

MEASURING INDICES OF HAPPINESS IN A PARENT TRAINING PROGRAM

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Behavior analysts have long recognized the need for direct and reliable measurement of complex behaviors that are important to society. Recently investigators have approached one of the singular most complex behaviors: happiness. Limited research, however, has explored happiness in parent-training programs with children with autism and their families. The current study applied the definitions and data systems used in Broome's 2007 study to obtain indices of happiness within a parent training program for parents of toddlers with autism. Direct measures of smiles and laughs were collected from videotaped assessments. Results suggest that the program increased behaviors associated with happiness. Results are discussed in terms of program development and future research.

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INTRODUCTION

Hart and Risley (1999) describe parent and child interactions as a “social dance.” In the “social dance”, parents and children reciprocate (exchanging interactions with a partner) each other’s actions in various ways such as turn taking, having a conversation, or playing with each other. The more quality time they spend together or time spent “dancing”, the more likely, that the child will be successful in many areas at an older age (Hart & Risley, 1995). Additionally, they postulate that “the dance” between the parent and child continues simply for the sake of the social interaction (Hart & Risley, 1999). The notion is that the parent and child continue “dancing” because they enjoy each other’s company; they are happy “dancing” together (Hart & Risley, 1999). Furthermore, happiness during social interactions has been described as one of the indicators of a strong family (Stinnett, Sanders, DeFrain, & Parkhurst, 1982). This research and common sense suggest that happiness is important and it may be useful to measure happiness in parent child interactions during training programs.

One perspective views happiness in terms of a hypothetical construct (e.g. Iwata, 1991). Viewing happiness, as a hypothetical construct would suggest that happiness is a set of behaviors that society or the culture has deemed as “happiness”. Generally, it appears that previous research has addressed happiness as a construct (e.g. Green & Reid, 1996). Green and Reid 1996 operationally defined, measured, and increased “happiness” using the following definition: “Happiness was defined as any facial expression or vocalization typically considered to be an indicator of happiness among people without disabilities including smiling, laughing and yelling while smiling” (p. 69). This definition of happiness includes examples of behaviors that society generally

agrees upon as indicators of happiness, but does not specifically define the indicators, for example, smiling. Many studies following Green and Reid, 1996 continued to use this definition as a means of measuring indices of happiness (e.g. Green and Reid, 1997; Green, Gardner, & Reid, 1999; Lancioni, O'Reilly, Singh, Oliva & Groeneweg, 2002; Yu, Spevack, Hiebert, Martin, & Goodman, et al., 2002). A few studies have taken the definition provided by Green and Reid to the next level by defining smiles (Broome, 2007; Logan, Jacobs, Gast, Murray & Daino, et al., 1998; Realon, Bligen, La Force, Helsel, & Goldman, 2002). One example of a definition of smiles is the one Broome used: "the parent assumes a facial expression indicating pleasure, favor, or amusement, characterized by an upturning of the corners of the mouth." Although, measuring smiles objectively has been done, the research is limited and it can still be a daunting task.

Wolf recognized quantifying constructs like happiness could be difficult (Wolf, 1978). He addresses the importance of evaluating complex behaviors when he states, "...but if those things described by subjective labels were the things that were the most important to people, then those were the things, even though they might be complex, that we should become more concerned with " (Wolf, 1978, p. 206). Perhaps this is why happiness and satisfaction are commonly measured through self-reports and rating scales (e.g. Koegel, Bimbela, & Schreibman, 1996) versus direct observation (e.g. Green & Reid, 1996). Indirect reports can be unreliable, invalid, and unfeasible with non-verbal individuals (Green & Reid, 1996). Even though defining and reliably measuring happiness can be a difficult task, it is imperative to try. To begin with, happiness is one aspect of the "social dance" between the parent and child. If we do not

attempt to objectively measure happiness, then we will continue to use interviews and rating scales, and therefore being forced to rely on questionable information. Moreover, by measuring complex constructs, which Wolf points out is what society is concerned with, we will expand the current research in applied behavior analysis. By taking on the task of defining and measuring complex behaviors, we are only helping the science of behavior align with issues of social importance.

Quality of life is important for all of society including individuals with disabilities. As such, this has become the primary focus of a growing body of research (Carr 2007; Felce & Perry, 1996; Turnbull A. & Turnbull R., 2002). Quality of life for individual's with disabilities is often approached in terms of the individuals enjoyment in given situations (e.g. Favell, Realon, & Sutton, 1996; Green & Reid, 1996; Green & Reid 1999).

Considering an individual's quality of life within a program has long been central to the goals of applied behavior analysis (Baer, Wolf, & Risley, 1968). Our goal is to produce socially significant behavior change and one of the most socially significant behaviors for human beings is happiness. In addition, if clients stay or become unhappy as a result of our treatment it is likely that our treatment will not be sought after (Schwartz & Baer, 1991) and we might end up without a job (Wolf, 1978). Therefore, evaluating an individual's quality of life, by measuring their satisfaction and enjoyment, should be incorporated into any applied behavior analytic intervention.

Wolf discusses the issue of client satisfaction when he states, "if our objective was, as described in the *Journal of Applied Behavior Analysis*, to do something of social importance, then we needed to develop better systems and measures for asking society whether we are accomplishing this objective" (Wolf, 1978, p. 207). Clients can indicate

satisfaction with different areas of the intervention: the goals, the procedures and the effects of the intervention (Wolf, 1978). One way to look at a client's enjoyment or satisfaction is by measuring indices of happiness (Schwartz & Baer, 1991). The research literature contains several examples of using indices of happiness to evaluate client satisfaction (e.g. Green & Reid, 1996; Singh, Lancioni, Winton, Whaler, and Singh, et al., 2004). For example, Green and Reid (1996) evaluated client satisfaction by defining, reliably measuring, and increasing happiness indices in presumed leisure activities for individuals with disabilities. In this study, the researchers determined that happiness indices would increase when the participant was in situations with their most preferred stimuli than in situations with their least preferred stimuli. After this was established the researchers trained classroom staff to implement the "fun time program" consisting of presenting participants with their previously assessed most preferred activities, interacting with clients in a way they believed was most enjoyable, and planned initiation and termination of the presentation of stimuli, to systematically increase indices of happiness.

Green and Reid, 1999 extended upon the research that they did in 1996, by evaluating a means to determine the source of happiness and unhappiness within the regular routine of a classroom and to determine if supposed leisure activities were accompanied by indices of happiness. They used the same definition as Green and Reid 1996, and determined that the definition can be used as a means of determining if presumed leisure activities and work activities are acting as such. This study was beneficial in helping identify important quality of life indicators.

Later, the research on objectively measuring happiness moved towards evaluating happiness when caregivers were trained. Singh et al. (2004) assessed client satisfaction on the outcome of the intervention by measuring clients' indices of happiness, smiles, and laughs after the client's caregivers went through mindfulness training. The results of this study indicate that levels of happiness in leisure time activities increased as a function of mindfulness training (described as meditating, awareness, or being in the moment).

More recently Broome, 2007 evaluated the effects of a parent training program on indices of happiness and unhappiness for a parent and toddler with autism. Furthermore, Broome assessed the social validity of these measures by having three judges rate pre and post intervention video clips. The results of this study indicated that indices of happiness increased and indices of unhappiness decreased for both the parent and child. The results also determined that the definitions used were socially valid since the raters agreed that the parent and child were "happier" after intervention.

In summary, researchers have used indices of happiness to evaluate consumer satisfaction in various aspects of their interventions. For example, investigators compared happiness indices between: leisure activities and work activities (e.g. Yu et al., 2002), staff assessed and systematically assessed preferences (e.g. Green et al., 1997), and different procedures such as stimulation and microswitch based programs (e.g. Lancioni, O'Reilly, Singh, Oliva, & Campondonico, et al., 2003; Lancioni et al., 2002) or standard classroom programming, social interaction and social interaction plus preferred item (e.g. Davis, Young, Cherry, Dahman & Rehfeldt, 2004). More examples include when researchers rearranged the environment to assess

happiness indices by presenting a low buzz and red light prior to performing an invasive procedure (e.g. Derrickson, Neef, & Cataldo, 1993), increasing stimulation (e.g. Lancioni O'Reilly, Campodonico, & Mantini, 2002), enriching the environment (e.g. Favell et al., 1997; Ivancic, Barrett, Simonow, & Kimberly, 1997; Lindaur, DeLeon, & Fisher, 1999; Realon et al., 2002) and the impact typical peers have on individuals with disabilities (e.g. Logan et al., 1998). Additionally, some researchers have measured happiness indices in programs that train caregivers (Broome, 2007; Cooke & Apolloni, 1976; Green & Reid, 1996; Singh et al., 2004).

Among the populations not heavily represented in this research are individuals with autism and their families. Because social deficits are a crucial part of the criteria for an individual to receive a diagnosis of autism, indices of happiness are important to measure in this population. By increasing social behaviors such as smiling and laughing, behavior analysts may be better able to effectively change social interactions between children with autism and their families. Moreover, parents of children with autism spectrum disorder have higher stress levels than parents of typical children and even parents of children with other disabilities (Baker-Ericzen, Brookman-Fraze, & Stahmer, 2005; Hastings & Johnson, 2001; Koegel, Schreibman, Loos, Dirlich-Wilhelm, & Dunlap, et al., 1992). These severe skill deficits and the stressful conditions might affect the levels of smiling and laughing for both the parent and child. These behaviors associated with happiness are thought to be part of the "social dance" discussed earlier. In parent-training programs, the parents teach their child and in essence learn to engage in "the social dance". Previous researchers evaluated happiness in a behavioral parent-training program by using subjective rating scales (Koegel, Bimbela, &

Schreibman, 1996). The results of Koegel et al. indicated that happiness increased more under one condition (Pivotal Response Training) than another (Individual Target Behavior Training). More research on objectively measuring happiness indices is still needed to determine the generality of this finding.

Objectively measuring happiness during an autism parent training program has only been evaluated with one parent child dyad by one researcher (Broome, 2007). Additionally, a majority of the definitions of indices of happiness has been for a group of behaviors (thought to constitute a class) and do not break happiness into smaller components such as smiles and laughs. Table 1 lists all of the definitions used by previous researchers for indices of happiness. In the present study, the researchers evaluated the extent to which parent and child smiles and laughs changed as a result of a training program for parents of toddlers with autism. The present study was also interested in the relationship between increases in smiles and laughs and specific child goal responding.

METHOD

Participants

Two families enrolled in the Family Connections Project (FCP) participated in this study. FCP is a parent-training program designed to teach parents how to arrange the environment in order to create opportunities that will increase the child's motivation and social responsibility. See Appendix A for the mission statement of FCP. Each family is referred to by a pseudonym. The first family was of Caucasian American descent, consisting of mom, Jennifer, and two twin boys, Tyler and Will. Jennifer was 33 years old at the time of the study. The boys were both diagnosed with autism by an outside agency and were 2 ½ years old at the time of the study. The boys lived at home with their mother, father, and their 4 ½ year old brother. Jennifer had graduated high school and was a full time homemaker.

The second family was of Caucasian American, Mexican, and French descent consisting of mom, Katie, and son Daniel. Katie was 32 years old at the time of the study. Daniel had a diagnosis of PDD-NOS and autism spectrum disorder by two different outside agencies, and was 25 months old at the time of the study. Katie was a graduate of college and a full time homemaker. Daniel was living with his mother and father at the time of the study.

Procedures

FCP Intervention Package

The FCP parent-training package consisted of an intake interview, baseline/rapport sessions, intervention sessions, and an exit meeting conducted in the FCP playroom. See Appendix C for a detailed timeline. In addition, two and three ecological

assessments were conducted at the families' home, respectively: one in baseline, one in intervention for Jennifer, Tyler, and Will; one in baseline, two in intervention for Katie and Daniel. The ecological assessments for Tyler and Will consisted of two conditions: play with mom and snack time. Katie and Daniel's ecological assessments contained three conditions: play with mom, play with mom and dad, and snack time. During the intake interview, the parent and child came to the playroom and met with the parent trainer and supervisor to discuss goals for the parent and child. The children's goals were based on the goals of the individual families, research based curriculum and literature for toddlers with autism (e.g., Hart & Risley, 1968; Koegel et al., 1987; Alpert & Kaiser, 1992; Noonan & McCormick, 1993). Appendix D contains the FCP scope and sequence. At the beginning of each session, a taped assessment was conducted. During this assessment, the parent trainer would leave the room and take data in the observation booth. The videotape was used to score data. The baseline/rapport sessions conducted at the lab were used to evaluate data, Figure out teaching methods, and for the trainer to build rapport with the family. The trainer would smile and laugh while building rapport with the family and evaluating teaching procedures. There was one baseline session at the lab for Tyler, Will, and Jennifer and three baseline sessions at the lab for Daniel and Katie. Following the baseline sessions, parents were shown graphs with data from their specific goals from baseline. The trainer, supervisor, and parents also discussed the goals for themselves and their child. Furthermore, the parents were given a set of instructions to aid in teaching their child. The acronym used for the instructions was DANCE. D stands for deciding when to teach. A is for arranging the environment to produce more opportunities to teach, N is to deliver the reinforcer

now, immediately following the behavior. C is for counting the behavior of interest. E is to enjoy the interaction with your child. Appendix B contains the handout given to the parents of this. In the parent training phase, after the assessment, the parent trainer would provide modeling and feedback related to the specific goals each child and parent were working on. The parent trainer when showing the parent the teaching methods modeled smiling and laughing. Specific goals and conditions for each family are described below.

Tyler and Will

Jennifer was the primary change agent for Tyler and Will. The goals for Tyler and Will were gestural and vocal requests and reciprocal imitation.

Baseline. After the five minute video tape observation of Jennifer and one of the two children, the parent trainer and data analyst would build rapport with the child, while the other child was in another room with two graduate students playing with toys and building rapport. Then 30 minutes into the session the children would switch and a five minute videotaped observation was done with the mom and second child, then the parent trainer and data analyst would build rapport with that child. The first child was with the two graduate students playing and building rapport.

Intervention. After the two minute videotaped observation, parent training began. Approximately 30 minutes into the session, the kids would switch and a two minute videotaped observation would take place with the second child and mom. Parent training began after the observation.

Daniel

The primary change agent for Daniel was Katie. Daniel's specific goals were gestural requests, vocal requests, and communicative attending.

Baseline. After the ten minute videotaped observation, the parent trainer and data analyst built rapport with the child and parent for the remainder of the session.

Intervention. The intervention sessions began with a ten minute videotaped observation. After these observations, the parent trainer began training.

