

IS VIDEO MODELING ENOUGH TO TEACH PARENT-CHILD INTERACTIONS?
TOWARD A SYSTEMATIC EVALUATION OF THE KEY
COMPONENTS OF VIDEO MODELING

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Parent-child interactions help set the foundation for a child's development. It is therefore important to investigate the relative efficiency and efficacy of procedures used to train them. One procedure that researchers continue to explore is video modeling. The current study evaluated the effect of a video model that displayed favorable parent-child interactions and a modified model with embedded instructions to determine if the introduction of either of these models would alter parent-child interactions. Both models were presented alone without supplemental guidance. Three families were involved in the study. The results showed no systematic change across families or conditions as a result of video viewing and are discussed within context of the needs of the parent, adequate stimulus control, community to support behavior change, measurement sensitivity, and influence of methodology. This study provided a great baseline for future studies to explore the necessary components to create an effective video model.

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INTRODUCTION

Parent-child interactions help set the foundation for a child's development. Responsive, sensitive, pleasant parent-child interactions and appropriate levels of stimulation have been shown by developmental researchers to nurture positive child outcomes. Interventionists have acknowledged this powerful influence and frequently target parenting skills as a result (Peterson, Luze, Eshbaugh, Jeon, and Kantz, 2007).

A large body of literature explores parent training of parent-child interactions. A review of the literature was conducted using descriptors and combinations of descriptors "parent," "child," "parent training," and "parent-child interaction." The search engine Psych Info was used. Studies that met the following criteria were selected for review: 1) direct quantifiable measures or behaviorally anchored ratings during direct observation 2) reliable measures 3) measures of both parent and child behaviors and 4) publication in peer-reviewed journals. Table 1 provides a summary of the reviewed literature. Thirty-nine studies, published from 1972 to 2007, are summarized according to population, age of children, training medium, measures, and outcomes. Of the thirty-nine studies, a wide variety of populations are represented: typical families, families of children with autism or other developmental delays, families of children with conduct problems or hyperactive disorders, and families at risk for child abuse or neglect. Most of the studies focus on parents with younger children (below the age of 10), while two studies involve teenagers. The training medium usually consisted of a combination of instruction, modeling, practice, and feedback. Most of the training was conducted one-on-one; only ten of the studies conducted training in a group format. Outcomes were favorable for the majority of the studies.

Since parent-child interactions are so critical to a child's development, it is important to investigate the relative efficiency and efficacy of procedures to train them. One procedure that researchers continue to explore is video modeling (Alpert & Kaiser, 1992; Bigelow & Lutzker, 1998; Doherty, Erickson & LaRossa, 2006; Gardner, Burton, & Klimes, 2006; Huebner & Meltzoff, 2005; Hughes & Gottlieb, 2004; Hutchings et al., 2007; Koegel, Glahn, & Nieminem, 1978; Koegel, Bimbela, & Schreibman, 2002; Lim, Stormshak, & Dishion, 2006; Mash & Terdal, 1973; Neef, Trachtenberg, Loeb, & Sterner, 1991; and Webster-Stratton, 1990, 1994). Video modeling can produce significant behavior change in adults and children and has several advantages over live modeling. Thelen, Fry, Fehrenback, and Frautshci (1979) discuss such advantages in the following passage from their review of videotape and film modeling:

The availability of filmed and videotaped media provides the opportunity to capture naturalistic modeling sequences that would be difficult to create in clinic settings. And of course the therapist has greater control over the composition of the modeling scene because the film or videotape can be reconstructed until the most desirable scene is produced. These media also permit the convenient use of multiple models, repeated observations of the same model, reuse of the films or videotapes with other persons, and self-administered treatment sessions. In addition to these advantages, there is the benefit of efficiency. More clients can be treated, and there is less demand on the time the professional spends with each client (p. 701).

