PARENT-TODDLER TRAINING: THE MERITS OF FURTHER ANALYSIS

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Earlier identification of autism allows for interventions to begin during toddlerhood. Literature suggests that parents are an important part of very early intervention and specific goals have indicated that they are important to progress. The use of telemedicine may increase access to interventions. The purpose of the study was to evaluate a parent-toddler training program that targeted social-communication skills and incorporated a telemedicine component. Measures included parent teaching targets, child attending, vocal requesting, and coordinated joint attention and the parent's response to coordinated joint attention. Results indicate that parent teaching increased, child attending and vocalizations increased, child coordinated joint attention increased, and the parent's response to coordinated joint attention was primarily social in nature. Analysis of the home observations indicates that direct in home observations or teleconference observations neither under or overestimated behaviors. The results are discussed in the context of teaching and feedback delivery and selection of teaching targets.

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INTRODUCTION

The advancement of diagnostic tools has been instrumental in identifying autism at very early ages (Robins, Fein, Barton & Green, 2001; Stone, Coonrod & Ousley, 2000). Across commentaries, recommendations have suggested that very early autism intervention should 1) focus on teaching social communicative targets; 2) teach within children's natural environments, routines and activities; and 3) include the caregivers (Boulware, Schwartz, Sandall, & McBride, 2006; Chawarska, Klin & Volkmar, 2008; National Research Council, 2001; Wetherby & Woods, 2006; Woods & Wetherby, 2003). The research supporting each of these suggestions is discussed to provide rationales for the study.

The first recommendation suggests that social communication should be targeted in early intervention programs. Social communicative behaviors, including gestures, pointing, and attending to people and events in the environment are lacking in young children with autism (e.g., Adrien et al., 1993; APA, 2000; Charman et al., 1997; Klin, Gorrinda, Ramsay, & Jones, 2009; Osterling & Dawson, 1994). These behaviors are related to or part of the overarching term "joint attention." Joint attention is a target of high interest within early autism intervention. Joint attention is considered a pivotal skill related to the development of vocal communications skills, social interactions, and better treatment outcomes (e.g., Bruinsma, Koegel, & Koegel, 2004; Dawson et al., 2004; Mundy & Crowson, 1997; Mundy, Sigman, & Kasari, 1990). Descriptive and experimental analyses of joint attention have increased our understanding of this operant (Bruinsma, Koegel, & Koegel, 2004; Dube et al., 2004; Holth, 2005; Mundy et al., 2007). Research demonstrates that in typically developing individuals joint attention

comes under control of several reinforcers, including access to events (protoimperative), shared social attention (protodeclarative), and access to information (social referencing) (Bates, Camaioni, & Volterra, 1975; Holth, 2005; Jones & Carr, 2004). However, when children diagnosed with autism display joint attention behaviors the function is almost exclusively related to protesting or gaining access to events (Baron-Cohen, 1989; Dube et al., 2004). This information has aided interventionists in understanding how to teach and to increase joint attention (e.g., Holth, 2005; Jones, Carr & Feeley, 2006; Kasari, Gulsrud, Wong, Kwon, & Locke, 2010; Kasari, Freeman & Paparella, 2006; Landa, Holman, O'Neill, & Stuart, 2011; Martins & Harris, 2006; Mundy & Crowson, 1997; Whalen & Schreibman, 2003).

The second recommendation suggests that it is important to teach within children's natural contexts of toddlerhood. Teaching within activities and routines lends itself to increased social interactions between children and teachers. Embedded social activities within the teaching environment appear to influence the development of joint attention (Koegel, Vernon & Koegel, 2009; Landa et al., 2011; Schertz & Odom, 2007). In addition, naturalistic procedures allow for increased teaching opportunities throughout the day, as opposed to only during therapy time (Dunst, Hamby, Trivette, Raab, & Bruder, 2000). Teaching within the natural environment shows that skills will more likely generalize and be used in natural settings (e.g., Delprato, 2001; Hart & Risley, 1980; Koegel, O'Dell, & Koegel, 1987; McGee, Krantz & McClannahan, 1985). This advantage has been partly attributed to the extent of natural relevant stimuli in teaching conditions. When teaching within social activities or routines, the stimuli that control behaviors in the natural environment (i.e. verbal and non-verbal antecedents, physical

stimuli, and reinforcers) are present in the teaching environment (LeBlanc, Esch, Sidener, & Firth, 2006). In addition, teaching across activities and in multiple contexts decreases the potential for irrelevant stimuli to control behavior (Rincover & Koegel, 1975). This increases the probability that the relevant stimuli will control children's behaviors in non-teaching conditions, resulting in children using target behaviors independently in appropriate contexts (Stokes and Baer, 1977).

The final recommendation suggests that caregivers should be involved in the intervention process. Caregivers are the primary social partners at this young age and can impact the development of important social communicative behaviors. Typical parent-child social interactions encompass back-and-forth social exchanges (e.g., smiles, eye gaze, gestures). These positive social interactions partly occur because both partners find each other's social responses reinforcing. This interaction has been described as a "social dance" (Hart & Risley, 1999). This "social dance" between children with autism and their caregivers is often limited in both quantity and quality. To develop and to enhance the "social dance" between children with autism and their parents, family goals have included sustaining engagement with one another, initiating and responding to one another, and increasing enjoyable interactions.

Parent-toddler training programs that have incorporated these three recommendations, teaching in the natural environment, teaching social communicative behaviors, and including the caregiver, show promising outcomes (Alai-Rosales, Cermak, & Guðmundsdóttir, 2011; Brookman-Frazee, 2004; Ingersoll & Gergans, 2007; Kasari et al., 2010; Newcomer, 2009; Schertz & Odom, 2007; Vismara & Rogers, 2008; Vismara, Colombi & Rogers, 2009; Wetherby & Woods, 2006). The primary measures

included parental implementation of teaching procedures and children's target responses. Most of the studies also evaluated collateral behaviors including both parent-child engagement and affect and parent stress and confidence. The training methods involve the trainer modeling parent teaching targets, the caregiver practicing, the trainer providing feedback, and discussions about each child and parent target. These studies demonstrate changes in parent's use of teaching procedures, increases in children's social-communicative responses, and increases in the quantity and quality of parent-child interactions, including increased responsivity, more favorable affect, and more occurrences of joint attention. (see Table 1 for a review of the literature).

Although these studies offer strong evidence regarding procedures and outcomes, implementation challenges exist within early intervention (Odom, 2009). A growing number of young children and families need services, however readily available interventionists are lacking. If services are available, they are often too expensive for the family. One variable that adds to the cost of services is long and frequent travel. Travel also reduces expert contact time and reduces the number of children that each interventionist is able to serve. This challenge is even further complicated for families living in rural areas (Thomas, Ellis, McLaurin, Daniels, & Morrisey, 2007). These issues set the occasion for a great challenge. In order to best serve families it is important to evaluate implementation procedures that may help resolve these challenges (Odom, 2009). Only when services can be provided to all families, despite location or financial ability, can true advancements be made in the implementation of autism interventions.

A technology that may alleviate some of these challenges is telemedicine. Telemedicine is defined as "the practice of medicine when the doctor and patient are

widely separated using two-way voice and visual communication" (Merriam-Webster, 2010). Autism research has just begun to use telemedicine by incorporating teleconference technology within interventions (Terry, 2009). Reese, Jamison, Wendland, Braun, & Turek (2009) evaluated the use of teleconferencing to diagnose children with autism and found no significant difference between diagnoses made through teleconference assessments and diagnoses made through direct in home assessments. Clinicians have utilized this technology to train parent trainers (Vismara et al., 2009) and teachers (Zahn & Buchanan, 2002) to provide interventions to families and children with autism. In addition, teleconferencing has allowed interventionists to provide feedback and program changes to families of children with autism living in rural areas without added travel costs (Rule, Salzberg, Higbee, Menlove, & Smith, 2006) and by conducting functional analysis from a distance (Barretto, Wacker, Harding, Lee & Berg, 2006). Baharav & Reiser (2010) utilized teleconference technology and provided parent training through clinic and teleconference sessions to train two families to teach their pre-school children basic communication skills. Weekly home observations were done and feedback was provided without additional family or clinician travel. This study suggests that telemedicine can aid interventionists to effectively train parents at home. These studies illustrate some potential advantages of telemedicine which include reducing program costs, providing more services to families, reducing clinician time and travel, and more easily providing services in the family's home. However, more research needs to be done in order to evaluate this mode of intervention.

The purpose of the current study it is to evaluate the effects of parent training procedures, similar to those found in the nine parent-toddler studies. This includes an

analysis of parent skills, child skills and coordination joint attention (CJA). The second purpose is to implement the study under conditions of use (Odom, 2009) and include an evaluation of a telemedicine component.

METHODS

Participants

Family

One parent-child dyad participated in the study. Selection criteria for the study included the child's age (6-36 months) and the child's diagnosis of autism spectrum disorder (ASD). There were no selection criteria based on the gender or ethnicity of the parent or child. The family contacted Sunny Starts to request services.

The parent-child dyad, Cynthia and Nic, lived with Nic's father and sister. Cynthia identified as white and was considered middle class. Cynthia was a 32-year old, full-time homemaker. Prior to the study, Cynthia had not participated in any type of parent training. However, Cynthia observed Nic's behavior analytic therapy, primarily consisting of discrete trial teaching.

Nic's mother identified him as white. A pediatrician not associated with this study diagnosed Nic with autism spectrum disorder (ASD). Cynthia and Nic began their participation in the training when Nic was 33 months old. Prior to the study, Nic's communication largely consisted of gesturing towards items. He made limited eye contact and did not have a vocal verbal repertoire. He was able to match and follow simple instructions, such as clapping his hands and sitting down. Nic also attended 10 hours of ABA therapy a week at a clinic not associated with this study. Halfway through the study, Nic began to attend pre-school 16 hours a week. Informed consent was obtained after training was completed. See Appendix A for consent description.

Trainers

Two parent trainers co-conducted the sessions. The first parent trainer had her Ph.D., was a board certified behavior analyst, and had 30 years of experience with

families and children with autism. She is in her 50's and is of Caucasian and Asian descent. I served as the second trainer and was a senior graduate student at the University of North Texas at the time of the study. At the time of the study, I was in my mid 20's and had over four years of experience with children diagnosed with autism and behavior analytic intervention. I am of Caucasian descent. I was present at all training sessions, while the first trainer was present at the majority of training sessions. The first trainer observed the training session video when she did not attend.

Settings and Materials

The study took place in three settings, the Sunny Starts clinic, the family's home through teleconferencing, and directly in the family's home.

Clinic

Intake, baseline, training sessions and assessments took place in the Sunny Starts clinic at the University of North Texas. The clinic had one small table, chairs, a couch, a large rug and toys. In addition, the trainers taped all sessions and assessments with a webcam.

Home Teleconference

Baseline sessions, training sessions, and assessments occurred in the family's home through teleconferencing. For all teleconference sessions and assessments the family chose to use the family room consisting of several toys, a couch and a television. Skype ® version 4.2 software was used for teleconference home sessions. The researchers recorded teleconference assessments using Skype ® video recording software.

Home Video

Baseline and training assessments occurred directly in the family's home. The researchers taped all assessments with a Flip Cam ®. Identical to teleconference assessments, the family used the living room for all home video assessments.