Setting and Materials

All participants in this study attended sessions at the University of North Texas in the FCP playroom. The playroom was a 12.4 ft by 8.8 ft. playroom, decorated with a large colorful carpet, a variety of pillows and child-size furniture. The playroom was designed to facilitate a more natural, comfortable, and inviting environment for the participants. Shelves were located on two walls of the room where toys and materials were displayed out of the children's reach, but in their view. There was a 4.8 ft by 3.9 ft. two-way mirror, for observation purposes, located on one wall of the playroom. In addition, there was an intercom system so those in the observation booth could hear what was going on.

Materials used throughout the study were toddler toys, a digital video camera, 60 minute cassette tapes, laptop computers, timers, data sheets, and pencils. All assessment sessions were videotaped with the digital video camera. Graduate students using the laptop computers, timers, data sheets and pencils, collected data. All graduate students that were involved with the study belonged to the Department of Behavior Analysis at the University of North Texas and were between 22 and 40 years old.

Measurement

The current study measured parent smiles and laughs, child smiles and laughs, both adapted from Green & Reid (1996), and child protests. Off camera and none were scored as well. Off camera was scored anytime the parent's or child's mouth, depending upon who was being scored, could not be seen for the entire ten seconds of the interval. None was scored when the parent or child's mouth, depending upon who was being scored, was visible at any point in the ten seconds and no smile or laugh ever occurred. These behaviors were counted using a partial interval recording system. The intervals scored as off camera were subtracted from the total number of intervals before obtaining the percentage of intervals for smiles and laughs and none. The intervals containing either a smile or laugh and none were included in the final percentages because if you cannot see the participants' faces then you do not know what was going on and that interval needs to be discarded all together. Child goal responding was also measured using a frequency count. Each child goal was defined and measured separately. Appendix E contains the complete observation code, which includes examples and nonexamples. Appendix F contains a sample data sheet.

This study was a part of an ongoing research project (Ala'i-Rosales, Laino, Broome, Besner, & Rosales-Ruiz, et al., 2007, in preparation) in which several measures were recorded related to the goals of the intervention and the additional research projects within FCP.

Interobserver Agreement

Interobserver agreement (IOA) was scored for the first and last baseline session and then beginning with the first intervention every third session. IOA was calculated for

the occurrence and nonoccurrence of each individual parent and child behavior that used interval recording. This was calculated by summing the agreements and dividing by the sum of agreements plus disagreements, and then the quotient was multiplied by 100. For behaviors that were counted using frequency counting, the formula was the smaller number divided by the larger number. That quotient was then multiplied by 100 to obtain a percentage. For Will IOA was calculated for 40% of sessions. Overall agreement was 89% for parent smiles, 82% for child smiles, 99% for child protests, and 97% for goal responding. For Tyler, IOA was calculated for 38% of sessions. The overall agreement was 90% for parent smiles, 93% for child smiles, 100%, for child protests, and 89% for goal responding. For Daniel, IOA was calculated for 34% of sessions. Overall agreement was 86% for parent smiles, 86% for child smiles, 99% for child protests, and 89% for goal responding. Table 2 displays the average IOA coefficients. Appendix G contains all IOA calculations and Appendix H contains a sample IOA sheet for parent and child behaviors collected with interval recording.

Experimental Design

An AB design across three participants was used to assess the effects of the parent training package, child goal responding and the collateral effects of indices of happiness.

RESULTS

Figure 1 displays parent smiles and laughs, child smiles and laughs, and child goal responding for all three participants over the course of the intervention program. The primary axis displays the percentage of intervals for the child and parent smiles and laughs, the grey and black dots respectively. The secondary axis displays the rate per minute of child goal responding, the grey bars. The top graph is Will and Jennifer. The baseline points for Jennifer are about 28% and 45%. All data points except two for parent smiles and laughs were higher in parent training than in baseline. In parent training, Jennifer's smiles and laughs immediately jumped to approximately 60% of intervals for the first session, with another jump to about 90% of intervals and stabilizing there for a few sessions. Her smiles and laughs then decreased to around 10% of intervals followed by another jump to around 90% of intervals and stabilizing once again for a few sessions. Jennifer's smiles and laughs then slightly dropped to 60% of intervals followed by an increase to about 70% before dropping again to about 15% of intervals. Jennifer's smiles and laughs then began on an increasing trend ending at 75% of intervals. Will's smiles and laughs however, stayed within the same range in parent training as in baseline. His baseline data points are approximately 8% of intervals and 32% of intervals. His parent training data shows a decreasing trend for the first four sessions to 0% of intervals, then it increased over the next two sessions spiking at 55%. His smiles and laughs decreased again stabilizing around 10% for a few sessions spiking at 35%. Then smiles and laughs decreased to 0% with a large jump to 70% ending with a decreasing trend at about 10% of intervals. Will's goal responding began low in baseline with around two responses per minute and under one response per

minute. Will's goal responding increased for all but the first session after parent training began. His responding starts high at about 11 responses per min then shows a decreasing trend with a low of about four responses per minute then it began to increase again to about ten responses per minute followed by another decreasing trend with a low of about four responses per minute.

Tyler and Jennifer's data is presented in the middle graph. Jennifer's smiles and laughs began fairly high in baseline at about 62% and 59% of intervals. In the parent training phase her smiles jumped to above 80% for the first two sessions with a drop to baseline levels for the third session. Smiles and laughs for Jennifer immediately jumped to 100% and then decreased to below baseline sessions stabilizing for a few sessions. They then dropped to a low of about 25% of the session and immediately increased to about 80% of the intervals for the last four sessions. Tyler's smiles and laughs also began high in baseline with 70% and 80% of intervals. After parent training his smiles and laughs were variable bouncing back and forth from above 90% of intervals and below 40% of intervals. The smiles and laughs then stabilized to around 20% of intervals with a jump to about 80% and then a decrease to around 45% for the last two sessions. Tyler's goal responding began low in baseline with around 1.5 responses per minute. After parent training began the goal responding was pretty variable bouncing back and forth with a few high responding sessions above nine responses per minute and a few sessions being low below four responses per minute with all sessions being above baseline levels.

Daniel and Katie's data is displayed in the bottom graph. Katie's smiles and laughs were low in baseline beginning at 0% of intervals with an increase to about 29%

of intervals and a decreasing trend for the remaining intervals around 10%. In parent training, Katie's smiles and laughs show an increasing trend beginning at baseline levels and peaking at about 65% of intervals. Then her smiles and laughs decreased to around 35% of intervals and display an increasing trend reaching approximately 60%. Once again, her smiles and laughs decreased to about 25%, increased for a few sessions, and dropped down around 20% of intervals for the remaining sessions. Daniels smiles and laughs very closely track Katie's smiles and laughs. Smiles and laughs in baseline, for Daniel, are variable jumping back and forth from under 8% of intervals to around 20% of intervals. After parent training, his smiles and laughs showed a slight increasing trend then jumped to about 40% of intervals. Then they decreased and stabilized around 20% of intervals for a few sessions followed by a gradual increasing trend peaking at just over 30% of intervals. His smiles and laughs then decreased to around 20% and stabilized for the remainder of the sessions. Daniels goal responding also tracks this same path and closely follows Katie's smiles and laughs. His goal responding is low in baseline below 1.5 responses per minute. After parent training Daniels goal responding shows an increasing trend to about four responses per minute then it dropped to about two responses per minute and another increasing trend spiking at just under six responses per minute. Daniels goal responding then dropped for the next few sessions and then jumped to about six responses per minute for two sessions followed by some stabilization for the last few sessions around 2.8 responses per minute.

Figure 2 displays the average responses for each behavior. The top graph shows the averages for child goal responding for each parent child dyad. The primary

axis displays the rate per minute of responding. Will and Jennifer are displayed in the first set of bars, Tyler and Jennifer in the second set of bars, and Daniel and Katie in the last set of bars. In baseline Will's goal responding averaged 0.9 responses per minute, ranging from 0.2 to 1.6 responses per minute. In intervention his average goal responding was 6.12 responses per minute, ranging from 0.5 to 11.5 responses per minute. In baseline Tyler's goal responding averaged 1.05 responses per minute, ranging from 0.8 to 1.3 responses per minute. In intervention his average goal responding was 6.5 responses per minute, ranging from two to 14.5 responses per minute. In baseline Daniels's goal responding averaged 0.38 responses per minute, ranging from 0.2 to one response per minute. In intervention his average goal responding was 3.05 responses per minute, ranging from 0.9 to 5.9 responses per minute.

The second graph in Figure 2 displays the average percentage of parent smiles and laughs. The primary axis for this and the remaining graphs is percent of intervals. The parent child dyads maintain the same order as above. When with Will, Jennifer's smiles and laughs averaged 35% of the intervals ranging from 28% to 43%. Her smiles and laughs increased to an average of 71% in intervention with a range of 18% to 92%. When with Tyler, Jennifer's smiles and laughs in baseline averaged 60% of the intervals with a range of 59% to 62%. In intervention, the average percent of intervals of Jennifer's smiles and laughs increased to 66% ranging from 27.3% to 100% of intervals. Katie's smiles and laughs in baseline ranged from 0% to 26% of intervals averaging about 12% of the intervals. In parent training Katie's average percent of intervals of

smiles and laughs increased to 36% of intervals ranging between 16.1% and 63% of intervals.

The third graph displays the average percentage of child smiles and laughs. Will's baseline levels of smiles and laughs ranged from 7.7% to 33% of the intervals with an average of 20%. His smiles and laughs increased in parent training to an average of 25% ranging from 0% to 67%. Tyler's smiles and laughs ranged between 70% and 80% in baseline for an average of 75% of intervals. His smiles and laughs decreased to an average of 42% after parent training ranging between 10% and 100% of intervals. Daniel baseline levels of smiles and laughs ranged from 0% to 22.4% with an average of 12% of the intervals. In parent training Daniels smiles and laughs ranged from 6% to 32% of the intervals averaging 20% of the intervals.

The bottom graph displays the average percentage of child protests. Will's protests in baseline averaged 6% of intervals ranging from 4% to 7.4%. The average decreased to less than 1% with only one data point showing a protest for 9% of the intervals. Tyler never displayed protests throughout the study. Daniels protests ranged from 0% to 24% in baseline with an average of 12%. During parent training, Daniels average percent of intervals of protests decreased to less than 1%, ranging from 0% to 4.1% of intervals. Appendix J contains the raw data for all behaviors in each session. Appendix I contains a graph of parent and child off camera and none.

DISCUSSION

Indices of happiness in a parent training program for families with toddlers with autism were evaluated. Previous research has measured, defined, and increased client happiness in individuals with disabilities (e.g. Green & Reid, 1996; Favell, Realon, & Sutton, 1996). Happiness has been defined in most of the past research as a group of behaviors with smiling and laughing as examples of behaviors indicating “happiness”. Previous research that has evaluated autism parent training programs has used either indirect measures like rating scales (Koegel et al., 1996) or only evaluated smiles in one parent child dyad (Broome, 2007). The current study extends this research by directly measuring parent and child smiles and laughs in a parent training program, and by having participants that were toddlers with autism and their families. Similar to Broome, 2007, the current study suggests that parents smiles and laughs increase as a result of parent training. Moreover, this study *directly* measured smiles and laughs using an interval recording method throughout the course of a behavioral parent training program. Unlike Broome 2007, in which both the child and parent smiles and laughs increased, only one of the three dyads in this study showed an increase in child smiling. The measures, however, also suggest that like Broome, 2007 parent smiles and laughs increased as a result of the parent training program for all three parent child dyads.

While it is the case that all parents’ smiles and laughs increased, for each family several points are noteworthy. For example, Jennifer’s smiles are higher with Will than they are with Tyler in the parent training phase. It is not clear why this is the case: session sequence varied (sometimes Tyler would have his assessment first and sometimes Will would have his assessment first); the children were working on similar

goals; and the smiles did not seem to correlate with child goal responding. It is also the case that Katie's smiles and laughs appeared lower than the other parent. She is playing with her child and she is smiling an average of 12% of the time in baseline. Smiles and laughs do increase in parent training to an average of 30% of the time, but this is still low considering it was a ten minute observation. Another relationship to mention is Katie's smiles and laughs did not increase to previous levels after teaching vocal requests were added. This could be because teaching vocal requests is a difficult skill for any parent or teacher to learn. When somebody teaches vocal requests, in this case the parent, they have to be able to shape approximations, and, unless the professional has advanced training, shaping approximations can be challenging. Additionally, vocal requests typically take longer to teach and that was the last skill targeted for intervention, thereby receiving less training attention.

Furthermore, parent and child smiles and laughs generally correspond with each other for all three parent-child dyads, more so for Daniel and Katie and Tyler and Jennifer than for Will and Jennifer. This relationship between Daniel and Katie's and Tyler and Jennifer's smiles and laughs is important, because it suggests that the parent and child are "socially dancing"; they are either smiling in response to one another or smiling in shared experiences. It would be worthwhile to conduct further analyses in relation to this observation. For example, do smiles correspond with joint attention? Acquiring the "social dance" can be very difficult for families with autism. This is perhaps due to the social deficits associated with the diagnoses of autism and it takes time and hard work to reach a point at which the parent and child are "dancing". That is, responding to one another in tandem or responding to a shared experience. As Hart

and Risley noted, the more time that the parent and child are “dancing”, the more likely the child will be successful at an older age (Hart & Risley, 1995).

Not all dyads would indicate correspondence between parent and child. In comparison to Jennifer and Katie’s smiles and laughs, Will and Tyler’s smiles and laughs seemed to show no systematic relationship between baseline and parent training. Will’s smiles and laughs in parent training showed no change compared to baseline and Tyler’s smiles and laughs decreased compared to baseline. However, Daniel’s smiles and laughs were similar to Katie’s and Jennifer’s showing some increasing trends with some drops. Daniel’s and Katie’s smiles and laughs closely tracked each other and it appears that it could have been the case that when either Katie or Daniel smiled more, so did the other partner.

A visual comparison of child goal responding and smiles and laughs was conducted in order to further explore possible reasons for the observed increases. This analysis yielded no systematic relationship between the child goals and smiles and laughs for Jennifer with either Tyler or Will. However, for Katie there seems to be a relationship between child goal responding and her smiles and laughs. This would suggest then that Katie could have begun to smile more as Daniel obtained his goals.

A phenomenon related to child goals occurred with Katie and Jennifer, when she was with Tyler. Parent smiles and laughs slightly decreased after a new child goal was added. This was followed by an increasing trend as the parent worked on that skill longer. When a new goal is added, the parent is asked to apply the teaching techniques they learned from the previous goals to a new task (their child’s new goal). This may cause a disruption in the parents behavior since, for example teaching gestural requests

is not the same as teaching vocal requests or reciprocal imitation. This change in goals could be the reason for the slight decrease in parental smiles and laughs shortly after a new goal is added. In relation to adding new goals, Jennifer's smiles and laughs when with Will were slightly different in that a few sessions would occur before seeing a decrease in smiles and laughs. It may be the case for those sessions Tyler's assessment was first in which she would have gained experience with teaching those goals with Tyler before her assessment with Will.