Due to the very nature of the medium, video modeling can help ensure treatment fidelity. When evaluating home visiting programs targeting enhanced parent-child interactions, Peterson et al. (2007) found that families' actual intervention experiences usually did not match stated program goals (e.g., very little intervention time was focused directly on enhancing parenting behaviors). Video modeling also allows for a flexible intervention modality that enables parents to participate in ways that accommodate their individual needs (Sanders, Mazzucchelli, & Studman, 2004). For

example, families in rural and remote areas typically have less access to professional services; parents who work long hours cannot find time to participate; and lower-income families living in the inner-city have difficulty participating if they are dependent on an unreliable public transportation system.

Although most of the research on video modeling has been used with children, an emerging body of literature shows its effectiveness with parents or caregivers. For example, Webster-Stratton (1990, 1994) used video modeling plus therapist led focus group to reduce criticisms and increase praise statements in parents of children with conduct problems. Additionally, she found that video self-instruction with minimal therapist contact was sufficient to produce positive behavior change (1990). Nixon et al. (2003) also found that video modeling with minimal therapist contact was effective. They modified their standard parent training for parents of children with oppositional defiant disorder to a didactic video model and bi-weekly therapist sessions and phone calls (sessions and phone calls alternated each week). Two other studies (Hutchings et al., 2007; Gardner et al., 2006) have used the Webster-Stratton model to increase positive parenting behavior in parents of children with conduct problems. Additionally, Foster and Roberts (2007) significantly increased parent descriptions, praise, and imitations and child compliance using video modeling. However, additional training was required for most of the parents to meet criterion performance levels.

Video modeling has also been used in parent training with families affected by autism and other developmental delays. Koegel, Glahn, and Nieminen (1978) used video modeling to assess the generalized effects of parent training programs. They found that video models of the procedures (preceded by three 30-min lectures) were

sufficient to teach parents how to teach a general set of skills to their child. In a second experiment, they removed the lecture component and divided the videos by topic (antecedent versus consequent stimuli). They found that the adults improved in the specific areas, as the videos were shown, but could not produce reliable improvements in the children's behavior until the whole package was viewed. Koegel, Bimbela, and Schreibman (1996) reported using video modeling as part of their general training procedures to teach parents of children with autism pivotal response training and discrete trial training. Alpert and Kaiser (1992) also reported using video modeling in their work with training parents as milieu language teachers.

Lim et al. (2005) increased positive family interactions with the use of video modeling of non-examples combined with group discussion. However, no effect was shown for negative family interactions. Video modeling has also been used to train respite-care workers (Neef et al., 1991). Three formats were analyzed: viewing video alone, viewing with partner, viewing with a group. The video was divided into modules with the same format in each module: behavioral objectives, introduction, management strategies, examples of and rationale for the strategies, a quiz (using freeze-frames of vignettes to ask for the correct response and providing or illustrating the correct response), and a review. The video was accompanied by a handout that suggested points at which to freeze the video for review and specific exercises to practice the target skills. The video viewing room was equipped with variable stimuli that were necessary for target responses to occur (e.g., a wheelchair, large doll, and medical equipment for practicing medical therapy with a physically disabled child). Each group benefited from the video training and no effect was shown between presentation

formats. Appropriate reading behaviors that encouraged child participation were taught to typical families using video modeling (Huebner & Meltzoff, 2005). In this study, videotape self-instruction was found to be as effective as group training. Other appropriate parenting behaviors have also been taught to typical families using video modeling. Wahler and Meginnis (1997) increased mothers mirroring, praise, and satisfaction. Child compliance also increased after the video intervention. Father involvement (e.g., warmth and engagement) with their newborn babies was increased using a video modeling and group discussion format that began before the babies were born (Doherty et al., 2006).