Data Collection and Measures

Data Collection

Data were collected in three different observation settings which included the Sunny Starts clinic, the family's home through teleconferencing and directly in the family's home with video. All assessments lasted five minutes and occurred at the beginning of each session. A paper and pencil system was used. The researchers collected data from the recorded video, with the exception of one videoconference assessment (due to procedural error). Data sheets can be found in Appendix B.

Behaviors

Direct and collateral parent and child behaviors were measured. The following provides an outline of these behaviors; see Appendix C for detailed definitions and scoring instructions. The behavioral definitions are adapted from definitions in the literature and from previous research at the University of North Texas (Besner, 2008; Ewing, 2008; Goettl, 2008; Greer & McDonough, 1999; Ingersoll & Gergans, 2007; Jacobs, 2000; Koegel, Symon & Koegel, 2002; Mundy et al., 2003).

Parent Target Measures

The first set of measures focused on the parent's implementation of the "teaching DANCE" procedures. Successful teaching episodes were counted when the parent arranged for a child response, the child emitted a target behavior, and the parent

provided a responsive event to the child response. Teaching episodes were counted per child behavior. For example, if the parent withheld access to a ball and the child made a vocal request, while gazing towards parents eyes, and the parent provided a responsive event, two separate teaching episodes were counted. One teaching episode was counted for vocal requesting and one for attending.

Child Target Measures

The second set of measures included child social communicative behaviors that were targeted in training, which included attending and vocal requesting. Attending was scored when the child oriented his face toward the parent's face during a parent arrange or when the child gazed to an inaccessible event then to parent's face or if the child's gaze toward the parents face results in a preferred event from the parent. Vocal requests were counted when the child made a vocalization while the parent arranged or if the parent provided access to a high preference event after the vocal.

Collateral Joint Attention Measures

The third set of measures included joint attention and the mother's response to joint attention. Coordinated joint attention was counted when three gaze shifts occurred between an event and the parent's face. The parent's responses to gaze shifts that were measured included making social comments and providing access to events.

Interobserver Agreement

Interobserver agreement (IOA) was measured for at least 33% of sessions across behaviors, observation formats, and conditions. The author trained the observers by explaining the observation code, providing written instructions, and

practicing the observation code with practice videos. The observers used a paper and pencil system, digital timers, and data sheets to collect data. The researcher transferred data to a spreadsheet software to create graphs and tables. To calculate IOA the agreements were divided by the agreements plus disagreements and multiplied by 100%. Average interobserver agreement across all behaviors ranged from 85% to 97%. See Table 2 for detailed IOA results.

Procedures

General Procedure

The parent training intervention used a sequence and methods based on previous Sunny Starts studies (Alai-Rosales et al., 2011; Newcomer, 2009). An overview of the Sunny Starts program sequence is found in Table 3. The entire training program was approximately 30 hours from intake to exit. Sessions took place in the Sunny Starts clinic and in home through teleconference sessions. Assessments took place in clinic, at home through teleconference and in home with video. Clinic sessions lasted between 60 and 90 minutes and home teleconference sessions lasted between 30 and 50 minutes. The majority of sessions occurred once per week.

Intake

The trainers conducted an intake interview with Cynthia during the initial meeting. The interview comprised of questions related to the child and parent strengths, the family's interactions with Nic, the family's routines and activities, and the family's culture (see Appendix D). The trainers encouraged Cynthia to tell stories about past experiences with her son to inform the trainers of Nic and Cynthia's relationship, Cynthia's parenting style, and cultural variables that may influence training. Next, the

trainers discussed the Sunny Starts training format and procedures with the mother and provided her with information and a binder to take home (see Appendix E).

Baseline Assessments

Baseline assessments occurred in three different settings including the Sunny Starts clinic, the family's home through teleconference, and directly in the family's home with video. All assessments were five minutes in length. Cynthia was told to teach and interact with Nic as she normally would during play. During baseline assessments the trainers observed Cynthia's teaching skills, the interactions between her and Nic, and Nic's play, social, and communication behaviors. The trainers told Cynthia to use any of the toys in the clinic. During teleconference assessments and home video assessments, Cynthia chose to use the family living room. For all baseline assessments, the trainers provided brief feedback to the parent about the activities and engagement between Cynthia and Nic.

Baseline Sessions

There were a total of three baseline sessions. Baseline sessions were conducted at the clinic and in the family's home through teleconference. During baseline sessions, Cynthia was given information about community resources for her family and Nic. In addition, the trainer spent time each session building rapport, discussing autism interventions, and answering Cynthia's questions about her son, Sunny Starts procedures, and applied behavior analysis.

Training Assessments

As in baseline, training assessments occurred in three settings which included the Sunny Starts clinic, the family's home via teleconferencing and directly in the

family's home. The training assessment procedures were identical to baseline assessment procedures.

Training Sessions

There were a total of 15 training sessions during intervention. Training occurred at the Sunny Starts clinic and in the family's home through teleconference sessions. During all training sessions, Cynthia was taught to implement the "teaching DANCE." The "teaching DANCE" was used as an acronym to help parents remember the five components of teaching (see Appendix F). The acronym is derived from Hart and Risley (1999) as the authors describe interactions between parents and their young children as a "social dance." In general the "teaching DANCE" components included teaching the parent to 1) *decide* if the moment is right for teaching and how to break a skill into components; 2) *arrange* the environment to promote child responses; 3) respond *now* or immediately to their child's target behaviors by providing a preferred event and expanding on the child's communication; 4) *count* occurrences of the behavior to monitor the behavior change; and 5) *enjoy* the interactions with their child by making changes to promote favorable parent and child affect and to increase engagement. The first 10 training sessions focused on applying these teaching strategies to attending, and the subsequent 5 sessions focused on applying these teaching strategies to vocal requesting.

During clinic sessions, the trainers taught the caregiver by modeling the skill, providing feedback after the parent practiced, and discussing each teaching component. During teleconference sessions the same methods were used, except the trainer did not

model the skill and only provided feedback after Cynthia practiced the “teaching DANCE” components.

At the end of clinic sessions, the trainers discussed and made note of Cynthia’s weekly goals on the “home helper.” The “home helper” is a single sheet of paper that was given to the parents each week that contained the weekly goals and notes from the session (see Appendix G).The trainers encouraged Cynthia to write questions or comments about the week on the home helper, and bring it back to the following session.

Follow-up.

Two follow-up assessments occurred after training was completed. One follow-up assessment was conducted at home through teleconference four weeks after training and one follow-up assessment was conducted directly in home with video six weeks after training. Teleconference and in home video assessments were identical to training assessments.

Design

The effects of the training were evaluated with a multiple baseline design across parent teaching of child skills.

RESULTS

There are three figures. In all figures, the first phase represents assessments taken during baseline, the second phase represents assessments taken during intervention and the last phase represents assessments taken at follow-up.

Figure 1 represents parent and child responses across 5-minute assessments. The white markers indicate assessments taken in the clinic, the black indicate assessments taken at home with video, and the grey represents assessments taken at home through teleconference. From top to bottom the graphs display the following: parent teaching episodes for attending, child attending, parent teaching episodes for vocal requesting and child vocal requests. Overall, the graph shows that parent teaching episodes and child target behaviors increased when parent training began and either maintained or increased further at follow-up.

In the top two graphs parent teaching episodes for child attending and child attending across 5-minute assessments is shown. During baseline, parent teaching episodes and child attending were both low. The parent averaged 1.3 teaching episodes for attending, ranging from 0 to 4 and the child averaged 2 instances of attending, ranging from 0 to 5. During baseline, child and parent responses bounced up during the clinic assessment, and then back down during the videoconference assessment. When parent training began, there was an immediate jump up both parent and child responses, with an increasing trend until assessment 13. For Assessments 4-13 the average number of parent teaching episodes for attending was 11, ranging from 6 to 18 and the average child attending was 13, ranging from 6 to 22. For the remaining assessments, parent teaching episodes for attending remained at a lower level with

some variability, averaging 3.8, with a range from to 0 to 9. For assessments 14-19 child attending was variable, ranging from 0 to 27. At assessment 16 attending jumped up to 27, but then decreased over the next 3 assessments to 7. At follow up, both parent and child responses maintained at the same level as the end of training, with an average of 4 parent responses and 8 child responses.

The bottom 2 graphs of Figure 1 display parent teaching episodes for vocal requesting and child vocal requests. During baseline both parent and child responses remained low. On average 1.2 teaching episodes for vocal requests occurred, with a range of 0 to 4 and on average 2.3 child vocal requests occurred, ranging from 0 to 7. When parent training began for vocal requests, an immediate jump up in both child and parent responses occurred. There was an increasing trend for both parent and child responses. During training parent teaching episodes for vocal requests averaged 7.5, and ranged from 0 to 14. Child vocal requests averaged 12.8 and ranged from 0 to 21. This results in an average increase of 6.3 teaching episodes for vocalizations and 10.5 increase in child vocalizations. At follow up parent teaching episodes maintained at a higher level and were consistent at 11 for both observations. Child vocal requests further increased at follow up and averaged 23.5.

Figure 2 represents child coordinated joint attention and parent responses to gaze shifts across assessments. The top graph represents the number of child coordinated joint attention across assessments and the bottom graph represents the parents response to her child's coordinated joint attention gaze shifts. In the top graph the black circles indicate the number of the child's coordinated joint attention. In the bottom graph, the black markers indicate social responses were provided, grey markers

indicate social responses were provided while providing access to an event and access to events occurred and white indicate only access to events occurred.

During baseline, CJA averaged 7.5, ranging from 1 to 14. When parent training began CJA steadily increased from assessment 4 to assessment 13, averaging 17.6, ranging from 7 to 35. At session 14, when parent training began targeting vocal requesting, CJA was variable over the next six assessments. At assessment 17, CJA jumped up to 27, but then decreased throughout the remaining assessments. At follow-up CJA remained low averaging 4.5.

The bottom graph represents the mother's response to her child's coordinated joint attention gaze shifts. Overall, the mother's use of social responses and the number of times she provided access to an event when joint attention gaze shifts occurred increased when parent training began. No occurrences of the mother providing access only were observed throughout the study. During baseline, the mother provided an average of 2.5 social responses and 1.5 social responses while delivering access to event to coordinated joint attention gaze shifts. At the initiation of parent training and through assessment 13 social and access responses steadily increased, averaging 9.8, ranging from four to seventeen. From Assessment 4-13, social responses increased to 4.8, ranging from 0 to 10. When parent training focused on teaching vocal requests, social responses only and social responses while delivering access to events occurred at similar frequencies throughout the remainder of the assessments. Average social responses slightly increased to an average of 5.7, ranging from one to ten, and social responses while delivering access to events decreased to an average of 4.7, ranging from 1 to 9. At follow up, responses to

coordinated joint attention were similar for social responses and social responses while providing access to events averaging 1.5 and 2 responses, respectively.

Figure 3 compares child and parent behaviors across assessments observed in home through teleconference and directly in home with video. The black bars indicate observations made in home with video assessments and the grey bars represent observations made in home through teleconference assessments. The graph shows that occurrences of parent and child behaviors observed in home through video and in home with teleconference were similar across child and parent behaviors and conditions.