In summary, Jennifer's, Katie's, and Daniel's smiles and laughs increased in parent training compared to baseline. However, Tyler's and Will's smiles and laughs showed no systematic increases or decreases during baseline and parent training. Lastly, child goal responding showed no relationship for Jennifer with neither Tyler nor Will. Katie's smiles and laughs, however, did appear to be related to Daniel's goal responding.

In addition to the goal of increasing smiles and laughs, this project sought to build on the previous literature of objectively measuring happiness. Objectively measuring indices of happiness can be a difficult task. Past research has measured happiness in a behavioral parent training program using subjective measures (Koegel et al., 1996) that are difficult to interpret. It is especially important to measure happiness in individuals with autism and their families, because social deficits are characteristic of autism and smiling and laughing are social behaviors. Furthermore, the families with children with autism experience higher stress levels than other families (Koegel et al., 1992; Baker-Ericzen et al., 2005). This would then suggest that happiness is less likely to be observed in these families. Measuring happiness is socially important and as applied

behavior analysts working to provide socially significant services, we want our intervention to not only change our participants' lives but also make them happy. Jennifer, Katie and Daniel's smiles and laughs showed a systematic relationship with the intervention and even though Tyler and Will's did not show a systematic relationship condition changes, they were "happy" throughout baseline and training, evident by the percentage of intervals of smiles and laughs. Moreover, we would like our intervention to enhance the quality of life of the individuals we provide services to. If we do not have a measure that will help us evaluate this, then how are we to know if the quality of life of an individual will improve or worsen. Lastly, over time, as scholars gather more data, we might be able to determine what low indicators of happiness might mean. For example, are they at risk for possible depression? Is the training situation unpleasant for them? Typically, when parents play with their children they appear to enjoy the interaction. If there is a difficulty, however, then they are less likely to smile and laugh, indicating that they are not enjoying the interaction and that they may require some kind of additional support.

Some areas that future research can investigate are discussed below. First, the current study did not control for activities selected by the participants. Some activities that the parents selected could produce more smiles and laughing, such as tickles, than other activities, such as, playing with toy cars. In addition, some of the activities selected (e.g. putting toy cars in a bucket) could potentially provide more opportunities for the child to respond than other activities (e.g. watching TV). This could be one reason for the variability in child goal responding. In the future, investigators can control

activity selection by the parents, in order to determine if this is a cause for variability in smiles and laughs.

Next, the use of one video camera and the small size of the room made it difficult to capture the entire face for the entire assessment. Furthermore, the small room made it unfeasible to follow the children and parents around to always capture their faces. However, because the assessments were standard—same length each session and taken in the same spot—it is likely that every session contained smiles and laughs the camera did not capture.

Another area of investigation is that for Will and Tyler the baseline was only two sessions long. One reason for this is the difficulty of balancing between having an extended baseline to evaluate the data and the urgency of providing needed training for both the parent and the child. Additionally, the interactions between the parent and child are typically awkward in baseline assessments, which make it difficult for the observer to watch, as well as uncomfortable for the parent. It is possible that techniques will be developed to offset these concerns.

Moreover, the trainer modeled smiling and laughing during both baseline and parent training. The parent was watching the trainer model the smiles and laughs as well as the techniques to be used to teach the children. This occurred while the trainer assessed different teaching procedures, in baseline, and when the trainer modeled the parent the teaching procedures, in the parent training phase. The modeling of smiles and laughs was not instructed to the trainer, but rather naturally occurred while building rapport with the family and evaluating the teaching methods. Jennifer and Katie's smiles and laughs could have increased for this reason alone. Furthermore, during training the

parents were given a handout as well as verbally instructed to enjoy the interaction with their child. The parent was told that both the child and parent should be generally happy during the teaching interaction. This also could be a reason that the parent's smiles and laughs increased in parent training compared to baseline. These two factors should be evaluated further to determine if they were the cause of the increase in smiles and laughs for Jennifer and Katie in parent training.

This study is one of the few that have directly measured happiness in a behavioral parent-training program. Replications with additional participants may explore the specific actions that produce happy "social dances" between parents and their toddlers with autism. Future research can also look into the contingencies and factors within a session that are related to the variability of the parents and children's smiling and laughing. Finally, future research can look at other behaviors beyond smiles, laughs, and protests such as retreats, back turns, approaches, etc. to help in evaluating the indicators of happiness between family members.

Parent and Child Affect and Child Goal Responding

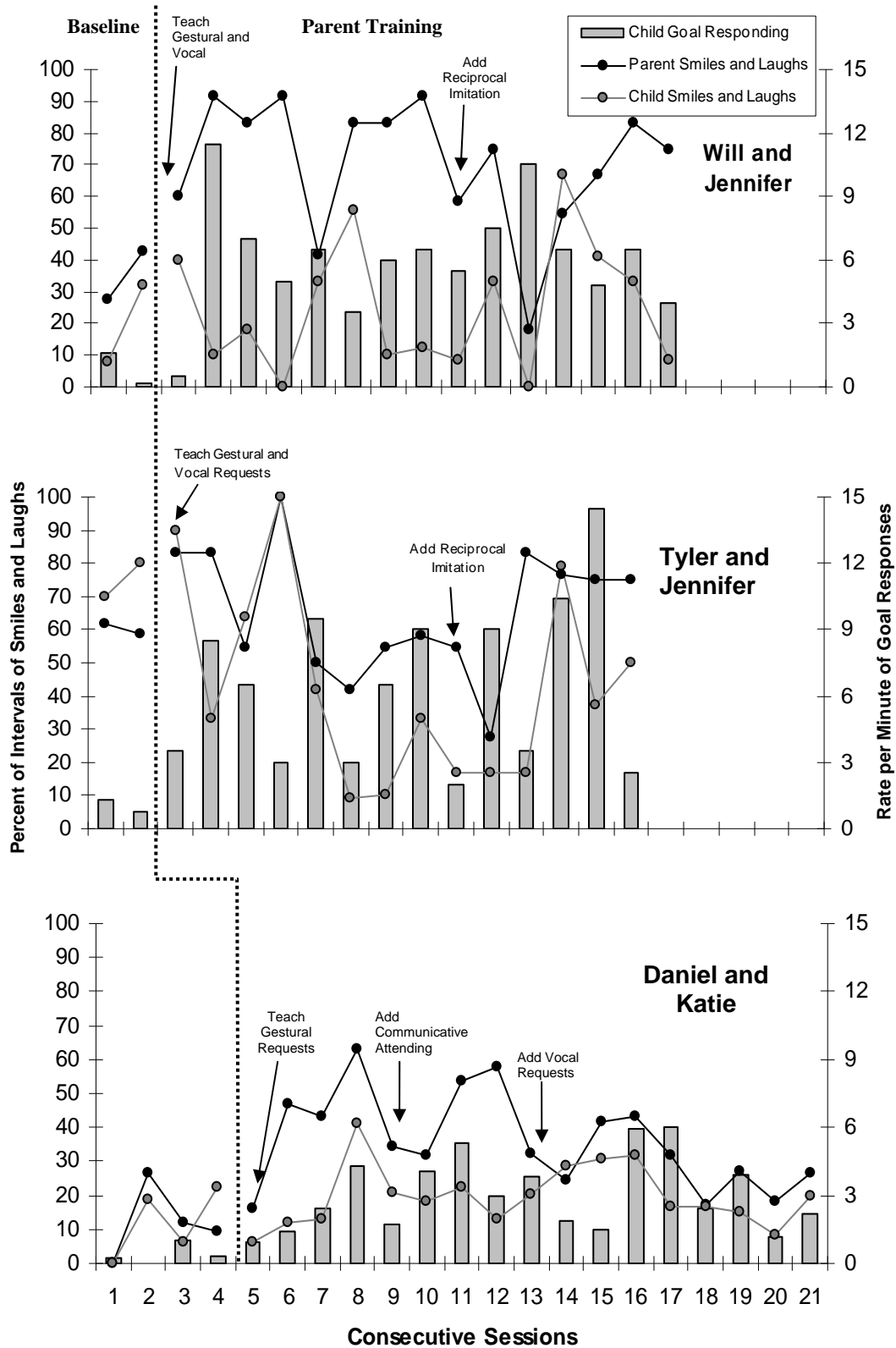


Figure 1. Parent and child smiles and laughs and child goal responding for each parent-child-dyad.

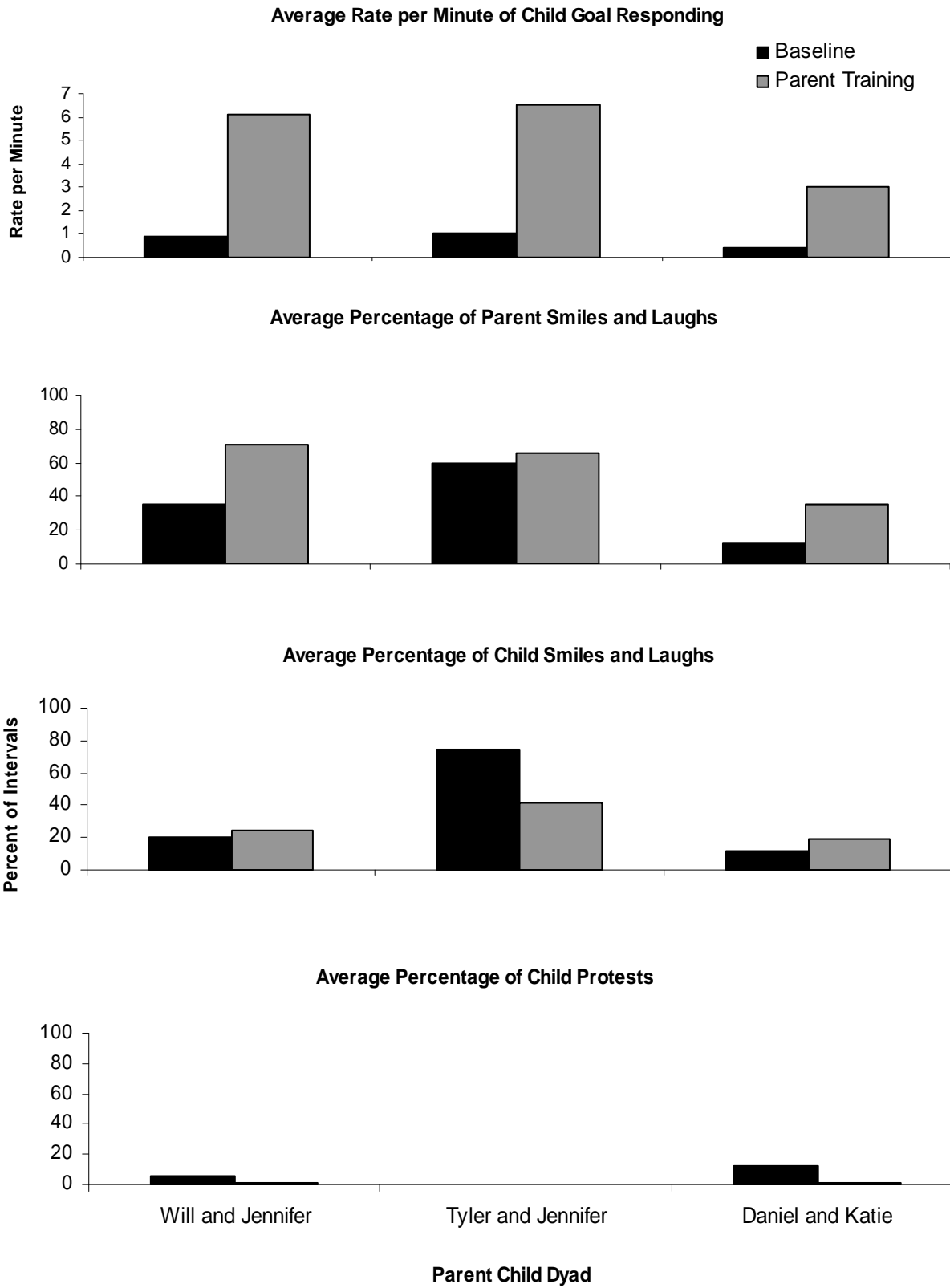


Figure 2. Average responses for each parent and child behavior for each parent-child-dyad.

Table 1

Definitions Used by Previous Researchers

Reference	Measures		Data Collection	Participants
	Happiness	Unhappiness		
Cooke & Apolloni; 1976	<p>Smiling- a slight opening of the lips, a turning up of the corners of the mouth, and an increase in the protrusion of skin over the cheek bones (Hopkins 1968)</p> <p>Sharing- A subject offering or giving an object or material to a peer or his concurrent use of an object or material with a peer.</p> <p>Positive physical contacting- A subject extending a hand(s) or Arm(s) toward a peer and patting, rubbing, hugging, stroking, or grasping in a positive fashion, Rapid physical contacts are recorded as separate instances only when 1 sec or greater latency period between occurrences.</p> <p>Complimentary verbal statements- A subject speaking to a peer in such a manner as to compliment, praise, reassure, or express wan feelings to the recipient of the comment.</p> <p>Trainer social praise- the trainer praising, complimenting, or reassuring the exhibition of one or more of the above four social-emotional behaviors by a subject</p>	None	16 min sessions Time Sample recording with 10 sec intervals	7 children; 6 yrs-9yrs; learning disabled

(table continues)

Table 1 (continued)

Derrickson, Neef and Cataldo 1993	Positive- smiles, orients gaze towards caregivers face or toy in the crib neutral- no overt response to stimuli or gaze aversion	Negative- cries, whines, exhibits self stimulatory behavior	5 minute observations 10 sec partial interval	9 month old male, bronchopulmonary dysphasia
Green & Reid 1996	Indices of happiness- any facial expression or vocalization typically considered to be an indicator of happiness among people without disabilities, including smiling, laughing, and yelling while smiling	Indices of unhappiness- any facial expression or vocalization typically considered to be an indicator of unhappiness among people without disabilities, such as frowning, grimacing, crying and yelling without smiling	10 min observations, 10 sec partial interval with a 5 s record interval	individuals with profound mental and physical impairment, ages 18-41
Favell, Realon, and Sutton 1996	Positive emotion- smiling or laughing	Negative emotion- frowning, crying, whining, grimacing, or screaming	10 sec partial interval; 6 sec partial interval	severe or profound mental retardation, confined to wheelchairs
Ivancic et al., 1997	Indices of happiness- any facial expression or vocalization typically considered to be an indicator of happiness among people without disabilities, including smiling, laughing, and yelling while smiling (Green and Reid 1996)	Indices of unhappiness- any facial expression or vocalization typically considered to be an indicator of unhappiness among people without disabilities, such as frowning, grimacing, crying and yelling without smiling (Green and Reid 1996)	10 min sessions 10 sec intervals	4 individuals movement group, and 3 minimal movement group, Profound multiple disabilities
Green et al., 1997	Indices of happiness- any facial expression or vocalization typically considered to be an indicator of happiness among people without disabilities, including smiling, laughing, and yelling while smiling	Indices of unhappiness- any facial expression or vocalization typically considered to be an indicator of unhappiness among people without disabilities, such as frowning, grimacing, crying and yelling without smiling	10 sec partial interval with 5 sec recording interval	3 adult education classrooms, 1 participant from each room. Severe disabilities 28-41