Finally, video modeling has been used in populations with a history of child abuse or neglect. Bigelow and Lutzker (1998) used video modeling to teach planned activities to parents reported for child abuse. The video training consisted of a series of five videotapes (average of 10 minutes per video). The videos provided an overview of the steps involved in planned activities training (PAT) and several models of parents engaging in PAT with their children across a variety of activities. The video was accompanied by PAT checklists for four activities (playtime, mealtime, bath time, and getting dressed) that outlined each PAT step. The parents were also provided with a set of activity cards that illustrated a variety of age appropriate activities in which to engage their children (activities like finger painting, reading books, and naming body parts while getting dressed). Parents' use of PAT and appropriate interaction skills increased after the video training was introduced. Group discussion with video modeling was used by Hughes and Gottlieb (2004) to increase parental involvement of families with a history of abuse.

As evidenced by the literature, video modeling has been effectively used to increase a variety of positive parenting skills within a variety of populations. Two main approaches exist: video modeling supplemented by group discussion or one-on-one therapy and video modeling used as self-instruction. Although both are efficient and require less therapist involvement than traditional training (Webster-Stratton, 1990), video modeling used as self-instruction opens the doors to populations of people that might not typically receive treatment. Sanders, Montgomery, and Brechman-Toussaint (2000) explore this in their study involving a mass media campaign to promote positive outcomes for parents and their children. Although no direct measures were recorded in the study (and hence it was excluded from the literature review in Table 1), child behavior and competence were reported to improve following a 12-episode television series “Families” on disruptive child behavior and family adjustment.

In today’s world of YouTube, cell phone videos, and other technological innovations, the way we look and think about media has changed (Christensen, 2007). New possibilities exist for the dissemination and implementation of behavior interventions, and video modeling could be at the forefront of this change. But we need to understand this phenomenon before we can harness its full potential.

Although the effectiveness of video modeling continues to be demonstrated, we know little about why those changes occur. Some preliminary answers can be found in social learning theory. Bandura (1977) emphasizes four sub-processes of modeling: attention to modeled events, retention of what is observed, ability to replicate modeled behaviors, and motivation to reproduce those behaviors (although modeled behavior can be acquired by observation alone, reinforcement is critical to its maintenance).

Observer's abilities, interests, motivations, and self-concept can impact their susceptibility to a model's influence. Models are more likely to be influential when they are perceived as attractive, trustworthy, competent, and similar to the observer (Bandura, 1986; Graves, 1999). The use of multiple models increases the likelihood that the observer will select at least one model to imitate, provides multiple exposures to the target behavior, increases treatment stability, and facilitates generalization (Thelen et al., 1979). The nature of the model context is also important. Thelen et al. cautions researchers to avoid overwhelming the observer and suggest keeping the model context sufficiently simple to insure attention to the critical behaviors. Clearly, further analyses are needed in order to understand the conditions in which video models successfully change behavior and what populations, behaviors, and contexts are best served by video modeling.

The purpose of this study is three-fold: 1) to determine the effects of a video model that displays favorable parent-child interactions on parents' interactions with their children; 2) to determine if a modified video that embedded instructions highlighting responses of affirmation would affect parent-child interactions; and 3) to determine any collateral changes that occurred as a result of exposure to the video models by collecting multiple direct and indirect measures.

METHOD

Participants

Three families were recruited from a local state-funded preschool with the help of the school social worker. To be included in the study, the parents had to meet two criteria: 1) they had at least one child between 3 and 6 years old, and 2) they must speak English. The school social worker contacted families that she thought would either benefit from and/or be interested in the study. If a parent expressed an interest in the study, the social worker arranged a meeting or phone call between the principal investigator and the parent. Five parents (all women) were initially contacted, but only 3 participated in the study. The parent from Family 1 was a 27-year-old, African-American woman. Her child was a 3-year-old, African-American boy. This participant had three other children living in the home and was the sole caregiver of her children. The parent from Family 2 was a 22-year-old, Caucasian woman. Her child was a 4-year-old, Caucasian boy with a visual impairment. This participant had two other children living in the home and shared care-giving duties with two other adults who also resided in the home. The parent from Family 3 was a 38-year-old, Caucasian woman. Her child was a 4-year-old, boy of Caucasian and Hispanic descent. This participant also had three other children living in the home and was the sole caregiver of her children. Appendices F and G contain copies of the recruitment flyer and informed consent form used for participation in the study.