During baseline, parent teaching episodes for attending and child attending were almost identical, with no difference in teaching episodes for attending and only one observation difference in child attending. During parent training parent and child attending immediately jumped up in both observation formats. During home assessments three to six teaching episodes for attending observed in home and teleconference were similar, with only an average difference of two teaching episodes. During assessments seven and eight, teaching episodes for attending dropped in both video and teleconference observations to nine and two respectively. At the start of training attending increased in both observation formats. Comparing the initial home observation and the subsequent three teleconference observations there was 7.7 average differences between the two formats. During Assessments 7 and 8, attending was observed 19 times in home video observations and 7 times in teleconference observation. At follow up 4 instances of attending were observed in teleconference assessment and 12 instances were observed in the home video assessment.

During baseline, parent teaching episodes for vocal requests and child vocal responses were zero for the majority of baseline assessments in both formats. Child and parent behavior jumped slightly in the middle of baseline in both observation formats. Both parent and child responses increased immediately when parent training began. During parent training, there was a difference of two parent teaching episodes and two child requests between the observation formats. At follow-up, in both observation formats 11 teaching episodes for child requesting were observed and 28 child requests were observed in home video while 19 were observed in the home teleconference format.

During baseline one occurrence of CJA was observed in home. Similar observations were made during parent training for child attending as coordinated joint attention jumped to 22 for home and averaged 19.3 across Teleconference Assessments 4, 5, and 6. At Assessments 7 and 8 CJA decreased in the home and teleconference assessments to 14 and 5, respectively. At follow-up occurrences of joint attention remained low in both formats, with only one difference between the observations.

DISCUSSION

The first purpose of the current study was to evaluate the effectiveness of the parent training procedures. This included an analysis of parent skills, child skills and coordination joint attention. Specifically, the mother's teaching procedures and the child's social communicative behaviors were targeted. The results show that when parent training began, the mother increased the number of teaching episodes within the five minute assessments. Similarly, child attending and vocal requesting increased when parent training began teaching for these behaviors. Furthermore, parent teaching episodes and child responding maintained at the current level or increased at follow-up observations.

Parent training has been documented to be instrumental in changing parent and child behavior (Alai-Rosales et al., 2011; Brookman-Frazee, 2004; Ingersoll & Gergans, 2007; Kasari et al., 2010; Newcomer, 2009; Schertz & Odom, 2007; Vismara & Rogers, 2008; Vismara et al., 2009; Wetherby & Woods, 2006). Changes in parent behavior can lead to important changes in their children's social communicative development. In the current study the mother learned to apply the "teaching DANCE" to her child's social communicative behaviors. The training procedure incorporated descriptions, modeling, parent practice and feedback. These training procedures have been well documented across populations and settings (e.g., Nabeyama & Sturmey, 2010; Parsons & Reid, 1995), including parent-toddler interventions (e.g., Vismara & Rogers, 2008). The procedures extend current parent training research by implementing training sessions in the clinic as well as in home through teleconference sessions. Although the study did not control for the added effects of teleconference sessions, the increasing child and

parent trends suggest that the sessions did not compromise the positive effects of training and may have even added to the training.

An ancillary evaluation goal involved an analysis of coordinated joint attention. Overall, there were two important findings. First, coordinated joint attention steadily increased when the mother was taught to teach and respond to her child's attending. Second, a decrease in coordinated joint attention occurred when the mother shifted her teaching from attending to vocal requesting. These data suggest that attending is interconnected with the development of coordinated joint attention, which is similar to findings of previous studies evaluating the emergence of joint attention (Landa et al., 2011; Newcomer, 2009; Schertz & Odom, 2007).

The current study and past studies demonstrate that parents who have been trained to respond to eye contact can impact the development of their child's coordinated joint attention (Newcomer, 2009; Schertz & Odom, 2007). One common variable in these studies was the focus on teaching parents to respond to child eye contact and embed teaching opportunities in social games and play activities. In the current study when joint attention decreased parent training began to target vocal requesting and the primary reinforcer used was food. Using food as the reinforcer may have impacted the quality of the "social dance" by reducing the magnitude and duration of the mother's social engagement and activities during teaching and reinforcement. This idea is further supported by Koegel, Vernon and Koegel (2009) who demonstrated that embedding social responses within reinforcement increased children's social initiations, overall attending to the adult and increased children's affect. These outcomes suggest that teaching parents to respond to child attending within social

activities is an important target that may aid in the development of joint attention. Further research should evaluate whether the change in target (attending vs. vocal) or the change in reinforcer (play activity vs. food) most influenced the child attending and joint attention.

This study extends previous research in joint attention by evaluating a parent's response to her child's coordinated joint attention. The major finding was that the primary response to the child's coordinated joint attention was the parent providing social attention, along with access to an event (toy or activity). There were some instances of the mother providing only social attention, but no instance of the mother providing access to an event, without a social response. In addition, joint attention occurred more consistently toward the end of the training period that focused on child attending.

This analysis is important because it allows for a better understanding of the function of the child's coordinated joint attention. The function of joint attention may be important to consider before moving to new targets within an early intervention program or parent-toddler training program. Joint attention has been classified by different functions which include access to events (protoimperative), shared social attention (protodeclarative), and access to information (social referencing) (e.g., Dube et al., 2004; Holth, 2005). When considering the social deficits within children with autism, it is especially important to establish joint attention under the control of social reinforcement. This may allow for greater development of important social competencies (Klin, Gorrinda, Ramsay, & Jones, 2009). In the current study, when the parent began to teach vocal requesting, coordinated joint attention jumped down and maintained at a

lower frequency. However, when joint attention did occur, half of the time the mother responded with social attention, and the other half the mother responded with access to events and social comments. This suggests the function of joint attention was partly controlled by social responses, which is significant within early autism intervention and parent training.

It is important to note that the trainers taught the mother to give her child access to a preferred event (toy or activity), and expand upon the child response with an encouraging vocal comment related to the activity. However, the mother began to respond to her child's gaze shifts with social responses alone, and neither the gaze shifts nor social responses alone were explicitly taught. Some explanations for this change may be that the child's eye gaze was conditioned as a reinforcer throughout training and there was mutual reinforcement between the child and mother when gaze shifts to one another occurred. The change may have resulted because social responses were part of the response class that was taught in training. It is also possible that the trainers instructed and reinforced higher response rates to the child's gaze, not specific to proto imperative, under any conditions. Further research needs to explore possible accounts and identify conditions where this outcome can be reliably produced and maintained.

The second purpose of the study was to implement the study under conditions of use and evaluate a telemedicine component. Teleconference home observations and feedback were provided to the parent throughout the training program. In addition, observations were made directly in home with video. When comparing home

observation assessments, the data indicate that neither observation format seemed to under or over estimate child or parent target behaviors.

To date only one study has evaluated teleconference sessions within a parent training program for children with autism (Baharav and Reiser, 2010). The current study adds to the parent training literature by evaluating observation differences across two home observation formats. This is an important extension of the current literature to ensure observations made through teleconference are indicative of the types and frequency of behaviors that are actually occurring. Valid observations will aid in providing effective feedback and training at home.

Utilizing teleconference technology within parent training may address the current implementation challenges. Teleconference observations and telefeedback may lower program cost to families. Teleconference sessions may be a more efficient use of time than clinicians travelling to and from family's homes. This may lower the cost to families, and allow interventionists more time to serve more families. More frequent home observations can be made without increasing costs, which may improve parent success at home. This technology may also allow parents to more easily access quality interventionists. Telefeedback has the potential to be provided "on demand" on a relatively unscheduled basis.

Although teleconference has advantages, there are some challenges. Modeling with the child is an instrumental training method. In the current study, training with teleconference sessions occurred only after the trainer modeled all components of the teaching behaviors in the clinic. In addition, modeling with the child allowed the trainer to identify preferences and current targets. Future studies should evaluate whether

modeling is necessary before videoconference feedback is effective. Teleconferencing also requires families to have access to internet and a webcam or a smartphone. Training programs may be more expensive if these resources have to be supplied. Teleconferencing sessions may negatively impact the rapport between the parent and trainer. Rapport is especially important because parent training programs for young children with autism are often the first contact that family's have with interventionists. In addition, positive parent-trainer rapport and collaboration has shown to decrease parent success and increase confidence (Brookman-Frazee, 2004). Future studies should systematically evaluate parent-trainer rapport when teleconferencing sessions are used.

The findings of this study are limited by the fact that only one parent-child dyad participated. Replication across several families would extend and strengthen the findings. Future studies should systematically evaluate variables that may have contributed to the decrease in coordinated joint attention. Finally, the analysis of observation differences only suggest that the home observation formats did not under or overestimate the behaviors observed and that the addition of home teleconference sessions were desirable. Most rigorous experimental designs should be employed to explore this further.

Despite the limitations, the study adds to the current literature by evaluating a parent training program that utilized training in a clinic and at home through teleconference sessions. The study also identified variables that may be important to establish joint attention, including child attending and social interactions. Last, the study provides useful information about teleconference observations. These observations

suggest that teleconference can be a useful observation and training format, which may help the current implementation challenges within early autism intervention.

Table 1

Parent-Toddler Training Programs Matrix Summarizing Methods Used in the Literature

Reference	Participants	Target parent behavior	Target child behavior	Training Setting and Methods	Measures	Results	Observation Conditions
Alai-Rosales, Cermak & Guðmundsdóttir (2011)	8 parent-child dyads; children under 36 months	Decide what to teach, arrange environment, respond effectively to target responses, count behavior and focus on creating enjoyable environment	Play and social attending	In clinic and in family's home	Parents use of teaching procedures, child target responses, coordinated joint attention	Increase rate of teaching opportunities and increase child targets	Baseline, training; Parent-child 5-minute play sample
Brookman-Frazee (2004)	Three parent-child dyads; children 29-34 months displaying signs of autism	Use of PRT (follow child's lead, reinforcing approximations, new and mastered tasks, responding to multiple cues, reinforcement)	Communication, decrease challenging behaviors, self-help, play	Setting: 2/3 clinic, 1/3 home; Partnership vs. clinician directed; feedback and instructions	Parent stress, confidence, child affect, engagement and communication	Increased quality of parent-child relationships; improved affect and interest in collaborative condition; lower parent stress and increased confidence	Baseline, training; Play samples with interventionist providing feedback- either in the partnership or clinician directed conditions
Ingersoll & Gergans (2007)	Three parent child dyads; children 31, 37, and 42 months diagnosed with ASD	Reciprocal imitation techniques, reciprocity, imitate child vocals, mapping, prompts, reinforcement	Imitation	Setting: Clinic; Two sessions per week for 10 weeks; Model, rationales, parent practice, feedback	Intervals of parent use reciprocity strategies of imitation, child object and gesture imitation	Varying increases in parent's use of teaching strategies and child imitation	Clinic and home; Parent-child 10 minute play samples

(table continues)