(table continues)

Table 1 (continued)

Logan et al., 1998	<p>Smiles- <i>Allie</i>-Lips open and curved upward and both teeth showing, lasting for at least 3 sec <i>Ariel</i>-top and bottom teeth showing, mouth curved upward, and dimple on right cheek visible. The smile ends when the dimple is no longer visible <i>Kay</i>- Top teeth visible, corners of mouth stretched wide, with continuous smile line visible on right side of mouth <i>Jason</i>- Lips stretched with one eye tooth completely visible Eyes open-<i>Zeke</i>-Eyelids more than half open with pupil entirely visible and at least 2/3 of iris visible</p>	None	10 sec interval recording system with a 5 sec recording interval, 10 min sessions	5 elementary students with profound multiple disabilities
Green and Reid 1999	<p>Indices of happiness- any facial expression or vocalization typically considered to be an indicator of happiness among people without disabilities, including smiling, laughing, and yelling while smiling</p>	<p>Indices of unhappiness- any facial expression or vocalization typically considered to be an indicator of unhappiness among people without disabilities, such as frowning, grimacing, crying and yelling without smiling</p>	Occurrence on partial interval Nonoccurrence on whole interval 20 consecutive 10 sec intervals	5 students, 19-42, nonambulatory profound mental and physical disabilities
Lindauer 1999	<p>Positive affect-smiling, giggling, and laughing</p>	<p>Negative affect- frowning, crying, whining, and verbal statements such as I'm sad SIB-hitting her head with her hands, hitting her head against hard surfaces, and biting her arms</p>	10 min sessions 10 sec intervals	23 yr old woman with severe mental retardation, major depression, mild left hemiparesis, and autistic like behaviors
Yu et al., 2002	<p>Happiness- any facial expression or vocalization typically considered to be an indicator of happiness among people without disabilities including smiling, laughing, and yelling while smiling" Green and Reid 1996</p>	None	partial interval 10s observe, 5 sec record each observation session lasted at least 10 intervals	19 adults, 22-44, with severe or profound disabilities

(table continues)

Table 1 (continued)

<p>Lancioni, O'Reilly, Snigh, Oliva, & Groenweg 2002</p>	<p>Indices of happiness-smiling, laughing, vocalizing and or producing excited head or arm movements Activation of micro switches</p>	<p>None</p>	<p>4 10 min sessions per day, 10 sec partial interval recording with 5 sec of record interval</p>	<p>3 females, 13-46 yrs old, in wheelchairs due to spasticity, scoliosis and other physical disabilities</p>
<p>Lancioni, O'Reilly, Campodonico, & Mantini 2002</p>	<p>Indices of happiness-smiling, laughing, vocalizing and or producing excited head or arm movements Positive engagement- person adapting his/her position to a stimulus (e.g., moving the arms in relation to the experimenter stroking them or orientating the face to the air of a fan); grasping, holding, and or exploring a stimulus (e.g., grasping a vibrating cushion and moving the hands on it); or bringing a stimulus in touch with parts of the body (e.g., bringing a vibrating brush in contact with the chest or face).</p>	<p>None</p>	<p>partial interval 10 sec observation, 5 sec recording</p>	<p>4 individuals with profound intellectual disability, 20-34 yrs old</p>
<p>Realon, Bligen, La Force et al., 2002</p>	<p>Alert- a resident whose eyes were open Smiling-an upward curve on at least one corner of the resident's mouth Laughing-positive vocalization accompanied by a smile Engagement- a resident manipulating a leisure item as it was intended to be used</p>	<p>Asleep- a resident's eyes being closed breathing was slow and regular, body tone was relaxed, and the resident exhibited little or no motor activity Drowsy- a resident's eyes being open but eyelids appearing "heavy" (eyes are opening/ closing repeatedly), Crying- tearing of eyes, a frown, grimace, or an unhappy facial expression or an audible unhappy vocalization Neutral- None of the above responses (smiling, crying, laughing)</p>	<p>PEP (positive environment program) training for staff 5 min observations, 15 sec partial interval</p>	<p>11 direct care staff and 19 residents, mean age of 31 yrs old</p>

(table continues)

Table 1 (continued)

Lancioni et al., 2003	Indices of happiness -smiling, laughing, vocalizing and or producing excited head or arm movements Activation of micro switches	None	10 min. sessions partial interval 10 sec observation, 5 sec recording	3 participants 13-46, in wheelchairs due to spasticity, scoliosis and other physical disabilities
Davis et al., 2004	Happiness - Green and Reid (1996) any facial expression or vocalization typically considered to be an indicator of happiness among people without disabilities, including smiling, laughing, and yelling while smiling	None	10 min sessions 10 sec intervals	3 adults with profound mental retardation 31-45
Singh et al., 2004	Happiness -any facial expression or vocalization typically considered to be an indicator of happiness among people without disabilities including smiling, laughing, and yelling while smiling (Green and Reid 1996) <i>specific to each individual</i> including grinning; eyes open wide in excitement; open mouth together with furrows high on forehead; eyelids close together; drooling; and happy vocalizations; high pitched shrieks; clapping or arm waving; humming or singing; body contortions together with loud, happy vocalizations; and happy growling sounds	None	2 15min daily leisure activities recorded for 10 min, 15 s partial interval, 10 s observe 5 s record	3 adults with complex medical and physical problems and profound mental retardation

(table continues)

Table 1 (continued)

Broome 2007	<p>Child Smiles- The child assumes a facial expression indicating pleasure, favor, or amusement, characterized by an upturning of the corners of the mouth</p> <p>Parent Smiles- The parent assumes a facial expression indicating pleasure, favor, or amusement, characterized by an upturning of the corners of the mouth</p> <p>Eye/eyebrow raise- Parent assumes a facial expression indicating excitement, satisfaction, happiness characterized by lifting of eyebrows and widening of eyes, usually accompanied with a smile or look of contentment</p>	<p>Tantrums, Crying- Child engages in vocalizations such as yells, whines, or screams which may or may not be accompanied by physically retreating or protesting</p> <p>Grimace- parent assumes a facial expression indicating disapproval/dissatisfaction or disgust. characterized by stretching of mouth backwards or forward (pucker of lips), crunching upward of checks and nose</p> <p>Smirk- Parent assumes a facial expression indicating un-sureness, self consciousness, doubting, characterized by an upturning of one side of the mouth, usually accompanied with a sigh, or “uh”</p> <p>Lip/Check biting- Parent assumes a facial expression indicating confusion or being puzzled characterized by lips being puckered and biting inside of cheek or biting bottom or top lip</p>	<p>10 min observations 10 sec interval recording</p>	<p>25 month old with ASD and 32 year old mom</p>
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Table 2

Average IOA co-efficients during Baseline and Parent Training

	Parent Smiles and Laughs	Child Smiles and Laughs	Child Protests	Child Goal Responses
<i>Will and Jennifer</i>				
Baseline	84.8%	81.3%	97.8%	100.0%
Parent Training	90.4%	83.3%	100.00%	96.2%
<i>Tyler and Jennifer</i>				
Baseline	89.2%	94.6%	100.00%	100.00%
Parent Training	90.5%	92.8%	100.00%	87.38%
<i>Daniel and Katie</i>				
Baseline	100.00%	95.5%	94.4%	100.00%
Parent Training	81.1%	83.2%	100.00%	86.65%

APPENDIX A:
FAMILY CONNECTIONS PROJECT MISSION



The Family Connections Project

The primary mission of the Family Connections Project (FCP) is to enhance the quality of relationships within families who have toddlers with autism. Parents are taught to identify and arrange opportunities to interact with their children in ways that will increase motivation and social responsivity. Initial training involves identifying high preference events and arranging those events to optimize functional interactions, social engagement and play skills. By teaching parents to create and arrange motivating conditions, children are able to learn increasingly complex skills throughout everyday family routines and activities. Subsequent parent training emphasizes the selection of goals that will optimize quality of family life, procedures to teach desired goals, and, finally, techniques for monitoring treatment progress.

North Texas Autism Project

The North Texas Autism Project (NTAP) is a service-learning project in the Department of Behavior Analysis in the College of Public Affairs and Community Service at the University of North Texas. The Department of Behavior Analysis offers degree programs in Behavior Analysis and specialty training in the behavioral interventions in autism. NTAP was created in response to a growing local and national need for qualified providers of behavior analytic services for children with autism. ***The mission of NTAP is to provide applied community service-learning experiences for graduate students in the Department of Behavior Analysis, to provide direct interventions, and to produce pragmatic research. The Family Connections Project is one of the primary service-learning activities of NTAP.***

FCP Eligibility

Parents and their toddlers with autism or PDD are eligible for services. Toddlers should be between 12 to 18 months at the onset of services. A majority of the parent training will take place on the campus of UNT in the Family Connections Playroom.

FCP Training Opportunities

In order to receive the full benefit of the training program, parents are asked to participate in one full training sequence (one hour training sessions, two times a week for 10 weeks: a total of 20 training sessions). Shahla Rosales, Ph.D., BCBA, a behavior analyst with over 25 years of experience working with young children and their families supervises all training sequences. Experienced professionals with Bachelor's degrees that are pursuing advanced training in Applied Behavior Analysis conduct individual sessions with parents and their toddlers.

FCP Training Format

The first three to four sessions involve a thorough assessment of child skills and parental goals in each of the FCP skill areas. Assessments take place at home and in the FCP playroom. During this time, the parent trainer will also spend time working directly with the toddler in order to build rapport and to determine optimal teaching procedures. Following the assessment period, each of the training sessions will include instructions, demonstrations and practice of optimal teaching procedures. As the families make progress, intervention will focus on problem solving and integrating new skills into the ecology of the home. Parents will be provided with practical feedback and have ample opportunity to have input into the training process.

FCP Fees for Services

There is a \$ ____ fee for each 20 session training sequence. Parents may contract additional 6 session sequences if qualified interventionists are available.

FCP Applications

Dr. S. Rosales, SRosales@pacs.unt.edu
Department of Behavior Analysis,
PO Box 310919,
Denton Texas, 76205

* Created as a component of the Family Connections Project at the University of North Texas *

APPENDIX B:
OUTLINE OF FAMILY CONNECTIONS PROJECT PARENT TEACHING
STRATEGIES

The Family Connections Project

The Teaching D.A.N.C.E.

This is a teaching strategy that incorporates the principles of operant conditioning in a developmentally suitable way for a toddler and her parents. The parent takes advantage of the toddler's interests to establish communication "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.

Decide

- Is this a good moment for a teaching interaction?
- Is your child alert? Interested in the presented activities?
- Do you have time? Are you free from other distractions?
- What skill will you teach?

Arrange

- Did you sample activities and events: offer choices until you see a "spark"?
- Did you arrange the desired events so you that you can control access?
- Did you level yourself to your child's position?
- Did you state the goal?
- Did you wait for small movements towards the larger goals?

Now!

- Did you responding *immediately* by presenting the desired activity or event?
- Did you pairing the event with delighted, brief and *specific praise*?
- Did you *adjusting your responding (models and event delivery)*:
 - Is what you are doing effective?
 - Is your child happy?
 - Is your child moving in the right direction?
 - Should you continue? Should you change?

Count

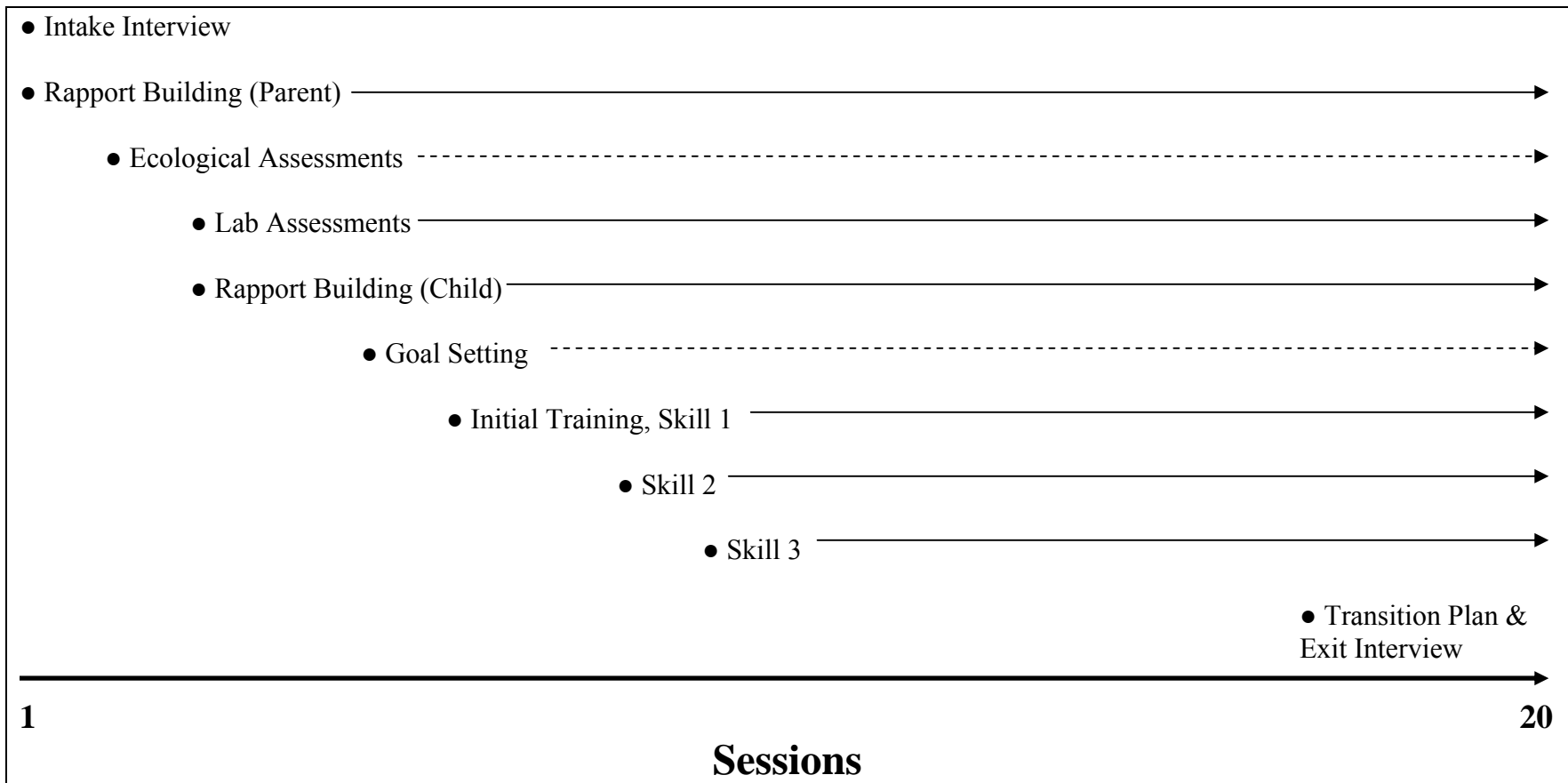
- Have you determined a time period to sample progress?
- Did you define the desired responses –what you want to teach?
- Did you count occurrences of each desired response?
- Did you chart the responses in real time in a standardized format?