Four female graduate students in the Department of Behavior Analysis at the University of North Texas served as observers and data collectors, including myself. Additionally, I completed the data analysis for each condition across all behaviors. All

graduate students were between the ages of 24-30 and had experience in some kind of behavioral data collection.

Settings and Materials

Home Setting

The entire study took place in the participants' homes. For each of three families, these observations were recorded in the living room. Items present in each of the living rooms were: at least two couches, toys (such as cars, action figures, dress-up clothes, books, and writing materials), and a television. Additionally, as part of the project, the researcher brought the parent \$5 gift cards from either Wal-Mart®* stores or McDonald's®† restaurants, based on the parent's preference. For the child, the researcher brought a clear, plastic travel bin containing \$1-\$5 toys such as books, toy cars, Play-Doh®‡ materials, action figures, and toy dinosaurs. The researcher also provided the parent with appointment reminder cards and a paper listing Website information (Web address, login, and password) where the parent could access the video model.

Video Model

The video model consisted of 9 vignettes modeling positive parent-child interactions. The modeled activities included playing the game Don't Spill the Beans®‡, throwing a ball back and forth, playing with Play-Doh materials, playing the game Candy

* Wal-Mart Stores, Inc., Bentonville, AR, <http://walmartstores.com>

† McDonald's Corporation, Oak Brook, IL, <http://www.mcdonalds.com>

‡ Hasbro, Inc., Pawtucket, RI, <http://www.hasbro.com>

Land[®], tickling and wrestling on the floor, playing soccer, playing with bubbles, playing with blocks, and cleaning up blocks in a fun way.

Pictures of positive parent-child interactions set to music appeared during the introduction and conclusion of the video. The title slide consisted of the following text: enhancing parent and child interactions, how to influence your child's behavior in wonderful ways. This was followed by a brief slide to set up the reason for the video. It included the following text: the purpose of this video is to show you demonstrations across activities and children that will help you enhance your interactions with your child. This slide was followed by the 9 vignettes. The length of the entire video was 10 minutes and 30 seconds. There were 3 male (father) models and 6 female (mother) models in the video. The parents' ages ranged from 25 to 45 years old, with a mean age of 33. There were 8 male (son) models and 4 female (daughter) models in the video. The children's ages ranged from 15 months to 5 years old, with a mean age of 3. In five of the vignettes, the parents and children were Caucasian. In two of the vignettes, the parents and children were African-American. In one of the vignettes, the parent and child were Hispanic, and in one of the vignettes the parent and child were of mixed heritage that included Hispanic, Caucasian, and Asian descent. In three of the vignettes, a parent was shown interacting with two children. For the remaining 6 vignettes, a parent was shown interacting with only one child. Appendix A contains a selection of frames from the video model.

There were two versions of the video. The first version was described above. The second version was identical to the first with two additions: a video clip was inserted before the first vignette describing an affirmation and subtitles were added to each

vignette when an affirmation was used. The video clip showed a Hispanic woman speaking to the video viewer and stating: “In the following demonstrations, notice how the parents use affirmations. Affirmations are statements that encourage the child’s behavior through praise or by simply repeating or rephrasing what your child says to you.” The subtitles appeared in white text at the bottom of the screen at the same time an affirmation was stated by the video model. For example, if the video model parent said “spaghetti” and her response met the definition for an affirmation, then the text “spaghetti” would appear on the screen at the same time it was modeled.

I brought and used a laptop with the Windows®* Media Player (2006) computer program to show the video model to the participants.

Observation Materials

Observation materials included a digital camcorder, 60 minute mini-DV cassettes, a laptop computer, flash drives, and data collection materials including pencils and data sheets, and Microsoft®* Office Excel (2003) computer program.

