear Keller Parents,

In 2021 we are launching a new parent program at the [redacted]. Parents are invited to enroll in an evidence-based VIRTUAL parenting program that will provide training for parents of children with autism and language delays. Training will be offered online weekly in a supportive small group. Join us to learn practical skills and connect with other parents in our school community!

Groups are facilitated by trained leaders from Teachers College Columbia University, who will be conducting research on the program's outcomes at our school.

TO PARTICIPATE:

Visit our website to sign up: https://sites.google.com/view/tc-parent-training/about-the-program

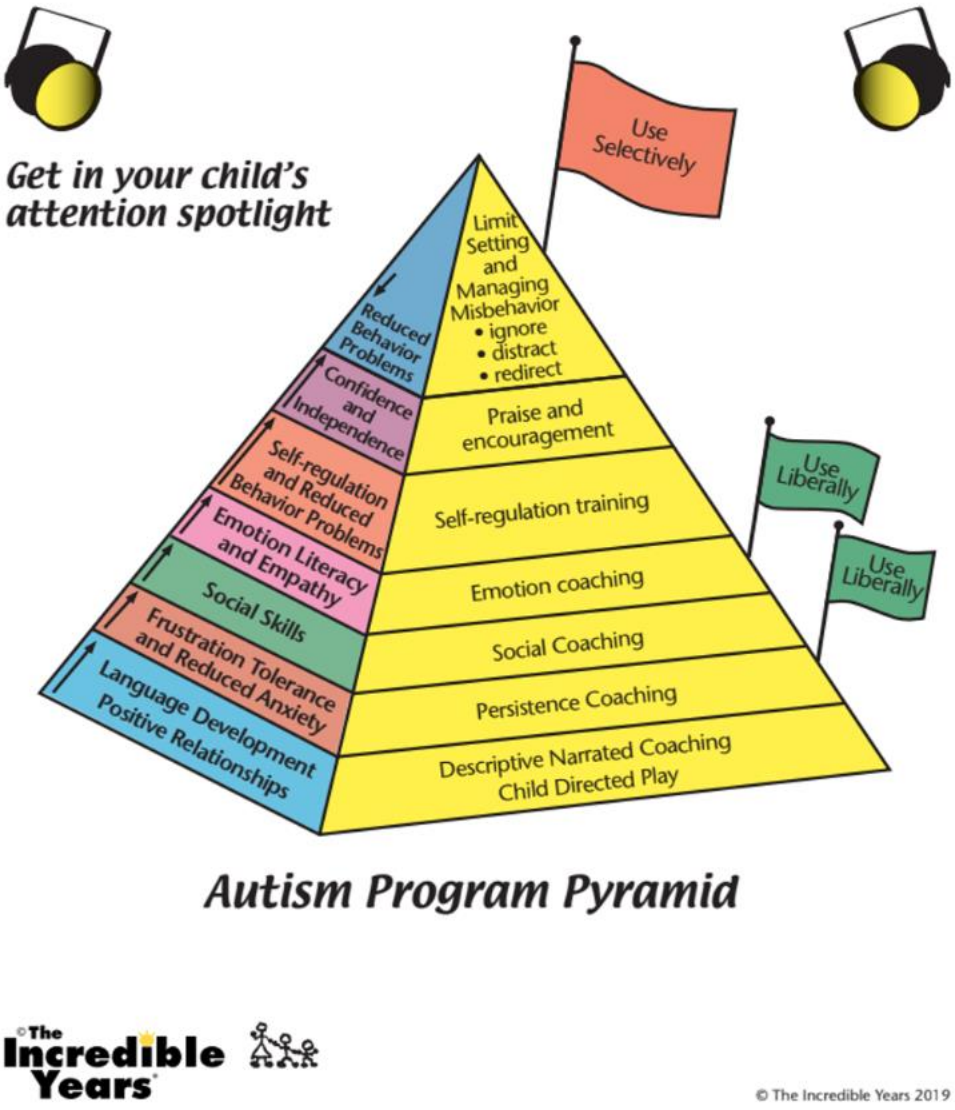
OR SCAN QR CODE with a smartphone to add your name to the list:

QR code directions
1. Open your smartphone camera
2. Hover over the square (without taking a photo)
3. A link that says, "open Qualtrics" will pop up!
4. Complete the form

Space will be limited, please sign up early!

This study has been approved by the [redacted] IRB
IRB#1/ IRB 00006219

Appendix B: Examples of Session Graphics Shared with Parents



Appendix C: Outline of IY-ASD Program Modules

The Incredible Years®

Table 1: Content and Objectives of the Autism Spectrum & Language Delays Program

Content	Objectives

Part One: Child-Directed Narrated Play Promotes Positive Relationships

- Value of parents giving focused child-directed attention during play as a way of promoting positive relationships.
- Understanding how to get in a child's attention spotlight and not letting the child exclude you.
- Understanding how to narrate child-directed play to build language development.
- Learning how to transition to new play learning opportunities.
- Appreciate the importance of parental gesturing, imitation, modeling, face to face interactions, and visual prompts.
- Value of using picture choice cards.
- Choose games that address your child's sensory needs but avoid overstimulating.
- Understanding times *not* to follow your child's lead.