Enjoy!

- Are you having fun?
- Are you keeping the DANCE short and sweet?
- Are you shifting to other activities while your child is still happy?
- Are you alternating teaching and play activities?

* Created as a component of the Family Connections Project at the University of North Texas *

APPENDIX C:
FAMILY CONNECTIONS PROJECT TIMELINE



APPENDIX D:
SCOPE AND SEQUENCE TODDLER MONITORING AND PLANNING GUIDE

Family Connections Project
 North Texas Autism Project, Department of Behavior Analysis
 University of North Texas
 IFSP Scope and Sequence Toddler Monitoring & Planning Guide*

Overarching master goal: To increase responsivity, enjoyment and benefit from the social environment

Early Interests and Activities		<i>master goal: enjoys playing with a wide range of activities alone & with others</i>					
<i>sampling</i>	scanning	touching	manipulating	request help	request demonstrations		
<i>selection</i>	gaze	grab, reach	point	vocal	in absence of event		
<i>manipulation</i>	simple	functional	short durations	long durations	pretend w/ play objects	pretend w/out play objects	
<i>diversity</i>	rate w/in class of presenting selections			rate w/in classes of similar	rate w/in classes of different selections		
Early Communication		<i>master goal: communicates own likes, dislikes, interests; responds to communications of others</i>					
<i>functional</i>	signal	requests	protests	directives	comments	descriptions	information exchanges
<i>eye contact</i>	gaze	access/request	follow gaze	duration	persistence	direct gaze	reference
<i>gestures</i>	movement	diversity/rate	reach	point	differentiated	expand	support vocals
<i>vocalizations</i>	babble	diversity	rate	attempts	approximations	words	phrases
<i>responsivity</i>	smiles	follows high, neutral preference requests			gives information	turn taking	
Early Social		<i>master goal: enjoys sharing activities with others & develops attachments to widening circle of people</i>					
<i>reciprocity</i>	access to interests	w/ imitations	w/ objects	w/ vocals	w/ physicals	w/ toys	in simple conversations
<i>motor imitation</i>	diversity & rate	approximations	large movements	w/ toys	small movements	w/ toys	sequences generalized
<i>vocal imitation</i>	diversity	rate	single sounds	approximations	words	phrases	
Early Movement		<i>master goal: able to control own access to physical environment</i>					
<i>locomotion</i>	sit	crawl	pulls up	walks	trots	runs	
<i>fine motor</i>	hand to hand	pick ups	pincer grasp	accommodates	stacks and drops	utensils	fits, tosses
Early Problem Solving		<i>master goal: able to encounter novel & varying conditions with success & comfort</i>					
<i>cause-effect</i>	experiment w/ objects		experiment w/ social reactions			persistence w/ experimentation	
<i>flexibility</i>	accommodates changes without distress; makes transitions without distress and with eagerness						
<i>agility</i>	switches from one activity to another; engages in activities in different ways; learning rate increases with successive exposures						

Probable Sequences (must be individualized and must work with splinter skills) ----->

* references: Greenwood, Carta & Walker; Mundy & Crowson; Lewy & Dawson; Sears & Sears; Leaf & McEachin; Messinger & Mundy

* Created as a component of the Family Connections Project at the University of North Texas *

APPENDIX E:
COMPLETE OBSERVATION CODE

Observation Code

The following definitions correspond with the data sheets you have. Before beginning the data collection process review all of the definitions and make sure you understand them completely. Then begin taking data on these behaviors during the video clip. If you are unsure of how to mark a behavior or if it meets the definition, do not hesitate to ask questions. If you have to watch a scene intently more than 5 times to determine if a behavior should be scored then do not score it, as the occurrence is too obscure to count. Some of the tapes have a date and session stamp at the beginning, for these do not begin scoring until the actual video of the person begins. For example, if the tape begins at 02 sec then the first interval is from 02-11 sec, then from 12-21 sec and so forth. Also, if you do not have any occurrences of a behavior, then please watch the video again to make sure you did not miss any.

How to decide what to score for questionable occurrences:

1. To call it a smile you have to see at least one corner of the mouth go up and it not be a smirk/grimace.
 - Grimace-** The person assumes a facial expression indicating disapproval/dissatisfaction or disgust. Characterized by stretching of mouth backwards or forward (pucker of lips), crunching upward of cheeks and nose.
 - Smirk-** The person assumes a facial expression indicating un-sureness, self-consciousness, doubting, characterized by an upturning of one side of the mouth, usually accompanied with a sigh, or “uh”.
2. To call it none we have to see the mouth at some point during the interval
3. To call it off then we cannot see the mouth at all, you can still score a protest or laugh if you hear it.
4. Also, if you are unsure about a smile error on the side of smile
5. If you are unsure about if it is off camera then error on the side that you saw the persons mouth and score none.
6. When scoring a laugh if it crosses intervals, start from the interval start time and see if you would score it as a laugh for that interval if so then mark smile, if not then mark what ever is appropriate, off or none.
 - Ex. The interval starts at 2:03 and the person laughs in the previous interval and all you hear in the interval at 2:03 is a sigh then score as off or none.
7. If you are uncertain about an occurrence, then score it as a smile and circle the interval and if we disagree about the interval then we will independently go back with a straight edge and determine if the persons corners of the mouth were in an upward position.

Parent Happiness

Parent Smiles and Laughs

The parent assumes a facial expression indicating pleasure, favor, or amusement, characterized by an upturning of the corners of the mouth. The parent emits a vocalization such as a laugh or giggle indicating pleasure. If you cannot see, the parents mouth mark the interval as off camera (if you can only hear the parent laughing but his/her back is turned and you cannot see the mouth still score smile for the laugh) Count smiles during vocalizations if the corners of her mouth go up.

Examples include but are not limited to:

- the parent smiles and shows her teeth when she says, “great job playing with the balls!”
- the parent laughs and smiles while playing tickles
- the parent’s mouth turns upward while saying, “you did it!”
- parent laughs while tickling the child
- the parent is turned sideways and you see one corner of the mouth and the check raise
- the parent has their mouth open with the corners of the mouth raised while playing with pretend food.
- The parent sounds like they are smiling and you see one corner of the mouth raise while giving the child the block and saying “Good looking.”
- While the parent says “eeeatt” the corners of the mouth go up

Non-examples include but are not limited to:

- the parent’s facial expression and voice tone look and sound content
- parent watches child and it appears to be a pleasant interaction
- you see the check raise but cannot see the corner of the mouth
- The parents voice sounds like they are smiling, but you can’t see a corner of the mouth raise
- When the parent says “ball” and she is making the corners of the mouth go down.
- While saying “car” and the corners of the mouth do not raise or go down.

Off Camera/ Can’t see mouth

Score this when you cannot see any part of the person’s mouth you are taking data on or they are off camera.

Examples include but are not limited to:

- The parent turns their head away from the camera and all you can see is their check
- The parents back is facing the camera and all you can see is the back of their head

Non-examples include but are not limited to:

- The parent turns around and you see their mouth for 1 sec
- The parent is turned sideways and you can see one side of the mouth that is turned up (score as smile)
- The parent turns their face and you think you saw their lips but are unsure (score as none if no smile occurred)

Child Affect

Child Smiles and Laughs

The child assumes a facial expression indicating pleasure, favor, or amusement, characterized by an upturning of the corners of the mouth. The child emits a vocalization such as a laugh or giggle indicating pleasure. The laugh can be 1 second or more. If you cannot see the child's mouth mark out the interval. (if you can only hear the child laughing but his/her back is turned and you cannot see the mouth still score smile for the laugh) Child can't be protesting and smiling at the same time, however they can both still occur in the same interval. Count smiles during vocalizations if the corners of her mouth go up.

Examples include but are not limited to:

- the child is playing with a car truck and his facial expression changes by his eyes being raised and the turning of his lips
- The child laughs while the mother is tickling him: the child giggles at the tickle me Elmo
- while playing with bubbles you can see the side of the child's cheek raise and one corner of the mouth raise and wrinkles created by his eye
- one corner of the child's mouth turns up while looking at mom and sitting in the chair.

Non-examples include but are not limited to:

- the child grunts while being tickled
- the child bites the corner of his/her mouth
- the corners of the mouth turn up and eyes squint as child starts to cry
- eyes close and turning of lips as a tantrum begins
- The child makes a face that creates one corner of the mouth go up and the nose scrunch up like a grimace (definition of grimace at top)
- The corners of the child's mouth turn up as they are chewing on play food

Protests-

Child engages in vocalizations such as yells, whines with a distress (example but not limited to pain, fear, etc.), or screams which may or may not be accompanied by physically retreating or protesting.

Examples include but are not limited to:

- the child starts crying while playing with blocks
- child vocalizes while protesting
- child cries while trying to get past a parent
- Child makes a whining sound while pushing the trains off the table.

Non-examples include but are not limited to:

- child is given a goldfish and he throws it back at the person
- child gets excited and vocalizes when being tickled
- child sings extremely loudly

- Child screeches loudly while smiling, and laughing when jumping on the bed with Dad

Off Camera/ Can't see mouth

Score this when you cannot see any part of the person's mouth you are taking data on or they are off camera.

Examples include but are not limited to:

- The parent turns their head away from the camera and all you can see is their cheek
- The parent's back is facing the camera and all you can see is the back of their head

Non-examples include but are not limited to:

- The parent turns around and you see their mouth for 1 sec
- The parent is turned sideways and you can see one side of the mouth that is turned up (score as smile)
- The parent turns their face and you think you saw their lips but are unsure (score as none if no smile occurred)

Specific Child Goal Responding

TYLER and WILL

Gestural Request:

Non-vocal gestures (pictures/gestures/signs) directed to another that ask for an item, specify an action to be completed by other, request information, permission, or attention.

Examples include but are not limited to: Child laying on the floor with one arm up while mom is withholding access to a bean bag; Mom has food and child reaches for her hand; Mom turns off video and child reaches at the remote; Mom says “stop” and stops tickling and child reaches both hands at mom;

Nonexamples include but are not limited to: Mom stops tickling child and child looks at mom; Child grabs item and gives it to mom; child grabs moms hand and holds it; child grabs item out of moms hand which she was not withholding

Approximations include but are not limited to Will or Read extending 1 or both hands and/or arms toward mom or toward an item that is out of reach

Communicative Attending

The child’s head movement in the direction of an adult, following removal of a preferred item or to gain access to an inaccessible item or event. An inaccessible item or event may be the attention of the adult (i.e. the parent delivers attention in the form of vocalizations or item/event delivery following the child’s head movement in the direction of the parent, delivers a food item, activates a toy, grabs a toy off of a shelf, opens a cabinet that was locked, etc.)

Examples include but are not limited to child looks at mom when she is withholding access to food; child raises head towards mom while she is holding a bean bag; child looks or turns head towards mom after she says “stop” and stops tickling him; child looks up at mom when she has removed a toy; child moves head in the direction of moms face when she has food; child head and eyes are in the direction of the toy when the parent holds it up right next to their face

Non-examples and non-observables include but are not limited to: child turns toward parent after removal of a toy but does not move head in the direction of the adults face; child turns body in the direction of an adult and walks past them; child head turns upwards but their back is turned and the direction of the head is turned away from the parent; child’s back is turned toward the parent while the parent holds food in their hand

Approximations include but are not limited to Mark or Read facing mom while saying “eeee” when an item is withheld, Mark or Read grabbing mom’s hand while facing her, Mark or Read moving their head in the direction of Mom’s head while she stands with a cracker in her hand; Mark or Read moving their eyes in the direction of moms face but head is not facing her

Note: this is a generous definition because it is technologically difficult to observe glances and/or eye contact with video recording procedures

Vocal Request:

Spoken sounds, words, phrases, or complete sentences directed to another that ask for an item, directs another to engage in a specified activity, specifies an action to be completed by other, request information, permission, or attention. Onset begins with 1st sound and offset happens after 1 second has passed. Access to item/activity does not have to be delivered to be counted as a vocal request.

Examples include but are not limited to: saying "eat" while hand extended towards moms hand while she has food; "Ba" while mom is withholding a bean bag; "Video" when mom stops the movie; Handing container of food to mom and saying "EEE"; child makes a noise while demonstrating a non-vocal request such as communicative eye contact or reaching;

Non-examples include but are not limited to child turning circles and babbling; child pulling moms hand, which has food in it, and placing mouth on her hand; child grabs an item in parent's hand;

Approximations include but are not limited to any vocalization while engaging in a gestural request or communicative attending, such as "eeeeee," or "baba" for bop; child produces same number of syllables as mom modeled; child produces any sound or syllable that is within the word for the item

Object Imitation

The child reciprocates an action of the teacher or peer with the same or similar object within 5 seconds of the action being presented. A response will be counted as an approximation if the child either partially performs the same action or attempts to perform the action with the same or similar object.

Examples include but are not limited to while playing with the bead toy the parent moves a bead and the child moves a different bead; Parent says "do this" and bangs a hammer and then child bangs it; Playing with shape sorter and parent puts shape in and child places another shape in the wrong hole.

Non-examples include but are not limited to child imitating a motor imitation such as tickling, jumping, clapping etc.; child playing with blocks and mom stacks them and 9 sec later child stacks them; child is playing with animals and blocks and parent puts block on animal and child grabs the animal

Motor Imitation – No IOA (do not score) AJ reviewed

The child reciprocates a motor action by imitating the action of the teacher or peer within 5 seconds of the action being presented. A response will be counted as an approximation if the child either partially performs the same action or attempts to perform the action with the same body parts.

Examples include but are not limited to the parent says “do this” and claps hands and the child immediately claps their hands; While singing if your happy and you know it the parent stomps feet then the child stomps feet; The parent turns around and the child twists their body; Parent tickles the child and the child touches moms stomach.