Response Definitions and Measurement

Measures were recorded for both parent and child behaviors using both event and interval recording. Both intervention and collateral measures were included in the analysis. Table 2 contains brief definitions of the measures described below. Parent measures that were recorded using event recording included appropriate instructions, inappropriate instructions, affirmations, elaborations, open-ended questions, yes-no questions, suggestions, choices, and prohibitions. Parent measures that were recorded

* Microsoft Corporation, Redmond, WA, <http://www.microsoft.com>

using interval recording included proximity, interactions, leveling, appropriate touch, inappropriate touch, positive affect, negative affect, and off camera. Child measures that were recorded using event recording consisted of compliance to instructions. Child measures that were recorded using interval recording included positive affect, negative affect, positive verbalization, negative verbalizations, appropriate physical movements, inappropriate physical movements, and off camera. Appendices B and C contain a recording protocol and copies of the data sheets used to record raw data for the current study. All data were collected from video tapes of 10-minute observations.

Additionally, during the intervention (when the parents were viewing the video), the principal investigator used a checklist to record the parent's behavior (e.g., if they attended to the video). A copy of this checklist (which includes the definitions of its targeted behavior) is presented in Appendix D. At the end of the study the parent was asked to fill out a parent satisfaction questionnaire. Appendix E contains a copy of this questionnaire.

Interobserver Agreement

Interobserver agreement (IOA) was calculated for each behavior and each family once during baseline and once during intervention (at least 25% of the sessions). For two of the families, IOA was also calculated for each behavior once during a separate intervention phase in which only these two families were observed (at least 33% of the sessions). The principal investigator calculated agreement for event recording by dividing the smaller number of recorded instances by the larger number of recorded instances and multiplying by 100 (Poling, Methot, & LeSage, 1995). The coefficients

were determined with the standard formula (agreements/disagreements x 100) and are reported as a percentage of agreement in Tables 3 and 4. The principal investigator calculated the coefficient of agreement for interval recording for both the occurrence and nonoccurrence of observed behaviors. The coefficients were determined with the standard formula (agreements/agreements + disagreements x 100), and only those intervals in which the behavior occurred or did not occur were used in the computation (Poling et al.). The coefficients are reported as a percentage of agreement in Tables 5 and 6.

The principal investigator served as the primary observer and trained the secondary observers. All secondary observers received training prior to independently scoring participant videos. The principal investigator provided a written copy of the observation protocol to the observers and answered any questions asked by the observers after reading the protocol. The observers were then asked to score two training videos which were formatted the same as the participant videos: 10-minute observations of a parent and child during play. Additionally, the observers scored one of two participant videos that were designated for training, in order to show examples and non-examples of all measured behaviors. An observer did not score IOA for a family if that family's video was used in that observer's training (e.g., if an observer watched a Family 1 video for training, then she would score IOA for Family 2 and 3). If scores fell below 90% on any behavior, the investigator replayed the portions of the video where disagreements occurred and discussed them with the observer. After the observers scored the three videos and discussed their scores with the principal investigator, they were considered trained and began to score IOA.

Experimental Design

A multiple baseline across participants was used. Following baseline, participants were observed in at least one of two conditions where the video model was shown. The first version of the video model (without definitions explained and subtitles) was shown in the Family Interaction Video Phase, whereas the second version of the video model (with definitions explained and subtitles included) was shown in the Video with Affirmation Instruction Phase. Family 1 was observed during 3 baseline observations, 3 family interaction video observations, and 3 video with affirmation instruction observations. Family 2 was observed during 4 baseline observations, 2 family interaction video observations, and 3 video with affirmation instruction observations. Finally, Family 3 was observed during 3 baseline observations and 2 video with affirmation instruction observations.