Table 1 *(continued)*

Reference	Participants	Target parent behavior	Target child behavior	Training Setting and Methods	Measures	Results	Observation Conditions
Kasari, Gulsrud, Wong, Kwon, & Locke (2010)	38 parent-child dyads; children 21-36 months diagnosed with ASD; 19 dyads to immediate treatment, 19 in wait-list control group	Use of 18 teaching skills; Quality of involvement scale; adherence to protocol	Initiating and responding to JA	Setting: Clinic; 3 sessions/week for 8 weeks. Instructions, model, parent practice, feedback.	Parent: 4 point scale across 18 teaching behaviors; involvement; adherence to protocol. Child: engagement states; JA behaviors; and play behaviors	Increase in joint engagement, reduction in object engagement, increase in functional play and slight increase in symbolic play and initiations and responses to JA	Clinic; 15 minute parent-child play assessments with same toys in all three assessments.
Newcomer (2009)	Three parent-child dyads; Children 23-27 months diagnosed with autism	Successful teaching episodes for child eye contact	Communicative attending	Setting: Home; 11-17 sessions; Model, parent practice, feedback, descriptions	Child: joint attention and facial orientation to parent; Parent: teaching episodes	Increase in parent teaching episodes, successful teaching episodes, child joint attention and facial orientation to parent	Home; Parent-child 10 minute play samples
Schertz & Odom (2007)	Three parent-child dyads; Children 23-28 months diagnosed with autism	Naturalistic methods to promote JA and responsivity	Facial orientation, initiating and responding to joint attention and turn taking	Setting: Home; Mediated learning approach; rationales, goals, purpose; parent led activities; interventionist in supporting role	Qualitative, social validity, 10-sec intervals child initiated and responded to joint attention	Largest increase in child facial orientation to parents face, moderate increases in joint attention and turn taking	Home; 10-min play samples with parent

(table continues)

Table 1 (Continued)

Reference	Participants	Target parent behavior	Target child behavior	Training Setting and Methods	Measures	Results	Observation Conditions
Vismara & Rogers (2008)	Father and 9 month old infant at risk for autism	ESDM techniques and PRT (e.g. Turn taking, identifying child preferences, using A-B-C, functional assessment, facilitating joint attention)	Spontaneous communication, imitation, child attention, child initiations	Setting: Clinic; 12 consecutive sessions (1.5 hours) and four 1.5 hour follow-up. Modeling, feedback, discussion	Likert scale across 15 parent behaviors and 2 child behaviors; Frequency imitation and spontaneous functional communication	Increase in parent implementation of ESDM techniques and increase of child target behaviors	Clinic; Two 10-min play samples each session (one with interventionist, one with parent)
Vismara, Colombi & Rogers (2009)	Six parent-child dyads; children under 36 months diagnosed with autism	ESDM techniques and PRT (e.g.. Turn taking, identifying child preferences, using A-B-C, functional assessment, facilitating joint attention)	Spontaneous communication, imitation, child attention, child initiations	Setting: Clinic; Modeling, feedback and discussion	Likert scale across 14 parent behaviors and 7 child behaviors; frequency child communication and imitation	Increase in parent implementation of ESDM techniques and maintained at follow up. Overall increase in all child target behaviors.	Clinic; Two 10-min play samples (one with interventionist, one with parent)
Wetherby & Woods (2006)	17 toddlers with autism or at risk for autism and their parents (mean age 18.19 months) in intervention; 18 children in control group	Use of naturalistic teaching skills within daily routines	Social communicative goals	2 sessions/week for one year in family's home. Videos, handouts, model skills, guided practice, and parent-child attend play group for 9 weeks	Pre-Post observations; No parent measures; Child: social communication and language stage with Communication and Symbolic Behavior Scales Developmental Profile	Pre-post within group differences for 11/13 social communication measures; verbal increased from 5.9% to 76.5%; group differences in language, social signals, communicative functions, and understanding.	Pre-Post assessment with interventionist

Table 2

Percent of Interobserver Agreement

Measure	*Baseline*		*Intervention*					*FU*
Arrange	100	93	93	100	100	92	100	100
Attending teaching episodes	100	80	100	91	88	100	75	86
Vocal requesting teaching episodes	100	100	100	80	100	100	100	92
Child attending	100	67	80	85	87	100	83	90
Child vocal requesting	100	100	80	88	100	100	83	90
Coordinated joint attention	100	70	100	100	78	82	80	72
Response to coordinated joint attention	100	70	100	100	78	82	80	72

Table 3

Parent-Toddler Program Sequence

- Initial Meeting and Intake Interview
- Family and Service Provider Begin Relationship Building
  - Assessments Begin: Home, Clinic, Teleconference
    - Goal Setting
      - DANCE Training: Attending
        - DANCE Training: Vocal Requesting
          - Follow-Up

Sessions

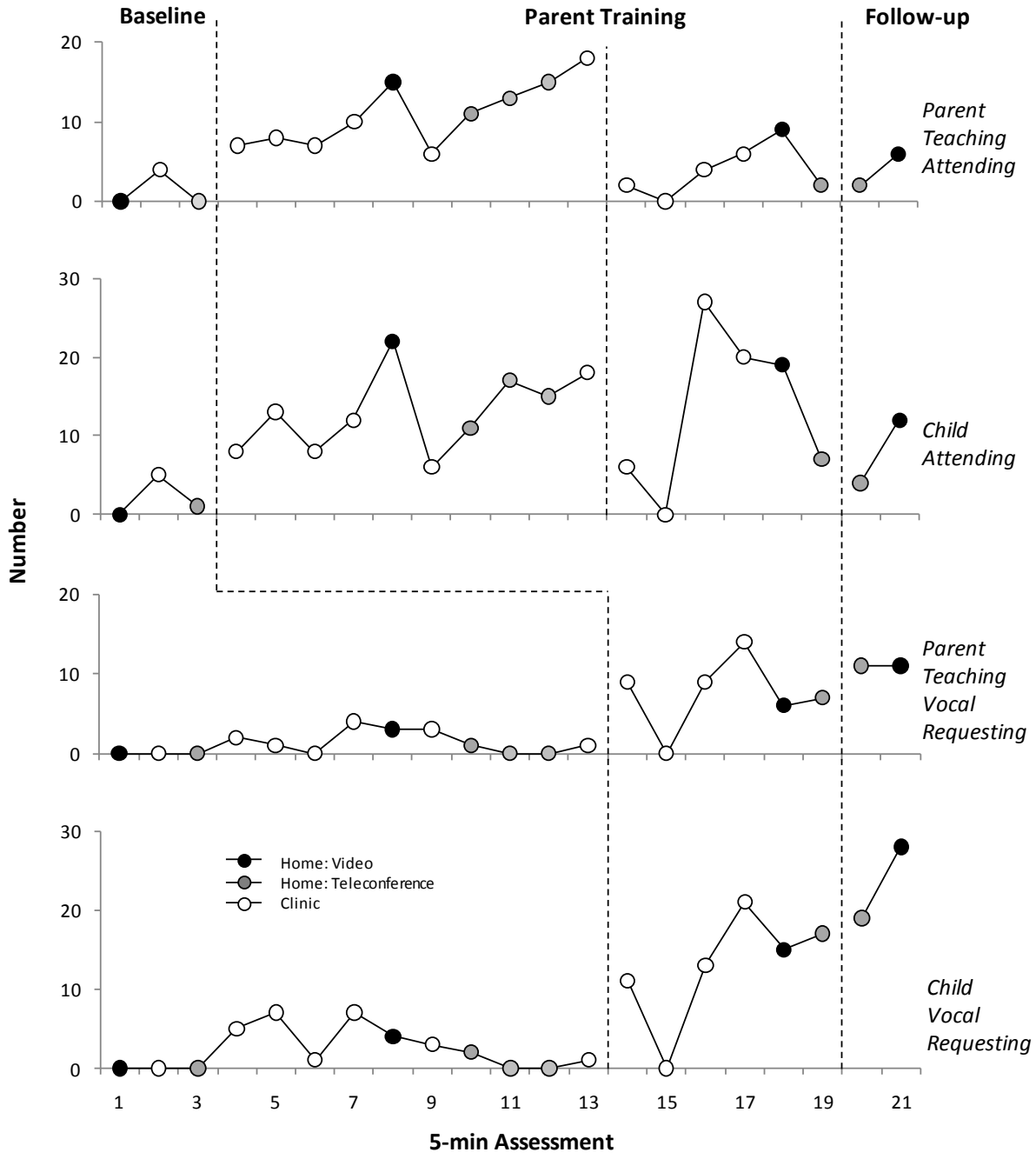

Figure 1. Parent successful teaching episodes and child responding across assessments.

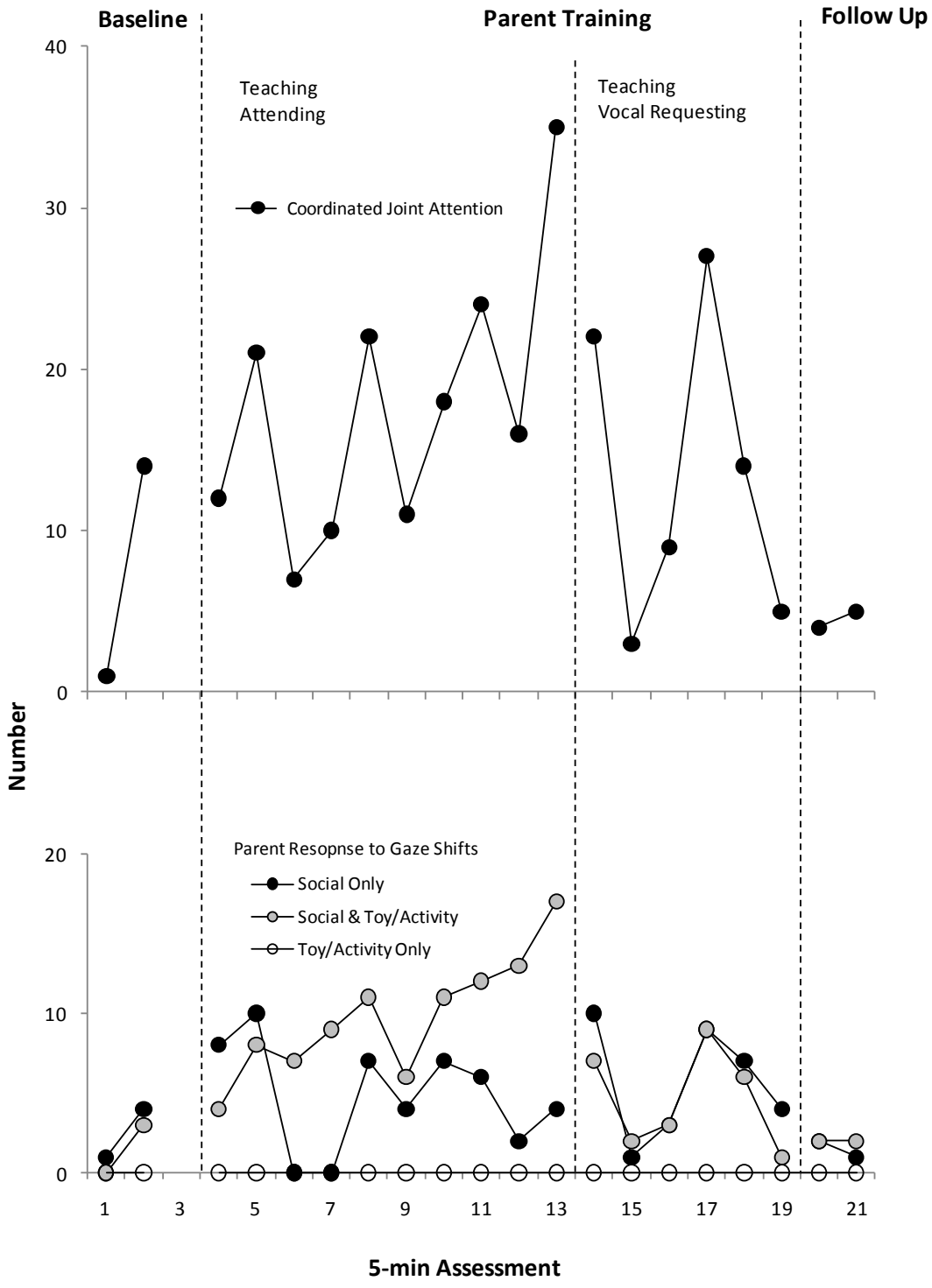

Figure 2. Child coordinated joint attention and parent responses across assessments.