Non-examples include but are not limited to the child performs an action of the parent after 5 sec; the child imitates a play action, with an object such as, banging a hammer; Parent tickles the child and the child touches moms stomach with their feet.

Reciprocal Imitation- (adapted from Brulefert & Baudonniere, 1982)

Is defined as the child reciprocating a play action by imitating the play action of the teacher or peer within 5 seconds of the play action being presented and engaging in the play action for at least 2 “turns”. A turn is defined as the teacher or peer performing the action and the child imitation the action.

Examples include but are not limited to a play action presented by the teacher or peer (e.g., tickles, jumping, etc) where teacher tickles child, after a second the child tickles the adult, then after 3 seconds the adult tickles the child, lastly the child tickles the adult again following 4 seconds.

Non-examples include but are not limited to the imitation of any other behavior not related to the play action or that when the duration of the play action is longer than 5 seconds.

Materials Contacted – No IOA (do not score) AJ reviewed

Each different stimulus item that is considered a conventional play material that is physically contacted by the child (e.g., on floor, on table in child's view and reach) and within view.

Examples of materials contacted include but are not limited to: Touching blocks, building with manipulatives, moving figurines, holding dolls, pushing vehicles, jumping on the trampoline, holding a pillow, dipping hands into the bean bin, moving props for play themes such as play food and utensils, puppets, stove, sink, and cupboards.

Non-examples include but are not limited to touching other individuals with their body parts; touching any food items; touching a door knob or cabinet to open or close the door; brushing the side of the table while passing by to access other materials. Two hands on the same material is scored as 1 materials contacted; Two hands on different materials is scored as 2 materials contacted.

DANIEL

Gestural Request:

Non-vocal gestures (pictures/gestures/signs) directed to another that ask for an item, specify an action to be completed by other, request information, permission, or attention.

Examples include but are not limited to: child grabs moms hand to pull her to come here; Child reaches for a car while mom has it next to her face; Child grabs moms hand and pushes it towards an inaccessible item; child reaches for a duck that mom has in her hand; Child places moms hand on an item after trying to open it and was unsuccessful.

Nonexamples include but are not limited to: Child picks item up off floor that is next to mom; child gives an item to mom; Child grabs moms hand and holds it;

Approximations include but are not limited to extending 1 or both hands and/or arms toward mom or toward an item that is out of reach or in mom's hands; pushing moms hand toward an item

Communicative Attending

The child's head movement in the direction of an adult, following removal of a preferred item or to gain access to an inaccessible item or event. An inaccessible item or event may be the attention of the adult (i.e. the parent delivers attention in the form of vocalizations or item/event delivery following the child's head movement in the direction of the parent, delivers a food item, activates a toy, grabs a toy off of a shelf, opens a cabinet that was locked, etc.)

Examples include but are not limited to child looks at mom when she is holding a toy next to her face; child raises head towards mom while she is tossing magnets across the floor; child turns head towards parent when mom is withholding access to a shape; child looks up towards a shelf and then looks at mom while grabbing her hand and pushing it towards an item; child head and eyes are in the direction of the toy when the parent holds it up right next to their face; Child is looking at mom out of the corner of his eyes but head is not turned toward mom.

Non-examples and non-observables include but are not limited to: child turns toward parent after removal of a preferred item but does not move head in the direction of the adults face; child turns body in the direction of an adult and walks past them; child head turns upwards but their back is turned and the direction of the head is turned away from the parent; child's back is turned toward the parent while the parent holds a car in their hand

Approximations include but are not limited to Daniel facing mom while saying "cu" when a toy car is withheld, Daniel grabbing mom's hand while facing her, Daniel moving his head in the direction of Mom's head while she stands with a ball in her hand.

Note: this is a generous definition because it is technologically difficult to observe glances and/or eye contact with video recording procedures

Vocal Request:

Spoken sounds, words, phrases, or complete sentences directed to another that ask for an item, directs another to engage in a specified activity, specifies an action to be completed by other, request information, permission, or attention. Onset begins with 1st sound and offset happens after 1 second has passed. Access to item/activity does not have to be delivered to be counted as a vocal request.

Examples include but are not limited to: saying “ca” while hand extended towards a car; child makes a noise while demonstrating a non-vocal request such as communicative attending or reaching; child says “ba” while looking at the parent’s face who has the ball; child says “g” while pulling parent’s arm toward the door;

Non-examples include but are not limited to child saying “car” as he is dropping it into a can; when mom says it’s time to go (scored as vocal protest); child opening mouth wide while reaching for the juice in mom’s hand; child grabs an item in parent’s hand; child is spinning in circles while saying “ahhhh baaaaahhh” repeatedly; child says “duck” while pointing to a picture of a duck in a book;

Approximations include but are not limited to any vocalization while engaging in a gestural request or communicative attending, such as “chee.” “cuh,” “duh,” buh,” and “go.”; child produces same number of syllables as mom modeled; child produces any sound or syllable that is within the word for the item

APPENDIX F:
SAMPLE DATA SHEETS USED BY OBSERVERS

Child Name: _____
 Condition: _____

Date of Tape: _____
 Scorer Name: _____

Date Scored: _____
 Primary IOA

Scoring Instructions:

During each 10 s interval, mark the letter that corresponds with one of the following target behaviors if the behavior occurred at any time during the interval. The number of times the behavior occurs is irrelevant (as long as it occurs just one time within any given interval, the corresponding letter should be marked. If none of the target behaviors occur during any given interval, mark N. At least one letter should always be marked (it is important to mark N if none of the target behaviors occurred to make sure the interval was actually scored and not skipped over. After scoring the 10 m tape, count the total # of intervals in which each of the target behaviors occurred AND the total # of intervals in which there was an opportunity for the behaviors to occur. Begin scoring after the sheet of paper with session info has been removed. the intervals should be close to what is written below, but they might be off by a few seconds. For example: if the paper is removed at second 3 then your first interval will be 3 sec- 12 sec; then 13 sec- 22 sec. and so on.

Definitions:

Smiles- The child assumes a facial expression indicating pleasure, favor, or amusement, characterized by an upturning of the corners of the mouth. The child emits a vocalization such as a laugh or giggle indicating pleasure. The laugh can be 1 second or more. If you cannot see the child's mouth mark out the interval. (if you can only hear the child laughing but his/her back is turned and you cannot see the mouth still score smile for the laugh) Child can't be protesting and smiling at the same time, however they can both still occur in the same interval. Count smiles during vocalizations if the corners of her mouth go up.

Protests- Child engages in vocalizations such as yells, whines with a distress (example but not limited to pain, fear, etc.), or screams which may or may not be accompanied by physically retreating or protesting.

Off Camera/Can't see mouth-Score this when you cannot see any part of the person's mouth you are taking data on or they are off camera.

Record below.

Child Affect:	S-smiles and laughs	P- Protests	O-Off camera	N-None		
min						
0-1	S P O N	S P O N	S P O N	S P O N	S P O N	S P O N
min						
1-2	S P O N	S P O N	S P O N	S P O N	S P O N	S P O N
min						
2-3	S P O N	S P O N	S P O N	S P O N	S P O N	S P O N
min						
3-4	S P O N	S P O N	S P O N	S P O N	S P O N	S P O N
min						
4-5	S P O N	S P O N	S P O N	S P O N	S P O N	S P O N
min						
5-6	S P O N	S P O N	S P O N	S P O N	S P O N	S P O N
min						
6-7	S P O N	S P O N	S P O N	S P O N	S P O N	S P O N
min						
7-8	S P O N	S P O N	S P O N	S P O N	S P O N	S P O N
min						
8-9	S P O N	S P O N	S P O N	S P O N	S P O N	S P O N
min						
9-10	S P O N	S P O N	S P O N	S P O N	S P O N	S P O N

Duration of tape: _____

	<u>Smiles</u>	<u>Protests</u>	<u>Off Camera</u>	<u>None</u>
Total	____/____	____/____	____/____	____/____
% of intervals	_____	_____	_____	_____

Child Name: _____ Date of Tape: _____
 Condition: _____ Scorer Name: _____

Date Scored: _____
 Primary IOA

Scoring Instructions:

During each 10 s interval, mark the letter that corresponds with one of the following target behaviors if the behavior occurred at any time during the interval. The number of times the behavior occurs is irrelevant (as long as it occurs just one time within any given interval, the corresponding letter should be marked. If none of the target behaviors occur during any given interval, mark N. At least one letter should always be marked (it is important to mark N if none of the target behaviors occurred to make sure the interval was actually scored and not skipped over. After scoring the 10 m tape, count the total # of intervals in which each of the target behaviors occurred AND the total # of intervals in which there was an opportunity for the behaviors to occur. Begin scoring after the sheet of paper with session info has been removed. The intervals should be close to what is written below, but they might be off by a few seconds. For example: if the paper is removed at second 3 then your first interval will be 3 sec- 12 sec; then 13 sec- 22 sec. and so on.

Definitions:

Smiles- The parent assumes a facial expression indicating pleasure, favor, or amusement, characterized by an upturning of the corners of the mouth. The parent emits a vocalization such as a laugh or giggle indicating pleasure. If you cannot see, the parents mouth mark the interval as off camera (if you can only hear the parent laughing but his/her back is turned and you cannot see the mouth still score smile for the laugh) Count smiles during vocalizations if the corners of her mouth go up.

Off Camera/Can't see mouth-Score this when you cannot see any part of the person's mouth you are taking data on or they are off camera.

Record Below

Parent Affect: S=smiles O- Off Camera/ Can't see mouth N= None							
min	S	O	N	S	O	N	S
0-1	S	O	N	S	O	N	S
min	S	O	N	S	O	N	S
1-2	S	O	N	S	O	N	S
min	S	O	N	S	O	N	S
2-3	S	O	N	S	O	N	S
min	S	O	N	S	O	N	S
3-4	S	O	N	S	O	N	S
min	S	O	N	S	O	N	S
4-5	S	O	N	S	O	N	S
min	S	O	N	S	O	N	S
5-6	S	O	N	S	O	N	S
min	S	O	N	S	O	N	S
6-7	S	O	N	S	O	N	S
min	S	O	N	S	O	N	S
7-8	S	O	N	S	O	N	S
min	S	O	N	S	O	N	S
8-9	S	O	N	S	O	N	S
min	S	O	N	S	O	N	S
9-10	S	O	N	S	O	N	S

Duration of Tape: _____

	<u>Smiles</u>	<u>Off camera</u>	<u>None</u>
Totals	/	/	/
% of intervals	_____	_____	_____

APPENDIX G:
INTEROBSERVER AGREEMENT FOR ALL RESPONSES

Will and Jennifer IOA

Agree Occurrence

		Parent measures			Child Measures			
		Smiles	Off	None	Smiles	Protests	Off	None
Home Play with mom	2/11/2006	77.80	100.00	92.00	75.00	100.00	80.00	90.90
Lab BL #1	2/21/2006	91.70	100.00	94.10	87.50	95.60	83.30	94.10
	<i>BL avg</i>	<i>84.75</i>	<i>100.00</i>	<i>93.05</i>	<i>81.25</i>	<i>97.80</i>	<i>81.65</i>	<i>92.50</i>
Lab w/ mom Int 1	3/2/2006	83.30	66.70	100.00	100.00	100.00	100.00	100.00
Lab w/ mom Int 4	3/28/2006	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Lab w/ mom Int 7	4/6/2006	90.00	100.00	66.70	50.00	100.00	50.00	80.00
Lab w/ mom Int 10	4/20/2006	83.30	66.70	100.00	83.30	100.00	100.00	85.70
lab w/ mom Int 13	5/4/2006	85.70	100.00	85.70	100.00	100.00	100.00	100.00
Lab w/ mom Int 14	5/9/2006	100.00	100.00	100.00	66.70	100.00	75.00	71.40
	<i>Int avg</i>	<i>90.38</i>	<i>88.90</i>	<i>92.07</i>	<i>83.33</i>	<i>100.00</i>	<i>87.50</i>	<i>89.52</i>
	Overall avg	88.51	92.60	92.39	82.64	99.27	85.55	90.51

Agree Nonoccurrence

		Parent measures			Child Measures			
		Smiles	Off	None	Smiles	Protests	Off	None
Home Play with mom	2/11/2006	90.90	100.00	71.40	96.40	100.00	96.20	80.00
Lab BL #1	2/21/2006	94.10	100.00	92.90	95.60	100.00	96.00	92.90
	<i>BL avg</i>	<i>92.50</i>	<i>100.00</i>	<i>82.15</i>	<i>96.00</i>	<i>100.00</i>	<i>96.10</i>	<i>86.45</i>
Lab w/ mom Int 1	3/2/2006	85.70	90.00	100.00	100.00	100.00	100.00	100.00
Lab w/ mom Int 4	3/28/2006	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Lab w/ mom Int 7	4/6/2006	66.70	100.00	90.00	90.90	100.00	90.90	50.00
Lab w/ mom Int 10	4/20/2006	85.70	90.00	100.00	85.70	100.00	100.00	83.30
lab w/ mom Int 13	5/4/2006	83.30	100.00	83.30	100.00	100.00	100.00	100.00
Lab w/ mom Int 14	5/9/2006	100.00	100.00	100.00	90.00	100.00	88.90	71.40
	<i>Int avg</i>	<i>86.90</i>	<i>96.67</i>	<i>95.55</i>	<i>94.43</i>	<i>100.00</i>	<i>96.63</i>	<i>84.12</i>
	Overall avg	88.77	97.78	91.08	94.96	100.00	96.46	84.89

Will

		Child Goal Responding
Lab BL #1	2/21/2006	100.00
	<i>BL avg</i>	<i>100.00</i>
Lab w/ mom Int 3	3/23/2006	100
Lab w/ mom Int 6	4/4/2006	100.00
Lab w/ mom Int 8	4/11/2006	84.60
Lab w/ mom Int 10	4/25/2006	100.00
lab w/ mom Int 13	5/9/2006	100.00
	<i>Int avg</i>	<i>96.92</i>
	Overall avg	97.43

Tyler and Jennifer IOA

Agree Occurrence

		Parent measures			Child Measures			
		Smiles	Off	None	Smiles	Protests	Off	None
Home Play with mom	2/11/2006	84.20	100.00	70.00	93.30	100.00	100.00	83.30
Lab BL #1	2/21/2006	94.10	100.00	92.80	95.80	100.00	100.00	85.70
	<i>BL avg</i>	<i>89.15</i>	<i>100.00</i>	<i>81.40</i>	<i>94.55</i>	<i>100.00</i>	<i>100.00</i>	<i>84.50</i>
Lab w/ mom Int 1	3/2/2006	100.00	100.00	100.00	88.80	100.00	100.00	50.00
Lab w/ mom Int 4	3/28/2006	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Lab w/ mom Int 7	4/6/2006	85.70	100.00	80.00	100.00	100.00	50.00	90.00
Lab w/ mom int 10	4/25/2006	66.70	100.00	88.80	100.00	100.00	100.00	100.00
Home snacktime	5/6/2006	100.00	100.00	100.00	75.00	100.00	66.70	87.00
	<i>Int avg</i>	<i>90.48</i>	<i>100.00</i>	<i>93.76</i>	<i>92.76</i>	<i>100.00</i>	<i>83.34</i>	<i>85.40</i>
	Overall avg	89.98	100.00	89.13	93.43	100.00	89.59	85.06