Procedures

Baseline Phase

During baseline (three to four sessions), the parent and child were observed for 10 minutes during a play activity which was videotaped. The principal investigator instructed the parent to “play with your child as you normally would, as if I were not here observing.” One child was selected as the target child. However, at times, other siblings were present and participating in the play activity with the parent and target child. At the end of the observation, the parent was given a \$5 gift card to thank her for her time and the child was allowed to pick one toy out of a small travel bin that included 5-7 toys to choose from.

Family Interaction Video Phase

Only Families 1 and 2 were observed during this condition. The principal investigator showed a 10-minute video to the parent. The parent was instructed to hold any questions regarding the video until the end of the study. The principal investigator said “It might be frustrating to not be able to ask me questions about the video, but we can talk as much as you would like about it after the study is over.” Following the viewing of the video, the principal investigator instructed the parent to “play with your child as you normally would, as if I were not here observing” and then videotaped the parent and child for 10 minutes during a play interaction. A gift card for the parent and a toy for the child (that he chose) were given at the end of each observation. During this condition, the parent was informed of a Website where she could view the video without the presence of the researcher. She was given a login and a password to access the video.

Video with Affirmation Instruction Phase

This condition was identical to the video without instruction phase except an altered video was shown. The video vignettes were the same; however, a brief description of affirmations was included at the beginning of the vignettes and subtitles appeared when affirmations were modeled during each vignette. As with the other conditions, a gift card for the parent and a toy for the child were given at the end of each observation. During this condition, the parent from Family 3 was informed of a Website where she could view the video and given login information.

RESULTS

Table 7 summarizes the number of instances or intervals that each behavior was displayed during the video model. In general, appropriate behaviors were modeled at high rates and inappropriate behaviors were not modeled at all. Parent offer of choice was not modeled in the video. Affirmations were modeled 53 times in the initial video; during the modified video, 51 of those models appeared with subtitles.

All three participating families' data are presented by groups of behaviors: parent affirmations, prohibitions, and affect in Figure 1; parent instructions, suggestions, elaborations, and questions in Figure 2; child affect and verbalizations in Figure 3; parent-child proximity, leveling, and touch in Figure 4; and parent-child interactions in Figure 5. For each figure, Family 1 data are presented on the top; Family 2 data are presented in the middle; and Family 3 data are presented on the bottom.

Parent Affirmations, Prohibitions, and Affect

Parent affirmations, prohibitions, and affect are displayed in Figure 1. Overall, there were no systematic changes observed across families or behaviors upon introduction of the video. The left panel displays the number of occurrences of parent affirmations and prohibitions during each 10-minute observation. Affirmations are represented by open triangles and prohibitions are represented by closed triangles. The right panel displays the number of 10-second intervals where parent positive and negative affect was recorded during each 10-minute observation. Open squares represent positive affect and closed squares represent negative affect.

Affirmations and Prohibitions

Family 1 affirmation occurrences ranged from 7 to 11 during baseline (mean = 9), from 9 to 17 during the first intervention phase (mean = 13), and from 12 to 25 during the second intervention phase (mean = 18). Affirmations remained fairly stable in baseline. After the first intervention was introduced, occurrences of affirmations increased for two sessions but then decreased to baseline levels on the third session. During the second intervention, levels remained near those in baseline and the first intervention phase with the exception of a spike that occurred during the eighth session. Family 1 prohibition occurrences ranged from 1 to 16 during baseline (mean = 7), from 6 to 18 during the first intervention phase (mean = 11), and from 1 to 4 during the second intervention phase (mean = 2). A downward trend was observed during baseline, followed by an increase in prohibitions at the beginning of the first intervention phase. This increase marked the beginning of another downward trend that eventually stabilized by the end of the second intervention. Family 2 affirmation occurrences were variable during baseline (range = 0-18; mean = 8) with occurrences steadily increasing over the first three sessions then dropping suddenly on the fourth baseline session. As the first intervention phase began, affirmations increased again (to 7 for the fifth session) and then decreased again (to 2 for the sixth session). An increasing trend was observed during the second intervention phase (range = 8-16; mean = 13). Prohibition occurrences for Family 2 followed a similar pattern as affirmations, with the exception of an increase in prohibitions during the first intervention phase (as compared to the decrease that was observed in affirmations). Baseline prohibition occurrences ranged from 0 to 14 (mean = 4), first intervention prohibition occurrences ranged from 4 to 9