Part Two: Pre-Academic and Persistence Coaching Promotes Language Development and School Readiness

- Determining appropriate developmental goals for children on the autism spectrum.
- Tailor pace, amount, and complexity of language modeled according to child's communication stage.
- Understanding the value of persistence coaching for promoting children's attention span and managing their frustration.
- The modeling principle—and importance of positive affect and exaggerated facial responses.
- Staying in child's attention spotlight by being responsive.
- Understanding the value of prompting and pre-academic coaching for building children's language skills and school readiness.
- Learning to coach pre-reading readiness.
- Adjusting verbal and non verbal language and visual prompts according to children's communication stage.
- Responding to child's language as meaningfull even if not understandable or conventional.
- Using visual supports such as gestures, pictures, and concrete objects to help child understand what others are saying.

Part Three: Social Coaching Promotes Friendship Skills

- Social coaching and one-on-one child-directed play promotes a child's social skills.
- Understanding how to model, prompt, and coach a child's social skills.
- Respond enthusiastically and with praise whenever child shares or helps you (exaggerate responses).
- Understanding how to: Use songs, physical games, and sensory routines to optimize a child's social learning opportunities and draw attention to parent's face.
- Encourage back and forth communication by pausing to wait for child's response or signal before giving child what he/she wants.
- Use puppets and pretend play to encourage social communication.
- Use social coaching at dinner, bed time, and dressing time.

Part Four: Emotion Coaching Promotes Emotional Literacy

- Emotion coaching promotes children's emotion language skills and empathy.
- Emotion language is a precursor to self-regulation.
- The "attention rule"—the principle of paying attention to more positive than negative emotions and modeling positive expression of emotions.
- Understanding how to respond effectively to negative or uncomfortable emotions.
- Learning how to combine emotion coaching with social and persistence coaching.
- Using feeling picture cards to promote children's understanding of feelings words and beginning empathy.

Part Five: Pretend Play Promotes Empathy and Social Skills

- Understanding the value of pretend play with puppets to promote children's social skills and empathy.
- Understanding the most effective ways to use puppets with children.
- Developing scenarios and practicing using them to promote children's social skills, empathy, and emotion language.
- Understanding how to use puppets and action figures along with books.

Appendix D: Core Principle of *Incredible Years*®

Core Principle of Incredible Years® Group-Based Parenting Program for Young Children with Autism Spectrum Disorder	
IY Principle	Description / Example in IY-ASD Program
Principle 1: The Collaborative Model	In the collaborative model, the group leader does not set him/herself up as an "expert" dispensing advice about how caregivers should parent more effectively. With the root meaning of "to labor together," collaboration implies a reciprocal relationship based on utilizing equally the group leader's expertise and the parents' knowledge, strengths, and perspectives of their own children's communication and relationship difficulties. By building a relationship based not on authority, but on group rapport, the group leader creates a climate of trust. The goal of this approach is to make the group a safe place for parents to reveal their problems and worries, to risk trying new approaches, and to gain support.
Principle 2: Start with Assessing Child's Stage of Communication, Setting Goals	In the first group session, parents share descriptions of their children's strengths and difficulties and identify their long-term goals. Parents actively self-assess what they believe is their children's present communication

	stage by completing *Child Communication Checklists*, focused on child-parent and child-peer communication skills, respectively. Parents are also asked to complete a *How I am Incredible worksheet* which outlines the child's current strengths, interests, and supports that can be leveraged when building new skills in play.
Principle 3: Build Parents' Confidence and Self-Efficacy	IY group leaders use many strategies that focus on parent strengths and emphasize the positive. For instance, embedded in the collaborative process is the strategy of group leaders asking probing questions that promote parents' self-reflection and problem-solving and giving them time to discover the rationale for a specific strategy. Additionally, group leaders recognize and praise parents' achievements from completed home activities. These achievements are shared and celebrated in the group, and sometimes parents are asked to demonstrate a particular strategy that worked well for them.
Principle 4: Address Parents' Cognitions, Emotions, and Behaviors	IY targets the link between thoughts, emotions, and behaviors. Group leaders work with parents to reflect on their internal dialogue bringing negative thought patterns to light and encourage parents to develop