Agree Nonoccurrence

		Parent measures			Child Measures			
		Smiles	Off	None	Smiles	Protests	Off	None
Home Play with mom	2/11/2006	70.00	100.00	84.20	91.70	100.00	100.00	95.20
Lab BL #1	2/21/2006	92.80	100.00	94.10	85.70	100.00	100.00	95.80
	<i>BL avg</i>	<i>81.40</i>	<i>100.00</i>	<i>89.15</i>	<i>88.70</i>	<i>100.00</i>	<i>100.00</i>	<i>95.50</i>
Lab w/ mom Int 1	3/2/2006	100.00	100.00	100.00	75.00	100.00	100.00	90.00
Lab w/ mom Int 4	3/28/2006	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Lab w/ mom Int 7	4/6/2006	83.80	100.00	87.50	100.00	100.00	90.90	66.70
Lab w/ mom int 10	4/25/2006	90.00	100.00	75.00	100.00	100.00	100.00	100.00
Home snacktime	5/6/2006	100.00	100.00	100.00	96.30	100.00	92.30	70.00
	<i>Int avg</i>	<i>94.76</i>	<i>100.00</i>	<i>92.50</i>	<i>94.26</i>	<i>100.00</i>	<i>96.64</i>	<i>85.34</i>
	Overall avg	89.75	100.00	91.24	92.18	100.00	97.90	89.15

Tyler

		Child Goal Responding
Lab BL #1	2/21/2006	100.00
	<i>BL avg</i>	<i>100.00</i>
Lab w/ mom Int 2	3/9/2006	94.1
Lab w/ mom Int 5	3/30/2006	68.40
Lab w/ mom Int 8	4/11/2006	94.40
Lab w/ mom Int 11	5/4/2006	100.00
lab w/ mom Int 16	5/11/2006	80.00
	<i>Int avg</i>	<i>87.38</i>
	Overall avg	89.48

Daniel and Katie IOA

Agree Occurrence

		Parent measures			Child Measures			
		Smiles and Laughs	Off	None	Smiles and Laughs	Protests	Off	None
Home Play with mom	9/3/2006	100.00	81.00	90.70	100.00	88.80	79.30	74.00
Lab BL #3	9/19/2006	100.00	100.00	100.00	90.90	100.00	84.60	90.00
	<i>BL avg</i>	<i>100.00</i>	<i>90.50</i>	<i>95.35</i>	<i>95.45</i>	<i>94.40</i>	<i>81.95</i>	<i>82.00</i>
Lab w/ mom Int 1	9/28/2006	86.70	100.00	92.90	66.70	100.00	81.25	91.10
Lab w/ mom Int 4	10/10/2006	94.70	100.00	90.50	93.70	100.00	95.20	92.00
Lab w/ mom Int 7	10/19/2006	82.40	100.00	76.90	75.00	100.00	66.70	88.90
Home w/ mom	10/28/2006	78.40	100.00	76.70	85.70	100.00	60.00	85.30
Home snacktime	10/28/2006	65.00	100.00	85.10	66.70	100.00	71.40	93.00
lab w/ mom Int 12	11/7/2006	86.20	100.00	88.60	100.00	100.00	91.70	92.60
Lab w/ mom int 15	11/21/2006	68.20	40.00	75.60	75.00	100.00	76.90	88.40
Home w/ mom	12/3/2006	93.30	100.00	97.60	100.00	100.00	92.90	97.40
Home snacktime	12/3/2006	75.00	100.00	95.70	85.70	100.00	90.90	91.20
	<i>Int avg</i>	<i>81.10</i>	<i>93.33</i>	<i>86.62</i>	<i>83.17</i>	<i>100.00</i>	<i>80.77</i>	<i>91.10</i>
	Overall avg	85.83	92.63	88.80	86.24	98.60	81.07	88.83

Agree Nonoccurrence

		Parent measures			Child Measures			
		Smiles and Laughs	Off	None	Smiles and Laughs	Protests	Off	None
Home Play with mom	9/3/2006	100.00	90.70	81.00	100.00	98.30	83.80	82.50
Lab BL #3	9/19/2006	100.00	100.00	100.00	98.00	100.00	95.90	83.30
	<i>BL avg</i>	<i>100.00</i>	<i>95.35</i>	<i>90.50</i>	<i>99.00</i>	<i>99.15</i>	<i>89.85</i>	<i>82.90</i>
Lab w/ mom Int 1	9/28/2006	86.70	100.00	85.70	98.30	100.00	93.60	78.90
Lab w/ mom Int 4	10/10/2006	91.70	100.00	95.10	97.80	100.00	97.40	94.60
Lab w/ mom Int 7	10/19/2006	81.30	100.00	85.00	94.10	100.00	96.40	75.00
Home w/ mom	10/28/2006	74.20	100.00	81.10	92.90	100.00	92.60	84.00
Home snacktime	10/28/2006	85.10	100.00	65.00	98.30	100.00	96.40	70.00
lab w/ mom Int 12	11/7/2006	88.60	100.00	86.20	100.00	100.00	94.70	94.30
Lab w/ mom int 15	11/21/2006	84.40	91.40	65.50	96.20	100.00	94.00	77.30
Home w/ mom	12/3/2006	97.80	100.00	95.00	100.00	100.00	97.90	95.70
Home snacktime	12/3/2006	96.30	100.00	86.70	98.10	100.00	95.00	89.70
	<i>Int avg</i>	<i>87.34</i>	<i>99.04</i>	<i>82.81</i>	<i>97.30</i>	<i>100.00</i>	<i>95.33</i>	<i>84.39</i>
	Overall avg	90.51	98.12	84.73	97.73	99.79	93.96	84.02

Daniel

Child Goal Responding		
Lab BL #2	9/14/2006	100.00
	<i>BL avg</i>	<i>100.00</i>
Lab w/ mom Int 2	10/3/2006	85.7
Lab w/ mom Int 5	10/12/2006	82.30
Lab w/ mom Int 8	10/24/2006	100.00
Lab w/ mom Int 12	11/7/2006	78.90
lab w/ mom Int 16	11/28/2006	89.70
lab w/ mom Int 17	11/29/2006	83.30
	<i>Int avg</i>	<i>86.65</i>
	Overall avg	88.56

APPENDIX H:
SAMPLE INTEROBSERVER AGREEMENT DATA SHEET

Child IOA Sheet

Smiles

min	Agree	Disagree	Agree	Disagree
	Occurrence	Occurrence	Nonoccurrence	Nonoccurrence
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
Total	_____	_____	_____	_____

_____ minute IOA
 Occurrence IOA: _____ X 100= _____
 Nonoccurrence IOA: _____ x 100= _____

Protests

min	Agree	Disagree	Agree	Disagree
	Occurrence	Occurrence	Nonoccurrence	Nonoccurrence
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
Total	_____	_____	_____	_____

_____ minute IOA
 Occurrence IOA: _____ X 100= _____
 Nonoccurrence IOA: _____ x 100= _____

Off Camera

min	Agree	Disagree	Agree	Disagree
	Occurrence	Occurrence	Nonoccurrence	Nonoccurrence
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
Total	_____	_____	_____	_____

_____ minute IOA
 Occurrence IOA: _____ X 100= _____
 Nonoccurrence IOA: _____ x 100= _____

None

min	Agree	Disagree	Agree	Disagree
	Occurrence	Occurrence	Nonoccurrence	Nonoccurrence
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
Total	_____	_____	_____	_____

_____ minute IOA
 Occurrence IOA: _____ X 100= _____
 Nonoccurrence IOA: _____ x 100= _____

Parent IOA Sheet

Smiles

min	Agree	Disagree	Agree	Disagree
	Occurrence	Occurrence	Nonoccurrence	Nonoccurrence
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
Total	_____	_____	_____	_____
_____ minute IOA Occurrence IOA: _____ X 100= _____ Nonoccurrence IOA: _____ x 100= _____				

Off Camera

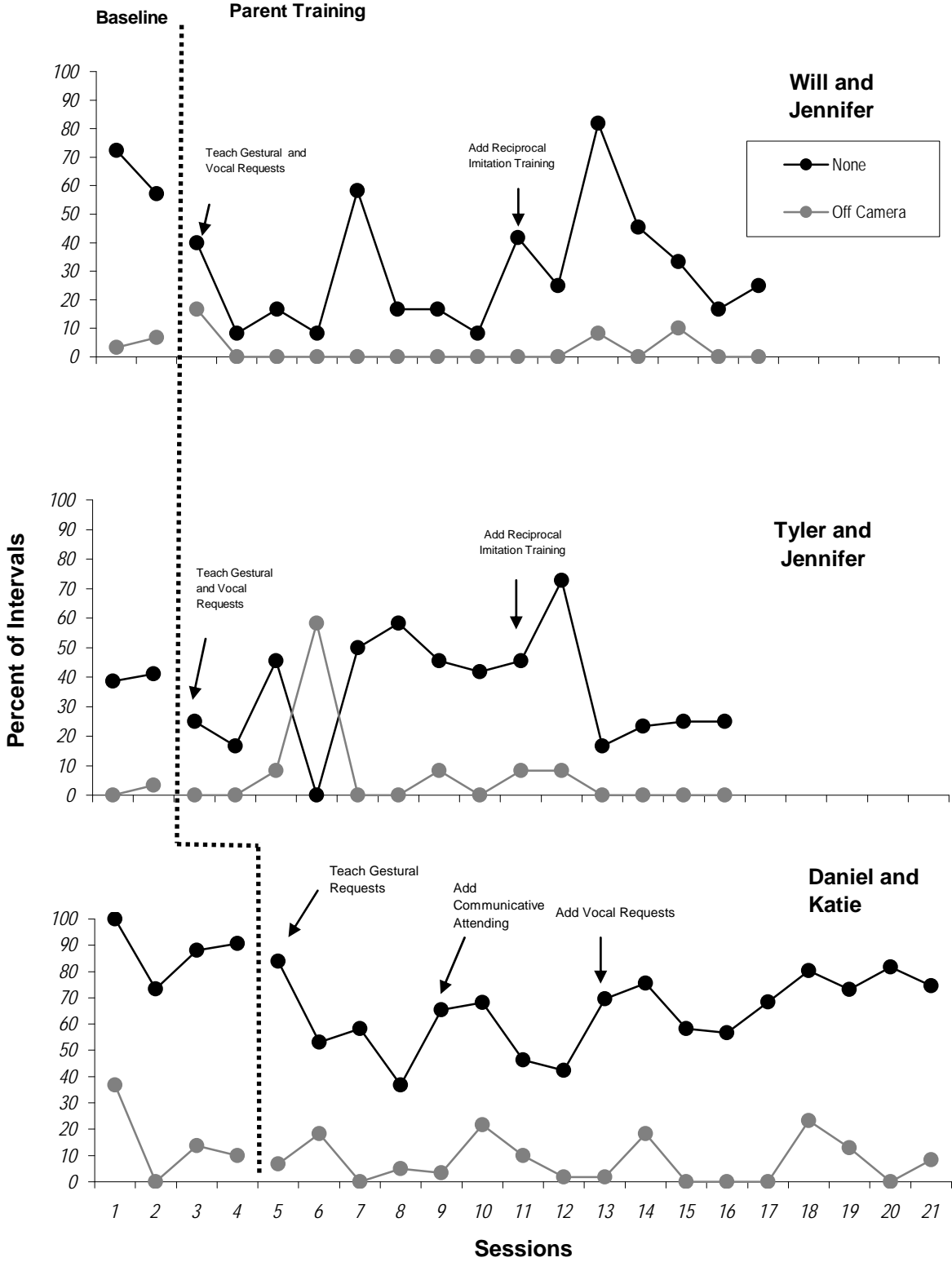
min	Agree	Disagree	Agree	Disagree
	Occurrence	Occurrence	Nonoccurrence	Nonoccurrence
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
Total	_____	_____	_____	_____
_____ minute IOA Occurrence IOA: _____ X 100= _____ Nonoccurrence IOA: _____ x 100= _____				

None

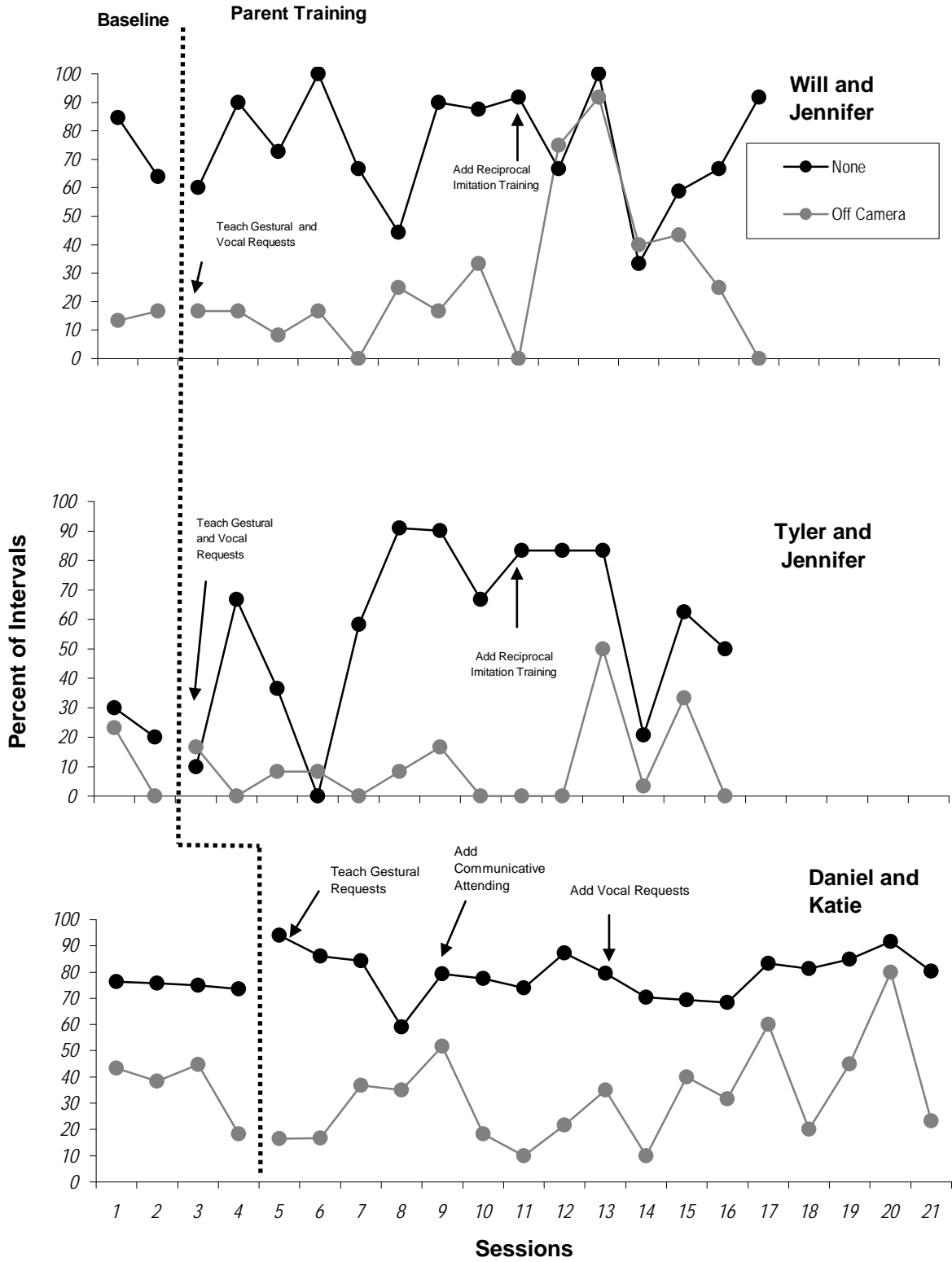
min	Agree	Disagree	Agree	Disagree
	Occurrence	Occurrence	Nonoccurrence	Nonoccurrence
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
Total	_____	_____	_____	_____
_____ minute IOA Occurrence IOA: _____ X 100= _____ Nonoccurrence IOA: _____ x 100= _____				