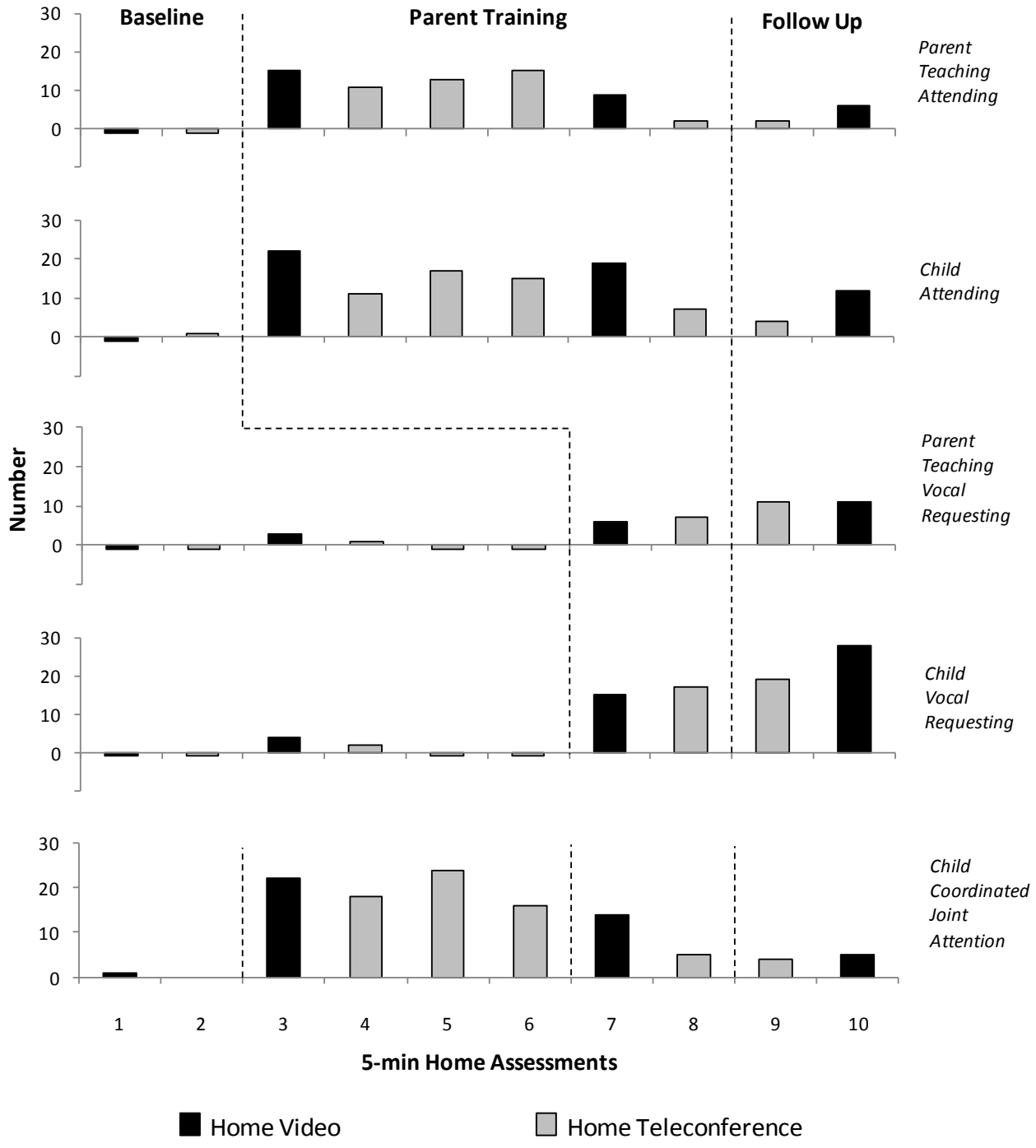

Figure 3. Parent and child target behaviors across home observation formats.

APPENDIX A

INFORMED CONSENT FORM

University of North Texas Institutional Review Board

Informed Consent Form

Before agreeing to you and your child's participation in this research study, it is important that you read and understand the following explanation of the purpose, risks and benefits of the study and how it will be conducted.

Title of Study:

Direct and Collateral Effects of a Parent Training Program for Toddlers with ASD

Principal Investigator:

Shahla Alai-Rosales, Ph.D., BCBA-D

University of North Texas, Department of Behavior Analysis

Purpose of the Study:

Professionals are able to detect and diagnosis autism spectrum disorders (ASD) at earlier and earlier ages. While there are several published data-based descriptions of programs for preschool and school age children, there only few descriptions of interventions that specifically address the needs of toddlers with ASD. Furthermore, waiting lists and costs of EIBI (Early and Intensive Behavioral Interventions) present many barriers to families. The Family Connections Project (FCP), a service-learning project in the Department of Behavior Analysis at the University of North Texas, was created to specifically meet the needs of toddlers and their families in the region.

The purpose of this study is to understand the direct and other additional benefits of the FCP procedures.

We will describe the intake, training and evaluation procedures that all families experience as participants in FCP. We will do this so that other interventionists working with toddlers can replicate these procedures in their programs.

The outcomes we would like to report would include the parent teaching skills (skill assessment, goal selection, environmental arrangements, reinforcement delivery), the child's progress that resulted from that teaching (social, communication, motor, and/or play), long term benefits of FCP (skill maintenance over time) and additional benefits of FCP. Additional beneficial outcomes include increases in positive affect (smiles, laughter), increases in attention to objects and people, and overall increases in the amount that parents and children played together. We will report outcomes so that other interventionists understand the types of changes that FCP produces.

We would also like you to provide us with your evaluation of FCP. We would like your opinion of the experience (benefits, difficulties, suggestions) and how you view your participation

several months after completion. We will report this information to help us and others benefit from your perspectives on this type of intervention.

Study Procedures:

1) We are asking you to attend 18 FCP sessions (1 hour each). The goal of the FCP sessions is to train you how to teach your child, such as communication and social skills. Portions of the FCP sessions will be videotaped. After the 18 FCP sessions, we are asking you to send or deliver four videotapes of you and your child to the experimenter within four months after the conclusion of FCP sessions. We will help you have the necessary equipment to make and send the videotapes.

The behaviors on the videotapes will be coded and converted to graphs. Your names will in no way be linked to this information. You and your child will always be referred to by pseudonyms.

2) We are asking you to fill out a questionnaire that describes your education, age, ethnicity, income level, and your child's specific diagnostic labels (e.g.,, PDD, PDD-NOS, Autism, Aspergers, Tourette's, etc.). You will also be asked to evaluate your experience with FCP (benefits, difficulties, suggestions). We will provide you with the two page questionnaire and a self addressed, stamped envelope to mail at your convenience. Your names will in no way be linked to this information. You and your child will be referred to by pseudonyms.

Voluntary Participation:

Participation in this research study is voluntary. With this consent form we will also provide you contact information for similar services in our region.

Foreseeable Risks:

No foreseeable risks are involved in this study. Previous clinical and research reports have identified no harm from participation in the training that was associated with this study. There is no foreseeable harm in completing the questionnaire.

Benefits to the Subjects or Others:

Parents will be taught important skills throughout FCP that may improve both the parent-child relationship and the child's social, communication, and play skills. You will also receive an exit report that documents the progress you and your child made during the training. This may be useful information. The results of the study may also add directly to the knowledge of other service providers delivering parent training services to families with toddlers with autism and other populations. This, in turn, may benefit future children and parents receiving services similar to FCP.

Procedures for Maintaining Confidentiality of Research Records:

As part of standard FCP procedure, all intervention records (signed consent forms records, reports, home helpers, data, and assessment video tapes) are kept for three years in a locked filing cabinet in the FCP office in Chilton Hall Rm. 361E. Any electronic copies are kept for three years following FCP training and then destroyed. Parents may request additional copies of FCP files or video assessments at anytime.

For families consenting to participate in this study, pseudonyms will be assigned to each parent/child and those pseudonyms will be used when referring to that participant data. These pseudonyms will be maintained throughout the course of research. A separate set of files will be set up for data related to the research and the files will be kept in a locked filing cabinet in the FCP office in Chilton Hall Rm. 361E. Following the completion of the research study, the files will remain in The Family Connections Project records for 3 calendar years and then destroyed. Because of the extensive data collection involved in the study, a team of graduate students may at any time during study view the participants' records. All of these graduate students are staff of The Family Connections Project. Personally identifiable data will not be disclosed to anyone outside of The Family Connections Project Research Team. The confidentially of the participants' personal information will be maintained in any public dissemination, such as appearance in academic journals and/or academic conferences.

We will ask you in a separate form if you consent to the use of any of the videos for educational purposes (teaching students how to teach, showing other parents how the procedures work, or showing other professionals how to implement the training). We will use a separate form as this is for a different use than the research and it would be hard to completely protect your identity in a video. We will NOT show videos without your permission.

Questions about the Study

If you have any questions about the study, you may contact Dr. Shahla Ala'i Rosales at [redacted]

Review for the Protection of Participants: This research study has been reviewed and approved by the UNT Institutional Review Board (IRB). The UNT IRB can be contacted at (940) 565-3940 with any questions regarding the rights of research subjects.

Research Participants' Rights: Your signature below indicates that you have read or have had read to you all of the above and that you confirm all of the following:

- Shahla Alai-Rosales or a designee has explained the study to you and answered all of your questions. You have been told the possible benefits and the potential risks and/or discomforts of the study.
- You understand that you do not have to take part in this study, and your refusal to participate or your decision to withdraw will involve no penalty or loss of rights or benefits. The study personnel may choose to stop your participation at any time.

- You understand why the study is being conducted and how it will be performed.
- You understand your rights as a research participant and you voluntarily consent to participate in this study.
- You have been told you will receive a copy of this form.

_____

Printed Name of Participant

_____ _____

Signature of Participant Date

For the Principal Investigator or Designee: I certify that I have reviewed the contents of this form with the participant signing above. I have explained the possible benefits and the potential risks and/or discomforts of the study. It is my opinion that the participant understood the explanation.

_____ _____

Signature of Principal Investigator or Designee Date

APPENDIX B

DATA SHEETS

Observer___________________________ Child and Parent ____________________

Observation Type___C____S____E

Date Scored________________________ Date of Video _______________________

Min	Event	Parent Arrange		Child Response	Parent Now
		HP	A	G______ A______ V______	E Re
		HP	A	G______ A______ V______	E Re
		HP	A	G______ A______ V______	E Re
		HP	A	G______ A______ V______	E Re
		HP	A	G______ A______ V______	E Re
		HP	A	G______ A______ V______	E Re
		HP	A	G______ A______ V______	E Re
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		HP	A	G______ A______ V______	E Re
		HP	A	G______ A______ V______	E Re
		HP	A	G______ A______ V______	E Re
		HP	A	G______ A______ V______	E Re
		HP	A	G______ A______ V______	E Re
	Total	HP___	A__	G____ A____ V____	E__ Re__
		Total Teaching Episodes: G___ A___ V___			

Name_____ P or R Date of Video _____

Observation Type___C___S___E Date Scored_____

Coordinated JA Write when facial shifts occur and what the shift are to and from. Write E (Event) or F (Face)
Shade a line when the entire CJA shifts end (child looks to new event or shift doesn't occur within 3-sec.