(mean = 7), and second intervention prohibition occurrences ranged from 2 to 7 (mean = 4). Family 3 was only observed during baseline and the second intervention phase. Baseline occurrences of affirmations ranged from 2 to 15 (mean = 7) and intervention occurrences ranged from 14 to 18 (mean = 16). Baseline occurrences started high on the first session, sharply decreased on the second session, and then remained low on the final baseline session. As the intervention was introduced, affirmations increased sharply but only slightly above levels that were observed during the baseline session. This increase was followed by a decrease (which was still close to the level of the first baseline session). Prohibitions for Family 3 were variable during baseline (starting low at 2, increasing sharply to 14, and then decreasing sharply to 4). During intervention, prohibition occurrences started low at 1 and then increased to 7.

Positive and Negative Parent Affect

Panel 2 of Figure 1 displays parent positive and negative affect. For Family 1, occurrence of positive affect ranged from 7 to 12 intervals (mean = 9) during baseline, from 12 to 19 intervals (mean = 17) during the first intervention phase, and from 9 to 25 intervals (mean = 19) during the second intervention phase. Occurrence of negative affect for Family 1 ranged from 3 to 22 (mean = 10), 3 to 24 (mean = 13), and 0 to 4 (mean = 1) intervals during baseline, first intervention, and second intervention observations. Based on the increasing trend observed throughout each phase (including baseline), the increases in positive affect and decreases in negative affect observed in the data for Family 1 cannot be attributed to an intervention effect. The affect data from Family 2 shows little to no change throughout each phase of the study, with the

exception of a spike in positive affect that was observed during the eighth session. Occurrence of positive affect for Family 2 ranged from 23 to 29 (mean = 25), 23 to 27 (mean = 25), and 29 to 46 (mean = 36) intervals during baseline, the first intervention, and the second intervention. Occurrence of negative affect ranged from 0 to 4 intervals (mean = 2) during baseline, 0 to 6 intervals (mean = 3) during the first intervention, and 0 to 3 intervals (mean = 1) during the second intervention. The occurrence of positive and negative affect for Family 3 ranged from 8 to 24 intervals (mean = 14) during baseline and 13 to 23 intervals (mean = 18) during intervention. Negative affect occurrence ranged from 0 to 3 intervals (mean = 2) during baseline and 0 to 1 intervals (mean = 1) during intervention. Although positive affect occurrence for Family 3 increased after the video was introduced, it did not exceed previous baseline levels and did not maintain during the following observation.

Parent Instructions, Suggestions, Elaborations, and Questions

Parent's use of instructions, suggestions, elaborations, and questions are presented in Figure 2. Overall, there were no systematic changes observed across families or behaviors upon introduction of the video. The left panel displays the number of occurrences of parent appropriate instructions, inappropriate instructions, and suggestions during each 10-minute observation. Appropriate instructions are represented by open squares, inappropriate instructions are represented by closed squares, and suggestions are represented by open circles. The right panel displays the number of occurrences of parent elaborations, open-ended questions, and yes-no questions during each 10-minute observation. Elaborations are represented by open

diamonds, open-ended questions are represented by open circles, and yes-no questions are represented by open triangles.