	positive self-talk and coping mechanisms. The program directly addresses self-defeating thoughts and the emotions and behaviors they engender, through validation and reframing, and skill development. The safe, supportive group atmosphere where other parents are facing similar difficulties normalizes their experience and provides the parent with opportunities to express emotional challenges with others while learning new strategies for coping.
Principle 5: Video Modeling, Mediation of Vignettes, and Self-Reflection	IY uses social learning theory to help individuals can improve parenting skills by watching exemplar video vignettes of other parent-child interactions, that demonstrate the skills they are acquiring. The vignettes are designed to illustrate specific concepts, and it is up to the group leader to ask relevant questions for discussion. Video vignettes are paused frequently and meant to be used as catalyst to for self-reflection and problem-solving, not as a device that renders parents as passive observers Suggested questions and discussion topics are included in the group leader's manual for each vignette. Common questions include: *What is effective about this parent's approach with his child? What are the benefits for his*

	child? What is this child learning? What would you do differently? Can you use this approach with your child? How would your child respond? Let's try it (initiate in a role play).
Principle 6: Experiential Practice Learning Methods (Role-Plays)	IY parent training places a major emphasis on experiential learning such as role-playing scenarios, rehearsal and practice of newly acquired behaviors and cognitions, rather than simply didactic instruction. These are planned based on target skills and can be impromptu based on concerns that come up. For example, a parent might say during the group, "My child doesn't let me touch his line of cars in play or let me change anything." This is the strategic moment for the group leader to do a spontaneous role play and ask that parent to demonstrate her child's behavior. The group leader then chooses another parent who seems to understand how to enter play even when she feels rejected by her child by showing how she/he would respond to this rejection. The group leader can prompt the parent in role to set up the ABC sequence, so the boy must initiate by asking for each car. The parent can

	praise the child's asking, and descriptively narrate or imitate behavior to engage in joint play.
Principle 7: Buddy Buzzes and Brainstorms	To keep all parents actively involved in self-reflective experiential learning and build relationships among parents, group leaders frequently do brainstorm exercises or pair parents up to "buzz" (discuss) skill exercises or share experiences
Principle 8: Weekly Home Activity Assignments and Reading	Parents practice the strategies they are learning first in the group with other parents and subsequently at home with their children. They are asked to record their experiences with these activities on *play record sheets*. To supplement home practice assignments, parents are also given the option to read The Incredible Years Book or Incredible Toddler book
Principle 9: Making Calls and Obtaining Feedback	The group leader calls parents individually to address questions, resolve issues and ensure the program is addressing their goals. Parents share feedback using evaluation forms. At the end of the program, the entire

	program is evaluated. This information is helpful for identifying parents who may need further help
Principle 10: Building Parents' Support Team	The group leader's role is to facilitate the parent group so that it serves as a supportive and empowering environment. The group leaders encourage parents to curb negative thoughts, use positive imagery, take deep breaths, get enough sleep, and develop support systems to stay calm. For example, when children are learning the calm down breathing techniques, the parents also learn how these techniques can be applied to themselves; when discussing praise and incentives, leaders explore self-reinforcement and self-care with the group, another important strategy for reducing stress. One of their home activity assignments is to do something pleasurable for themselves (e.g., coffee with a friend, date night out, massage, exercise class, etc.) which they share the following week. In addition to building the support system within the group, the group leader also helps them build support externally During the program, parents complete a support network handout where parents fill in five "helping hands" with the people they think will support them (e.g., friends,

	family, teachers, counselors, health care providers, childcare providers, neighbors).
Principle 11: Combining Individual Home Coaching with Group Program (recommended, not part of pilot)	Individual coached practice between the parent and child is recommended coaching sessions can be delivered in a clinic setting but ideally will be provided in home- and community based or naturalistic settings such as the grocery store, playground, or preschool. It is ideal for coaching to occur four times, after group sessions on language coaching, social and emotion coaching, pretend play and self-regulation, and handling misbehavior. The format for these coaching sessions includes (1) review of parent's goals, (2) discussion of one to two video vignettes relevant for goals, (3) coached practice between parent and child, (4) debriefing practice, and (5) setting new goals. Ideally the person doing the home coaching is the group leader.

Principle 12: Provide Follow-up Sessions and Promote Parent-Teacher Partnerships (recommended, not part of pilot)	Because social-communication deficits are core features of ASD, it is recommended that after parents complete IY-ASD, focused on one-on-one interactions, they are offered another program called *Coaching Children with Autism: Teachers and Parents as Partners.* This four- to six-session program that preferably is offered to both parents and teachers together focuses on classrooms where teachers are coaching two to three children with ASD to facilitate peer interactions and social communication with sequenced picture cue cards. Doing this curriculum with teachers builds the parent-teacher partnership and makes it easier for the parent to occasionally participate in the classroom if they have the time.
Source: Webster-Stratton, C., Dababnah, S., & Olson, E. (2018). The Incredible Years® Group-Based Parenting Program for Young Children with Autism Spectrum Disorder. In M. Siller & L. Morgan (Eds.), *Handbook of Parent-Implemented Interventions for Very Young Children with Autism* (pp. 261–282). Springer International Publishing.	