Parent Response Draw a line when a parent response occurs. Mark either A (access), S (social comment or exclamation) or both.

Min.	Responses	0-9 sec	10-19 sec	20-29 sec	30-39 sec	40-49 sec	50-59 sec	Total	IOA
0-1	CJA Facial Shifts								
	Parent Response								

Min.	Responses	0-9 sec	10-19 sec	20-29 sec	30-39 sec	40-49 sec	50-59 sec	Total	IOA
1-2	CJA Facial Shifts								
	Parent Response								

Min.	Responses	0-9 sec	10-19 sec	20-29 sec	30-39 sec	40-49 sec	50-59 sec	Total	IOA
2-3	CJA Facial Shifts								
	Parent Response								

Min.	Responses	0-9 sec	10-19 sec	20-29 sec	30-39 sec	40-49 sec	50-59 sec	Total	IOA
3-4	CJA Facial Shifts								
	Parent Response								

Min.	Responses	0-9 sec	10-19 sec	20-29 sec	30-39 sec	40-49 sec	50-59 sec	Total	IOA
4-5	CJA Facial Shifts								
	Parent Response								

APPENDIX C

OBSERVATION CODE AND SCORING INSTRUCTIONS

Sunny Starts Observation Code

UNIVERSITY OF NORTH TEXAS

Sunny Starts Observation Code: Teaching Episode Scoring Instructions

Where to start?

Fill in the blank sections at the top of the page. Fill in the observers name and if you are a primary (P) or reliability (R) observer. Next fill in which parent and child you are scoring. You should not use their real name, but use pseudonyms that are assigned to them. "Observation Type" is where the observation took place, either clinic (C), Skype (S), or if it was an ecological (E). "Date of video" will be date the session was filmed which can be found in the name of the video. "Scoring Date" will be the current date. Below is an example of how this should look.

Data Sheet Overview

Min: minute the teaching episode began
Event: the activity or event used to arrange
Parent Arrange
- HP: High preference
- A: Arrange

Child Response
- G: Gesture request
- A: Attending
- V: Vocal Request

Parent Now
- E: Expand
- Re: Responsive Event
- N: No responsive event
- O: Other

All child and parent behaviors should be marked. However, it is important to see how these behaviors occurred through time. Child behaviors can be marked without a parent arrange or responsive event.

How to keep track of teaching episode frequency
Write which minute the teaching episode began. For example, you should write, 0-1 if the teaching episode began at second 35 or you should write 3-4 if the teaching episode began at minute 3 second 45.
Write the name of the item the parent and child were engaging with in the "Event" column. Simply cross out the abbreviations that correspond with the other behaviors.

What behaviors are included in a teaching episode?
A teaching episode includes a parent arrange, a child response and a parent responsive event. When this occurs, you should circle *all* of the child behaviors that occurred 3-seconds prior to the responsive event.

How to know when to move to the next row?
You should move to a new line when an arrange occurs OR after a parent arrange has ended OR after an event has been delivered. If child behaviors occur outside of an arrange then continue to count and move to the next line when an arrange or responsive event has occurred.

Code Symbol	Category Label	Definition
HP	**High Preference Event**	Identifying a high preference event occurs when the parent utilizes events the child shows an interest towards. Child may: • initiates to event • orients toward event • select event • looks toward event • approach event

Examples	Exclusions
Mother is playing with a doll while Lilly sits across the room. Lilly walks over to Mother who arranges for an eye gaze request. *(The doll would be a high preference event.)* Father moves a truck to reach a different toy. Jonathan giggles and looks at the truck. Father arranges for a vocal request. *(The truck would be a high preference event.)*	Mother arranges with a book while Lilly plays with a toy nearby. Lilly does not look at or approach Mother with the book. *(The book is not a high preference event as the child showed no interest in it.)* Father plays with a truck but Jonathan does not appear to notice. *(The truck is not a high preference event as it was not used in an arrange and the child showed no interest in it.)*

Code Symbol	Category Label	Definition
A	**Arrange**	Arrange occurs when the parent regulates access to an event. • Arrange begins when parent withholds an event so that the child cannot manipulate or contact the event at that current time, while encouraging (e.g.,, anticipatory look, verbal prompt, cue to attend) an interaction with the child. • Arrange ends when access to the item is granted or parent stops engaging in current activity.

Examples	Exclusions
Mother and child are on the floor and mother begins to play with the ball popper. Mother allows child to push the button once and they watch the balls spin. Then mother says, "my turn" and hold the balls away from the child, looks at child expectantly and waits for child response. *(Scored as 1 arrange, Mother regulates access to ball popper)*	Mother and child are on the floor and mother begins to play with the ball popper. Mother allows the child to push the button once then they watch the balls spin. Then mother says, 'my turn" holds the ball popper and pushes the button again. *(Mother starts the ball popper without regulating access)*
Father and Anthony are in his playroom. Father says, "Here comes the tickle monster!" and tickles Anthony. Anthony falls to the floor laughing. Then again Father says, "Here comes the tickle monster!" and looks at Anthony while holding his hands close to Anthony without tickling him. *(Scored as 1 arrange; regulates access to tickles)*	Father and Anthony are in his playroom. Father says, "Here comes the tickle monster!" Anthony falls to the floor laughing. Again Father says, "Here's comes the tickle monster!" and tickles Anthony again. *(Provides tickles without regulating access)*
Father and Addy are playing with Addy's favorite ball. Father takes the ball and hides it under his shirt and says, "Oh no! Where is your ball?" while looking at Addy waiting for a response. *Scored as 1 arrange; Father hides under shirt (regulating access)*	Father and Addy are playing with Addy's favorite ball. Father takes the ball and gives it to Addy and covers his face saying "Oh no! Where is your ball?" *(Does not regulate access as he gives Addy the ball)*
Mother and child are blowing bubbles together. Mother holds the bubble wand and says, "bubbles!." Miguel says, "bub" but Mother does not blow the bubbles. Mother brings the wand closer to her face and looks at Miguel. Then Miguel says, "bu" while looking at Mother's eyes then Mother says, "Great job! Bubbles!" *Scored as one occurrence of arrange as Mother continues to regulate access regardless of child response.*	Mother and child walk into the playroom. Child walks over to the bubbles, looks at Mother and says, "bub" and Mother says, "Bubbles!" and blows bubbles for Miguel. *(Child initiated response without mother arranging)*

Code Symbol	Category Label	Definition
G	**Gesture Request**	Any instance, in which the child either leads parent, point, shows, gives, or reaches toward an event or signs; assumes intent is to gain access. • Parent arrange before gesture ***OR*** • Child gaze to event and parent with a gesture ***OR*** • Parent delivery of high preference event after gesture ***OR*** • Parent verbal response after gesture that specifically refers to accessing requested event

Examples	Exclusions
Mother and Wilson are throwing cars into a bucket. Wilson starts laughing and Mother says, "Is that funny?" Wilson picks up a car gives it to Mother and glances toward her eyes. Mother says, "throw it" and throws the car. *(Mother throws the car after Wilson gives her the car; parent delivery of high preference event after gesture)*	Mother and Wilson are throwing cars into a bucket. Wilson starts laughing and Mother says, "is that funny?" Wilson picks up a car, gives it to Mother and glances towards her eyes. Mother says, "yes it's the blue car!" and continues to look at Wilson. *(Mother did not provide high preference event after gesture)*
Father is bouncing Colin on the ball. Colin stops playing and walks over to his beads. He picks up the container and gives them to Father while shifting gaze from beads to Father. Father says, "No more beads, let's keep bouncing" and puts Colin back on the ball. *(Colin shift eye gaze from high preference event to Father while gesturing; Father specifies denial of requested event)*	Father is bouncing Colin on the ball. Colin stops playing and walks over to his beads. He picks up the container and gives them to Father while looking only at the beads. Father says, "let's keep bouncing" and puts Colin back on the ball. *(Colin only looked at high preference event; Father does not give Colin the requested event)*
Child is bouncing on the tramp. Child stops bouncing and walks towards Mother. Child grabs Mother's hand and leads her to a piece of carpet. Mother follows child and says, "I can't pick up the carpet. I'm sorry." *(Mother verbal response with specific comment that refers to accessing the carpet)*	Child is bouncing on the trampoline. Child stops bouncing and walks toward Mother. Child grabs Mother's hand and leads her to a piece of carpet. Mother follows child and says, "I don't see anything." (*Mother provides social event after gesture, and does not provide more bounces)*

Code Symbol	Category Label	Definition
A	**Attending**	Any orientation of child's eyes or face to eyes or face of parent; assumes intent is to gain access. • Parent ARRANGE before gaze ***OR*** • Child gaze to inaccessible preferred event and then to parent ***OR*** • Parent delivery of high preference event after gaze

Examples	Exclusions
Mother and child are playing with a bouncy ball in the toy room. Mother says, "my turn" and bounces the ball in the air. Next she holds it close to her face and says, "ball" and looks at the child. The child moves his head up and looks at Mother's face. *(Parent arrange before gaze)*	Mother and child are playing with a bouncy ball in the toy room. Mother says "my turn" and bounces the ball in the air. Next she holds it close to her face and says, "ball" and looks at the child. The child looks at the ball then looks at the floor. *(Child does not look at the parent)*
Father and child are playing with a tool set. The Father is using a hammer and says, "bang bang." The child looks at the hammer and then at Father. *(Child looks to preferred inaccessible preferred hammer and then to Father)*	Father and child are playing with a tool set. The Father is using a hammer and says, "bang bang." Father gives the hammer to the child. *(Child does not look at the hammer, preferred item)*
Mother is coloring with the child. She is naming the colors as she colors "red, blue, and orange." Mother is holding all of the crayons and looks at child. The child looks from the table to the Mother's face and Mother says "Oh you can have the red!" *(Mother gives high preference event crayon after eye gaze)*	Child has access to all of the crayons. Mother is naming the crayons as child colors. The child looks from the table to the Mother's face and back down to the crayons. Mother just looks at child as he colors. *(Child shifts gaze from an event he already has access to)*
Mother and child are watching a video. Mother presses pause and says, "video." Child looks up toward Mother's face and Mother starts the video again. *(Parent arrange before gaze and Mother gives high preference event after gaze)*	Mother and child are watching a video. Mother says "video." Child looks towards Mothers face. They both continue watching the video. *(No arrange before gaze and no delivery of high preference event after gaze)*

Code Symbol	Category Label	Definition
V	**Vocal Request**	Any child vocal sound, word, or phrase; assumes intent is to gain access. • Parent arrange before vocal ***OR*** • Child vocalizes and shifts gaze from preferred event to parent and vocal ***OR*** • Parent delivery of high preference event after vocal ***OR*** • Parent verbal response after request that specifically refers to accessing requested event