APPENDIX I:
GRAPHS OF OFF CAMERA AND NONE FOR PARENT AND CHILD

Parent Off Camera and None



Child Off Camera and None



APPENDIX J:
RAW DATA FOR ALL MEASURES

Will's Raw Data

Session	Session Date	Smiles and Laughs	Protests	None	Off Camera	Goal Responding RPM
Home Mom	2/11/2006	7.70	7.70	84.60	13.30	1.6
BL 1	2/21/2006	32.00	4.00	64.00	16.70	0.20
Int 1	3/2/2006	40.00	0.00	60.00	16.70	0.50
Int 2	3/9/2006	10.00	0.00	90.00	16.70	11.50
Int 3	3/23/2006	18.20	9.10	72.70	8.30	7.00
Int 4	3/28/2006	0.00	0.00	100.00	16.70	5.00
Int 5	3/30/2006	33.30	0.00	66.70	0.00	6.50
Int 6	4/4/2006	55.60	0.00	44.40	25.00	3.50
Int 7	4/6/2006	10.00	0.00	90.00	16.70	6.00
Int 8	4/11/2006	12.50	0.00	87.50	33.30	6.50
Int 9	4/13/2006	8.30	0.00	91.70	0.00	5.50
Int 10	4/25/2006	33.30	0.00	66.70	75.00	7.50
Int 11	4/27/2006	0.00	0.00	100.00	91.70	10.50
Int 12	5/4/2006	66.70	0.00	33.30	40.00	6.50
Home Mom	5/6/2006	41.20	0.00	58.80	43.33	4.8
Int 13	5/9/2006	33.30	0.00	66.70	25.00	6.50
Int 14	5/11/2006	8.30	0.00	91.70	0.00	4.00
Overall Average		24.14	1.22	74.64	25.79	5.51
BL Average		19.85	5.85	74.30	15.00	0.90
Int Average		24.71	0.61	74.68	27.23	6.12

Jennifer's Raw Data with Will

Session	Session Date	Smiles and Laughs	None	Off Camera
Home Mom	2/11/2006	27.60	72.40	3.30
BL 1	2/21/2006	42.90	57.10	6.70
Int 1	3/2/2006	60.00	40.00	16.70
Int 2	3/9/2006	91.70	8.30	0.00
Int 3	3/23/2006	83.30	16.70	0.00
Int 4	3/28/2006	91.70	8.30	0.00
Int 5	3/30/2006	41.70	58.30	0.00
Int 6	4/4/2006	83.30	16.70	0.00
Int 7	4/6/2006	83.30	16.70	0.00
Int 8	4/11/2006	91.70	8.30	0.00
Int 9	4/13/2006	58.30	41.70	0.00
Int 10	4/25/2006	75.00	25.00	0.00
Int 11	4/27/2006	18.20	81.80	8.30
Int 12	5/4/2006	54.50	45.50	0.00
Home Mom	5/6/2006	66.70	33.30	10.00
Int 13	5/9/2006	83.30	16.70	0.00
Int 14	5/11/2006	75.00	25.00	0.00
Overall				
Average		66.36	33.64	2.65
BL Average		35.25	64.75	5.00
Int Average		70.51	29.49	2.33

Tyler Raw Data

Session	Session Date	Smiles and Laughs	Protests	None	Off Camera	Goal Responding RPM
Home Mom	2/11/2006	70.00	0.00	30.00	23.10	1.30
BL 1	2/21/2006	80.00	0.00	20.00	0.00	0.80
Int 1	3/2/2006	90.00	0.00	10.00	16.60	3.50
Int 2	3/9/2006	33.30	0.00	66.70	0.00	8.50
Int 3	3/23/2006	63.60	0.00	36.40	8.30	6.50
Int 4	3/28/2006	100.00	0.00	0.00	8.30	3.00
Int 5	3/30/2006	41.70	0.00	58.30	0.00	9.50
Int 6	4/4/2006	9.10	0.00	90.90	8.30	3.00
Int 7	4/6/2006	10.00	0.00	90.00	16.70	6.50
Int 8	4/11/2006	33.30	0.00	66.70	0.00	9.00
Int 9	4/13/2006	16.70	0.00	83.30	0.00	2.00
Int 10	4/25/2006	16.70	0.00	83.30	0.00	9.00
Int 11	5/4/2006	16.70	0.00	83.30	50.00	3.50
Home Mom	5/6/2006	79.30	0.00	20.70	3.30	10.40
Int 12	5/9/2006	37.50	0.00	62.50	33.30	14.50
Int 13	5/11/2006	50.00	0.00	50.00	0.00	2.50
Overall						
Average		46.74	0.00	53.26	10.49	5.84
BL Average		75.00	0.00	25.00	11.55	1.05
Int Average		42.71	0.00	57.29	10.34	6.53

Jennifer's Raw Data with Tyler

Session	Session Date	Smiles and Laughs	None	Off Camera
Home Mom	2/11/2006	61.5	38.5	0
BL 1	2/21/2006	58.6	41.1	3.3
Int 1	3/2/2006	83.3	25	0
Int 2	3/9/2006	83.3	16.7	0
Int 3	3/23/2006	54.5	45.5	8.3
Int 4	3/28/2006	100	0	58.3
Int 5	3/30/2006	50	50	0
Int 6	4/4/2006	41.7	58.3	0
Int 7	4/6/2006	54.5	45.5	8.3
Int 8	4/11/2006	58.3	41.7	0
Int 9	4/13/2006	54.5	45.5	8.3
Int 10	4/25/2006	27.3	72.7	8.3
Int 11	5/4/2006	83.3	16.7	0
Home Mom	5/6/2006	76.7	23.3	0
Int 12	5/9/2006	75	25	0
Int 13	5/11/2006	75	25	0
Overall Average		64.84	35.66	5.93
BL Average		60.05	39.80	1.65
Int Average		65.53	35.06	6.54

Daniel Raw Data

Session	Session Date	Smiles and Laughs	Protests	None	Off Camera	Goal Responding RPM
Home Mom	9/3/2006	0.00	23.50	76.40	43.30	1.2
BL 1	9/12/2006	18.90	5.40	75.70	38.30	0.00
BL2	9/14/2006	6.30	18.80	75.00	44.80	1.00
BL3	9/19/2006	22.40	0.00	73.50	18.30	0.30
Int 1	9/28/2006	6.00	0.00	94.00	16.60	0.90
Int 2	10/3/2006	12.00	2.00	86.00	16.70	1.40
Int 3	10/5/2006	13.20	0.00	84.20	36.70	2.40
Int 4	10/10/2006	41.00	0.00	59.00	35.00	4.30
Int 5	10/12/2006	20.70	0.00	79.30	51.70	1.70
Int 6	10/17/2006	18.40	4.10	77.60	18.30	4.10
Int 7	10/19/2006	22.20	3.70	74.00	10.00	5.30
Int 8	10/24/2006	12.80	0.00	87.20	21.70	3.00
Int 10	10/31/2006	20.50	0.00	79.50	35.00	3.80
Int 11	11/2/2006	28.60	0.00	70.40	10.00	1.90
Int 12	11/7/2006	30.50	0.00	69.40	40.00	1.50
Int 13	11/9/2006	31.70	0.00	68.30	31.70	5.90
Int 14	11/16/2006	16.70	0.00	83.30	60.00	6.00
Int 15	11/21/2006	16.70	2.10	81.30	20.00	2.40
Int 16	11/28/2006	15.20	0.00	84.80	45.00	3.90
Int 17	11/29/2006	8.30	0.00	91.70	80.00	1.20
Home Mom	12/3/2006	19.60	0.00	80.40	23.30	2.2
Overall						
Average		18.18	2.84	78.62	33.16	2.54
BL Average		11.90	11.93	75.15	36.18	0.38
Int Average		19.65	0.70	79.44	32.45	3.05

Katie Raw Data

Session	Session date	Smiles and Laughs	None	Off Camera
Home Mom	9/3/2006	0	100	36.7
BL 1	9/12/2006	26.7	73.3	0
BL2	9/14/2006	12	88	13.8
BL3	9/19/2006	9.3	90.7	10
Int 1	9/28/2006	16.1	83.9	6.7
Int 2	10/3/2006	46.9	53.1	18.3
Int 3	10/5/2006	43.3	58.3	0
Int 4	10/10/2006	63.2	36.8	5
Int 5	10/12/2006	34.5	65.5	3.3
Int 6	10/17/2006	31.9	68.1	21.7
Int 7	10/19/2006	53.7	46.3	10
Int 8	10/24/2006	57.6	42.4	1.7
Int 10	10/31/2006	32.2	69.5	1.7
Int 11	11/2/2006	24.5	75.5	18.3
Int 12	11/7/2006	41.6	58.3	0
Int 13	11/9/2006	43.3	56.7	0
Int 14	11/16/2006	31.7	68.3	0
Int 15	11/21/2006	17.4	80.4	23.3
Int 16	11/28/2006	26.9	73.1	13
Int 17	11/29/2006	18.3	81.7	0
Home Mom	12/3/2006	26.4	74.5	8.3
Overall Average		31.31	68.78	9.13
BL Average		12.00	88.00	15.13
Int Average		35.85	64.26	7.72

APPENDIX K:
IRB CONSENT FORM

November 14, 2007

Shahla Alai-Rosales
Department of Behavior Analysis
University of North Texas

Re: Human Subjects Application No. 07-428

Dear Dr. Alai-Rosales:

As permitted by federal law and regulations governing the use of human subjects in research projects (45 CFR 46), the UNT Institutional Review Board has reviewed your proposed project titled "A Parent Training Program for Toddlers with ASD: Program Description, Outcomes and Participant Satisfaction." The risks inherent in this research are minimal, and the potential benefits to the subject outweigh those risks. The submitted protocol is hereby approved for the use of human subjects in this study. **Federal Policy 45 CFR 46.109(e) stipulates that IRB approval is for one year only, November 14, 2007 to November 13, 2008.**

Enclosed is the consent document with stamped IRB approval. Please copy and **use this form only** for your study subjects.

It is your responsibility according to U.S. Department of Health and Human Services regulations to submit annual and terminal progress reports to the IRB for this project. Please mark your calendar accordingly. The IRB must also review this project prior to any modifications.

Please contact Shelia Bourns, Research Compliance Administrator, or Boyd Herndon, Director of Research Compliance, at extension 3940, if you wish to make changes or need additional information.

Sincerely,



Kenneth W. Sewell, Ph.D.
Chair
Institutional Review Board

KS:sb

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 and benefits of the study and how it will be conducted.

Title of Study:

A Parent Training Program for Toddlers with ASD:
Program Description, Outcomes and Participant Satisfaction

Principal Investigator:

Shahla Alai-Rosales, Ph.D., BCBA
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. There are very few descriptions of interventions, however, that specifically address the needs of toddlers. 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 meet the needs of toddlers and their families in the region.

The purpose of this study is to provide a description of FCP procedures, outcomes and participant satisfaction so that other interventionists can benefit and extend our efforts.

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 include the teaching skills you learned, your child's progress that resulted from your teaching, and any additional benefits that were observed. Additional beneficial outcomes might include: your child's increased attention to objects and people; overall increases in the amount that you and your child were able to play together; and increases in positive affect (smiling, laughing). 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 participation. 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 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). If you consent to participate, we will provide you with the two page questionnaire. The questionnaire should take about 20 minutes to complete. You will be provided with a self addressed, stamped envelope at your convenience. Your names will in no way be linked to this information. You and your child will be referred to by pseudonyms.

2) We are asking you to give consent for the data from you and your child's training assessments to be reanalyzed and summarized in order to assess the degree to which additional changes occurred (in addition to your teaching skills and your child's goal skills). Your name and your child's name will never be associated with any of the data. We will use pseudonyms to describe you and your child in any publications.

Voluntary Participation:

Participation in this research study is voluntary. You have completed your participation in FCP and refusal to participate or a decision to discontinue participation will not involve a penalty or loss of benefits or jeopardize access to any services that you may qualify for through the Family Connections Project.

Foreseeable Risks:

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

Benefits to the Subjects or Others:

This study is not expected to be of any direct benefit to you; however, the results of the study the study may 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, and assessment video tapes) are kept for three years in a locked filing cabinet in the FCP office in Chilton Hall Rm. 361E. No documents will be posted on the internet and 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 up to 3 calendar years. Because of the extensive data collection involved in the study, a team of graduate student 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 confidentiality of the participants' personal information will be maintained in any public dissemination, such as appearance in academic journals and/or academic conferences.

Questions about the Study

If you have any questions about the study, you may contact Dr. Shahla Ala'i Rosales at srosales@unt.edu or (940) 369-7454.

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 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

APPROVED BY THE UNT IRB
FROM 11/14/07 TO 11/13/08
RB

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

Date

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