Appendix E: Observational Coding Guide for IY-ASLD Strategies Used by Research Assistants

Strategy	Definition/Notes	Examples
Reflection	Repeating, paraphrasing, or elaborating on what the child said. It is a declarative phrase or statement. Does not count if the parent turned it into a question or if the statement is a contradiction to what the child said.	
Descriptive Comment	Describing exactly what the child is doing by labeling developmentally appropriate actions, objects, and concepts. Sportscasting what the child is doing. The subject is the child, and the verb describes the ongoing or immediately completed behavior. Using "we" or "we are" will count as a descriptive comment. Not using "you" or the child's name is ok. Past or present actions are described.	You're putting the green block on top; We're building a house; Good job cleaning;
Face to Face	Parent and child look at the partner's face; this could look like social referencing or an attempt to make eye contact; if a look to the partner is close to the object (could be either or both) give credit as face to face. Parents give indication that they are cued into the	

	interaction. Looking to each other to share a moment or get information.	
Emotion coaching	Naming, modeling, or prompting emotion language and emotional expression (crying, smiling, frowning). Could include a visual prompt (drawing a smiley face).	
pre-academic coaching	Naming, modeling, or prompting basic concepts/academic language that includes numbers, letters, colors, body parts, prepositions, locations/relative concept (under/above, behind...); foods and drinks, utensils, animals, toys, art supplies (crayons), transportation, Label the objects, attributes, and prepositions to describe what the object is doing.	In the grand scheme of things, is the parent promoting language during the interval?
Persistence Coaching	Naming, modeling, prompting when being curious, patient, trying again, staying calm, or working hard through a difficult task. (LOOK OUT OF APPROVAL/PRAISE) There is an element of trying to support the child to do the task independently. Parents could also name their internal cognitive state.	keep going! Almost there! You can do it! Try! Push that in! 'You did it!' Grand scheme: is the parent promoting

		perseverance through a task.
Social Coaching	Naming, modeling, or prompting social interactions and social skills. Examples include turn taking, friendship, sharing, manners (please & thank you), introductions, greetings, waiting, helping, validating the experience, first-then/negotiating what to do first. It is acceptable to ask a question to help prompt the behavior. Using songs as routines (cleanup song) is a social skill.	Goal: Is the parent promoting emotion regulation or emotion expression/social skills?
Pause and wait	Waiting and giving time for the child to express wants (3 second rule); giving time to think; if the child responses to command <3 seconds, do not code that as a P and W.	
Labeled Praise	This is specific feedback given to a child that clearly communicates what behavior is being praised. Unlike general praise, which might consist of comments like "Good job!" or "Well done!", labeled praise specifies the action or attribute being commended. It explicitly acknowledges and supports the specific actions or qualities the parent wants to encourage.	For example, a parent might use labeled praise by saying, "I really like how you shared your toys with your friend today!"

RULE	If you score a coaching strategy and it is related to the child's behavior(s), you can also give credit for descriptive commenting	
	Give credit for the strategy as soon as it comes out. If a parent starts saying/using strategy in one interval but finishes in the second, give credit in the first interval.	
	If the parent-child dyad is off video for more than 7.5s, the interval is not codable.	

Appendix F: PCI Video Instructions

Zoom Play Session Guide for Parents

Checklist for Set up

- ✔ **Quiet Location**: Only the parent and child should be present, in a room that is separate from other family members/background noises. Most parents sit at a kitchen table -- kids tables, coffee table, or carpet play area works, too.
- ✔ **Device placement:** Your laptop/device should be about 4-5 feet away – a bit farther than a typical Zoom call. It should be out of reach of the child, and far enough to capture both of you in the frame.
- ✔ **Positioning:** Sit next to your child so that we can see your faces ☺ ☺ and do your best to stay in the frame. Your child should be sitting or standing freely -- if you plan to use a secure seat with straps to keep your child in the area, that is okay, just let us know!

Step 1) Building Task (5 minutes)

Materials: Magna-tiles, Legos, blocks, or something to build with
Description: Teach your child to build a simple construction

Step 2) Free Play/ Imagination (5 minutes)

Materials: An assortment of toys suggestions: shape sorter, blocks, connect four, paper & crayons, toy vehicles) and include at least one character toy that "has a face" (Thomas Tank Engine, Lego man, stuffed animals, dolls)
Description: Free play with your child as you normally would

Step 3) Clean up (2 minutes)

Materials: Have a bin or a bag something that you might clean up into
Description: Tell your child to clean up. Please don't clean up by yourself.