Examples	Exclusions
Jennifer is playing with a toy piano in her bedroom. Jennifer's father begins to play the piano with her. Father turns the piano off and says, "Uh oh! What happened?" while looking at Jennifer. Jennifer looks up and says, "ahh" and Father says, "Nice looking!" and turns on the piano. *(Parent arrange before vocal)*	Jennifer is playing with a toy piano in her bedroom. Jennifer's Father begins to play the piano with her. Father turns the piano off and says, "Uh oh! What happened?" while looking at Jennifer. Jennifer points to piano and Father and turns on the piano. *(Jennifer only provided gesture, no vocal)*
Brett sees a truck on a shelf that he cannot reach. Brett reaches for the truck and says, "uhh." Brett's mother immediately grabs the truck and says, "Great job!" while giving the truck to Brett. *(Mother gave high preference event after vocal)*	Brett sees a truck and he begins to play with it. Brett reaches for the truck and says, "uhh." Brett's mother looks at the truck and says, "Yes, that's a truck." *(Mother needs to give Brett the truck to count as a vocal request or mom needed to arrange the truck, or mother needed to make a statement about accessing the truck)*
Child emits "ababa" and looks at the bubble machine and then to parent. Mother says, "All done with bubbles" and approaches child with a train. (Child *vocalizes and shifts gaze from bubbles to Mother; Mother provides verbal comment that relates to accessing bubbles)*	Child emits "ababa" and looks at the bubbles. Mother approaches child with a train. (Child *did not vocalize **and** look towards Mother; Mother did not give event or provide specific denial or grant of event)*

Code Symbol	Category Label	Definition
E	**Expand**	A parent vocalization that adds to the child's target response while providing a responsive event. • Occurs immediately after target behavior or approximation to target behavior • If praise is provided, it should follow the expansion

Examples	Exclusions
Kim's target responses are eye gaze request and vocalizations. Kim emits an eye gaze request, Mother immediately gives Kim the doll, while she says, "doll." (target response immediately followed by parent vocal "doll" and access to doll) William's target responses are eye gaze request and vocalizations. William emits a vocalization "ba", Father immediately gives William the ball while saying, "ball, good job!" (Approximation to target response was immediately followed by access to the ball and parent vocalization "ball" which was followed by praise)	Kim's target responses are eye gaze request and vocalizations. Kim emits an eye gaze request, Mother says, "doll", but does not give Kim the doll. (*a target response was immediately followed by parent vocal "doll" but access to doll was not granted)* William's target responses are eye gaze request and vocalizations. William emits a vocalization "ba", Father immediately gives William the ball while saying, "good job, ball!" *(Approximation to target response was immediately followed by access to the ball but praise preceded the parent vocalization "ball")*

Code Symbol	Category Label	Definition
Re	Responsive Event Delivery	Any instance, in which parent gives child apparent preferred event within 3-sec after child response. • After child approximation to target behavior ***OR*** • After child emits target behavior

Examples	Exclusions
Mother and Thomas are playing with trains. She says, "here comes the train!" Thomas looks at Mother and says, "t." Mother immediately gives Thomas the train and says, "Good! Train!" *(Parent immediately gives train after child approximation)*	Mother and Thomas are playing with the trains. Mother says, "Here comes the train!" Thomas looks at Mother and says, "t." Mother says, "Great Job" and continues to hold the train. *(Parent gives Thomas social praise instead of highly preferred item)*
Mother and Jermaine and playing in the playroom. Jermaine walks over gets his favorite beads gives them to Mother and looks at her eyes. Mother says, "beads!" opens the beads and gives them to Jermaine. *(Immediately gives beads after successful child response)*	Mother and Jermaine are playing in the playroom. Jermaine walks over gets his favorite beads gives them to Mother and looks at her eyes. Mother says, "Oh we can make necklaces" and begins searching for string. *(Mother does not give Jermaine the beads immediately)*
Mother and Austin are playing with play-doh. Austin said open previously that day. Austin wants the green play-doh opened. Mother holds the play-doh, and Austin says, "o." Mother says, "ope" and then Austin says, "open." Mother opens the playdoh immediately while she says, "Open!" *(Gives play-doh immediately after he vocalizes correct target response)*	Mother is has a kids book in her hand (non-preferred item) while Austin walks to the play-doh and looks at Mother and says, "ope." Mother says, "open!" and then opens the book and gives it to Austin. *(Mother gave Austin non-preferred item)*
Mother and Trevor begin to play with plastic eggs in a clear container. Mother puts the container over the eggs and said, "egg" while looking at Trevor to respond. Trevor looks up at Mother and Mother immediately takes the container off of the eggs so Trevor can access them. *(Immediately lifted container for access to eggs)*	Mother and Trevor begin to play with plastic eggs in a clear container. Mother put the container over the eggs and said, "egg" while looking at Trevor to respond. Corbin looks up, and Mother says, "egg." Corbin begins to cry and Mother says, "ok here you go" and lifts the container off of the eggs. *(Immediately lifted container after child tantrum)*

Sunny Starts Observation Code: Coordinated Joint Attention and Parent Response

Where to start?

Fill in the blank sections at the top of the page. Fill in the observers name and if you are a primary (P) or reliability (R) observer. Next fill in which parent and child you are scoring. You should not use their real name, but use pseudonyms that are assigned to them. "Observation Type" is where the observation took place, either clinic (C), Skype (S), or if it was an ecological (E). "Date of video" will be date the session was filmed which can be found in the name of the video. "Scoring Date" will be the current date. Below is an example of how this should look.

Data Sheet Overview

Minute: The minute in which the behavior occurred
Second: Each minute is broken into six 10-sec sections
CJA Facial Shifts: On the top line, write where the gaze shifts occur
Face
Event
Parent Response: Write where the parent response occurs and type of parent response that occurred
Access
Social

Total: Occurrences of coordinated joint attention

How to score?

Every time an occurrence of coordinated joint attention occurs, write the occurrence in the appropriate minute and second section. When an instance of coordinated joint attention ends, draw a line after the last gaze shift. When a parent response occurs, draw a line where the response(s) occur and type of response. There are two categories of parent responses which are access and on topic social big. Both can be marked at one point in time.

Code Symbol	Category Label	Definition
CJA	**Coordinated Joint Attention**	Child Facial Orientation Shift which the child alternates facial orientation from: Activity/(group of) object(s)/person/event to Face then back to Same activity/(group of) object(s)/person/event (and the shift from the face too the activity occurs within 3 seconds) OR Face to Activity/(group of) object(s)/person/event then back to Face (and the shift from the activity to the face occurs within 3 seconds] OR In the case of peek-a-boo, song singing, tickling, or other social games, when the event ceases, the child turns his or her facial orientation to the parent within 3 seconds OR When the child sustains eye contact with the parent for at least 3 seconds and gestures. *The end of a coordinated joint attention shift sequence occurs when the child shifts to something different or more than 3-sec has occurred between shifts. *Objects related to the activity such as those in the parents hand in a task where the parent is handing objects one by one to the child count as the same “group of objects”

Examples	Exclusions
Child and parent are playing with cards and mom holds one up and says "bird." The child orients toward the card (E) then to mom's face (F) then back to one of the cards (E) then back to the mom's face (F) then to a card (E), then to the window. *(E-F-E-F-E)*	Child looks at the card then to the TV then to the parent *(does not look back to a related event)*
Child looks from mom's face to the puppet on mom's hand and within 3-sec back to mom's face *(E-F-E)*	Child looks from puppet on mom's hand, to mom's face, then to television *(the two events are not related)*
Child shifts orientation from bucket to the parent's face to the shovel in the parent's hand that is for the bucket. *(two events are related)*	Child shifts orientation from bucket to parent's face then to stuffed animal *(two events are not related)*
After mom stops giving tickle the child shifts orientation from some other area of the room to the parent's face within 3-sec *(social game, looks back to mom after tickles stop; Write E-F)*	After tickles stop, child shifts orientation from some other area and then to dads face after 5-sec *(longer than 3-sec after tickles stopped)*
Dad says "peek-a-boo" and child turns toward dad's face and giggles then dad puts the blanket in front of his face. Within 3 seconds the child moves around the blanket and when he finds dad, he orients toward dad's face and giggles when dad says "peek-a-boo" *(looked toward dad's face within 3-sec of tickles stopping; E-F)*	Dad says "peek-a-boo" and child towards dad's face. Then the dad holds up a ball, the child looks to the ball *(social game never stopped; child shifted to ball)*
Child is playing with a toy and it accidentally hits him on the face. He turns towards mom, looks at her for 5-sec and gestures towards her face. *(sustained eye gaze and gesture; 1 CJA)*	Child is playing with a toy and it accidentally hits him in the face. He begins to look around and gesture towards his face and glances towards mom *(no sustained eye gaze)*

Code Symbol	Category Label	Definition
A	**Access**	Access occurs when the parent gives an event to the child that the child did not have prior to the shift.
S	**On topic social bid**	An on topic social bid occurs when the parent makes a comment relevant to the event OR makes an exclamation while eye gaze toward event or child (i.e. wow, Ya!, wonderful!)

Examples	Exclusions
Child and parent are playing with cards and mom holds one up and says "bird." The child orients toward the card mom say's "bird" then to mom's face, and mom say's "ya", while looking at the child, then the child looks back to one of the cards (two parent social bid responses during the shifts)	Child and parent are playing with cards and mom holds one card up and, child shifts from cards to mom's face, mom says "bird", then the child shifts facial orientation to window. *(No occurrence of child CJA)*
Child looks from puppet on mom's hand to mom's face, mom gives the child the puppet, then the child immediately looks at the puppet *(access response as mom gives child puppet)*	Child looks from puppet on mom's hand to mom's face, then the child immediately looks at the puppet *(CJA but no access or on topic social bid response)*
Child shifts orientation from bucket to the parent's face and the parent says "shovel", then to the shovel in the parent's hand that is for the bucket and the parent gives the child the shovel. *(one on topic social bid "shovel" and access of the shovel)*	Child shifts orientation from bucket to the parent's face and the parent says "I see the window", as she gestures toward the window. Then the child shifts to the shovel in the parent's hand that is for the bucket. *(social bid was not related to the event the child shifted to; no access given)*
After a tickle stops the child shifts orientation from some other area of the room to the parent's face within 3-sec and the parent says,"tickle" and begins to tickle the child. *(Score both access and social bid as comment was on topic and access to tickles was given)*	After a tickle stops the child shifts orientation from some other area of the room to the parent's face within 3-sec and the parent says, ya! While looking out the window.*(parent was not looking at child or her hands while making the comment)*

APPENDIX D

INTAKE INTERVIEW TOPICS AND QUESTIONS

Getting to know you…

During the initial phases of training, the interventionist and the parent should to get to know one another and establish a comfortable and productive working relationship. Here are some discussion points and questions designed to facilitate that process.

Your family

What brought you to Sunny starts? What are your dreams and hopes for your child? What are your dreams and hopes for your family?

Tell us some stories about your happiest family experiences.

Tell us about some of your most frightening family experiences.

Describe your family. Who is in your family? What are their roles and responsibilities? How do you make decisions? Describe some of your family routines and traditions. What are the family's special (cultural, religious) occasions or practices you would like a professional to be familiar with/ or sensitive to?

Are there any other languages spoken at home? Do you need translation of printed materials, notices, and signs?

Would you like to bring family members, friends as interpreter or support to meetings, discussion, and/or training?

What qualities do you admire in parents? How would you describe your parenting approach? What works best with your child?

What are some supports that help you with parenting? What are some stressors that interfere with parenting?

Working with Sunny Starts

What are some important characteristics you expect from a service provider? What would be some of the things that would keep you from participating in this program? How would you like to be treated? How would you like to receive information and feedback?

Rapport and Communication

Does your child approach you to play?	Yes	No
Are you able to play for extended periods of time with your child?	Yes	No
Does your child take turns during play interactions?	Yes	No
Do you usually understand what your child wants?	Yes	No
Are there situations when it is more or less difficult to be patient with your child?	Yes	No

What situations do you enjoy most with your child?

_____

_____

_____

What activities does your family enjoy doing all together?

_____

_____

_____

How does your child respond when others approach him/her to:

Play:	happy	neutral	agitated	fearful
Eat:	happy	neutral	agitated	fearful
Watch TV/videos:	happy	neutral	agitated	fearful:
Transition:	happy	neutral	agitated	fearful
Go outside:	happy	neutral	agitated	fearful
Go in the car:	happy	neutral	agitated	fearful
Go to school:	happy	neutral	agitated	fearful
Go to bed:	happy	neutral	agitated	fearful

How well does your child communicate with you?

_____

_____

_____

How well does your child communicate with other family members? Other people?

_____

_____

_____

Describe the methods you use to help your child communicate.

_____

_____

_____

What kinds of things make your child happy?

_____

_____

_____

What kinds of things make your child upset?

_____

_____

_____

Goals and Priorities

Overall, what is most important to you and your child?

_____

_____

_____

List some of your child's strengths:

_____

_____

_____

List some of your family's strengths:

_____

_____

_____

Social Activities Form

Child's name _____ Age _____ years, _____ months

Toys, games, books

_____

_____

_____

Songs

_____

_____

_____

Television/Videos

_____

_____

_____

Praise & Touch (such as hugs, ticking, etc.)

_____

_____

_____

Foods

_____

_____

_____

Activities (peek-a-boo, soccer, coloring, etc)

_____

_____

_____

Are there things (s)he does *not* seem to enjoy?

_____

_____

_____

Approximately how long will (s)he play on his/her own?

_____

_____

_____

Approximately how long will (s)he play with others?

With whom?	How long?
_____	_____
_____	_____
_____	_____
_____	_____

Child's Typical Weekly Schedule

Prepare an hour-by-hour schedule for each day of a typical week in your child's life. The space below may be utilized and/or you may include additional pages. Include the following information:

1. Time of day
2. Activities
3. Setting (where the activity takes place)
4. People present
5. Teaching targets (what you or others are teaching during this time)
6. Degree of child preference (how much your child likes the activity)

APPENDIX E

SUNNY STARTS OVERVIEW FOR FAMILY

Sunny Starts

Family Connections Project

SUNNY STARTS OVERVIEW

MISSION

The primary mission of the Sunny Starts is to enhance the quality of relationships within families who have children with autism. Sunny Starts is our program for families with toddlers with autism.

OUTCOMES

You will be taught how to arrange your child's environment so that the overall quality of your relationship will improve. You will be trained in techniques that will help you build attending and social responding, identify and expand interests, construct social play activities, and increase the ease and flow of interacting.

Attending is an important skill for your child to develop, as it is used in social interactions, communication and engagement. This skill will allow your child to attend to you non-vocally and respond to your attention. Attending helps your child become more aware of the events and people around him. Attending also assists in joint attention, communication, learning from others, and expressing emotion. It is the goal that you and your child will have increased communication and be more responsive to one another. Because attending is such a crucial skill, it is often targeted first.

PARENTS AS TEACHERS

A child's family is their most influential, durable and valuable resource. Parents are experts about their child and about the ecology of their family life. Including parents and family members in intervention is a strong component of all effective intervention programs. Parents and professionals should view one another as collaborators in teaching children important skills to foster increased independence and positive lifestyles. Parents as teachers can result in increased quantity and quality of treatment for children with autism. The purpose of this training program is to enhance the quality of treatment and to enhance positive relationships within families of children with autism.

APPLIED BEHAVIOR ANALYSIS

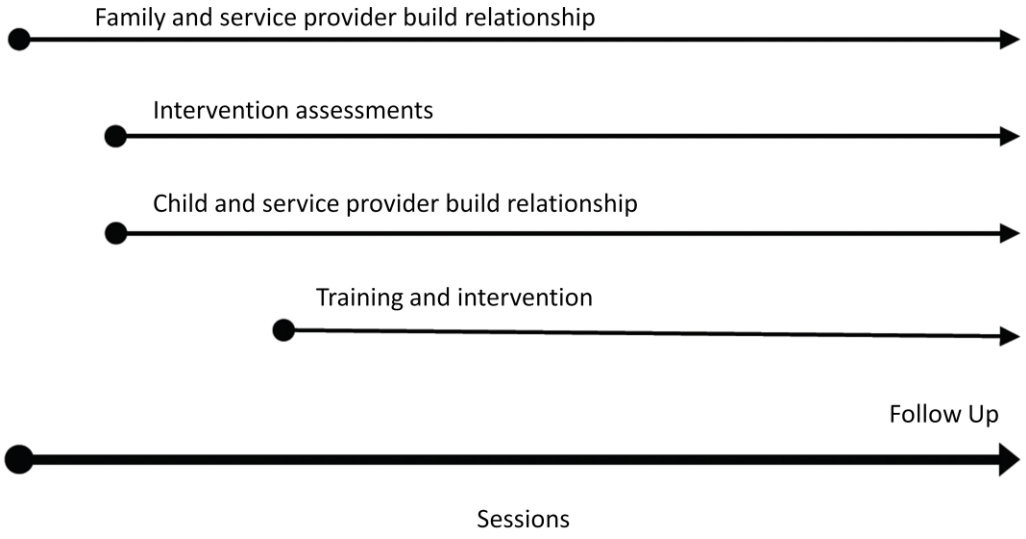
This program focuses on teaching parents to use techniques and principles derived from the field of Applied Behavior Analysis. We will use procedures in the natural environment, throughout everyday activities. The intervention techniques will be "evidence-based." In other words, the procedures are documented to produce important increases in skills for children with autism.

What defines an ABA parent training program?

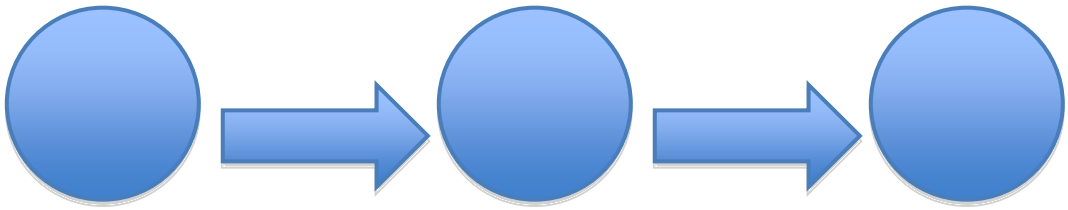
- Setting attainable and socially valid goals in objectively defined terms
  Attending and social responsivity
- Using evidence-based techniques to help parent & child reach goal
  ECI and Autism Research
- Systematic record-keeping methods to monitor progress
  5 minute clinic and home samples and data analyses
- Continuously modifying conditions to maintain and promote skills
  Collaboration and adjustment of procedures

  Plans for generalizations and maintenance

Sunny Starts Parent Training Timeline



WHAT IS A TEACHING INTERACTION?



A

TEACHER ARRANGES

B

CHILD BEHAVES

C

TEACHER CONSEQUENCE

A

How the teacher arranges for opportunity, motivation and success

B

The child's behavior (communication, social, play)

C

How the teacher provides consequences that support improved child behavior

DANCE: A Metaphor for Teaching Relationships

Parents and children often interact with one another for no other reason than the happiness of being together. This has been called a "social dance" (Hart & Risley, 1999). When a parent and child are "dancing" together, both lead and follow, both listen and speak, and both entice and prolong the interaction.

This is a teaching strategy that incorporates the behavioral principles and scientific evidence in a developmentally suitable way for a toddler and his or her parents. The emphasis is on the participation, turn taking and enjoyment of both "dance" partners.

As a parent by learning the teaching "dance" you can take advantage of your toddler's interests to establish interaction "dialogues" and build new skills. The keys are to start with the child's current interests and skills and to gently shape new and more complex ways of responding to the social and physical environment.

D	**D*ecide***	***Decide if it is good time to teach***
A	**A*rrange***	***Arrange opportunities to learn***
N	**N*ow***	***Respond to attempts NOW!***
C	**C*ount***	***Count your child's progress steps***
E	**E*njoy***	***Everyone should enjoy themselves***

Session Format

Clinic

The following is an outline of what will occur in clinic sessions. A Sunny Starts trainer will meet you in the parking lot. That trainer will provide you with a parking pass and direct you to the visitors parking area. Sunny Starts workers will help you bring in any bags or materials you may have. We encourage you to set the pace of the session based on the comfort level of you and your child. During every session, we will take a 5-minute video observation of you and your son. This will help us determine what to teach you and how to do it. We will model, role-play and provide feedback to you. Please feel free to provide us with any type of feedback and to ask questions at any point in the session. Please allow approximately 45 minutes for each session.

Skype™

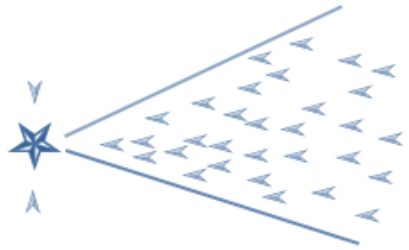
Skype™ sessions will be conducted to assist in generalization. It will also give use the opportunity to provide support and feedback in the home. This is our first attempt at Skype™ and we hope you will help us develop this aspect of the Sunny Starts program. We ask that you set up your webcam in an area that you are able to move freely and that you feel comfortable. During the Skype™ session we will be observing interactions between you and your son while providing feedback. Please allocate 45 minutes of time for the Skype™ session. We hope that you will provide feedback about what you like and do not like the Skype sessions. If you are not familiar with Skype™ we will come to your home and set Skype™ up on your computer. We will also provide you with a tutorial to familiarize you with the program. Please let us know if you prefer calling us or us calling you to begin the Skype™ session. The following information is our Skype™ username:

Sunny Starts Skype™ Username_____

APPENDIX F

“TEACHING DANCE” COMPONENTS

The "Teaching DANCE"



- Decide
  - Is this a teachable moment?
  - What should you teach?
  - How should you break the goals into attainable units?
- Arrange
  - Do you have high preference events?
  - How will you regulate access?
  - How will you add and fade prompts?
- Now
  - Is your response to your child's progress immediate, generous & contingent?
  - Are you responding
  - Are you looking for responses on the goal band?
- Count
  - Are goal behaviors monitored in a way that allows you to see progress over time?
- Enjoy!
  - Is everyone having fun?
  - Are you alternating demands and relaxation?

APPENDIX G

HOME HELPER

Sunny Starts Home Helper Sheet

Date _____

Child _____

Parent _____

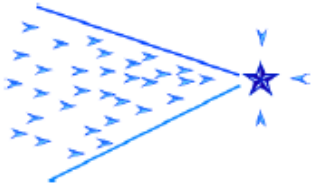
Training Session Goals:

The Teaching DANCE

Decide

Arrange

Now!



Count

Enjoy!

Sample time:	Sample setting:
Count:	

Be sure to write questions on the back ☺ Next Training Session _____

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