Instructions and Suggestions

For Family 1, occurrence of appropriate and inappropriate instructions was variable throughout the study. Appropriate instruction occurrence ranged from 5 to 25 (mean = 13) during baseline, 14 to 23 (mean = 17) during the first intervention, and 4 to 14 (mean = 10) during the second intervention. Occurrence of inappropriate instructions ranged from 5 to 33 (mean = 19), 10 to 18 (mean = 15), and 0 to 6 (mean = 2) during baseline, the first intervention, and the second intervention. Suggestion data for Family 1 saw little to no change during the first two phases (range = 1-5 and 0-2; mean = 3 and 1), increased at the beginning of the final phase, and then decreased sharply (range = 4-8; mean = 9). Although this level was higher than baseline, the whole data series (with the exception of the spike) suggests an increasing trend that is not attributable to any treatment effect. Family 2's data show little to no change for occurrence of instructions and suggestions, with two exceptions: a spike in appropriate instructions on the fourth session and a spike in inappropriate instructions on the sixth session. Appropriate instructions ranged from 10 to 19 instances (mean = 12) during baseline, 12 to 13 instances (mean = 13) during the first intervention, and 8 to 11 instances (mean = 9) during the second intervention. Occurrences of inappropriate instructions ranged from 0 to 5 (mean = 3), 1 to 14 (mean = 8), and 0 to 2 (mean = 1) during baseline, the first intervention, and the second intervention. Suggestions ranged from 6 to 9 occurrences (mean = 8) during baseline, 2 to 9 occurrences (mean = 6) during the first intervention,

and 1 to 3 occurrences (mean = 2) during the second intervention. For Family 3 data, appropriate and inappropriate instructions were variable throughout the study whereas suggestions saw little to no change. Appropriate instructions ranged from 7 to 58 occurrences (mean = 28) during baseline and 26 to 42 occurrences (mean = 34) during intervention. Instances of inappropriate instructions ranged from 0 to 10 (mean = 6) and 1 to 12 (mean = 7) during baseline and intervention. Suggestions ranged from 2 to 7 occurrences (mean = 4) during baseline and 4 to 5 occurrences (mean = 5) during intervention.

Elaborations and Questions

Panel 2 of Figure 2 displays parent elaborations, open-ended questions, and yes-no questions. For Families 1 and 2, instances of elaborations and questions were highly variable throughout the study. In Family 1 instances of elaborations ranged from 9 to 18 (mean = 13), 2 to 12 (mean = 6), and 10 to 37 (mean = 19) in baseline, the first video intervention, and the second video intervention. Instances of open-ended questions ranged from 2 to 13 (mean = 8), 1 to 20 (mean = 8), and 5 to 18 (mean = 10), respectively. Instances of yes-no questions ranged from 7 to 25 (mean = 13), 7 to 23 (mean = 13), and 7 to 9 (mean = 8) during baseline, the first intervention, and the second intervention. For Family 2, instances of elaborations ranged from 12 to 45 (mean = 26) during baseline, 18 to 24 (mean = 21) during the first intervention, and 12 to 38 (mean = 27) during the second intervention. Instances of open-ended questions ranged from 9 to 16 (mean = 12), 6 to 39 (mean = 23), and 16 to 31 (mean = 22) respectively. Instances of yes-no questions ranged from 4 to 11 (mean = 8), 8 to 17

(mean = 13), and 5 to 20 (mean = 11) during baseline, the first intervention, and the second intervention. Family 3's data show some variability during baseline, but a clear change in bounce and level in instances of elaborations and open-ended questions appears after the video was introduced. Instances of elaborations in Family 3 ranged from 1 to 10 (mean =6) during baseline and 23 to 27 (mean = 25) during intervention. Open-ended questions ranged from 0 to 23 instances (mean = 11) during baseline and 22 to 29 instances (mean = 26) during intervention. Instances of yes-no questions ranged from 3 to 8 (mean = 5) and 1 to 6 (mean = 4) during baseline and intervention. It is difficult to discern a clear treatment effect for elaborations and questions in Family 3 because only two observations were conducted after the introduction of the video and there appears to be a downward trend in these two data points. This change was not seen in the other two families' data.

Child Affect and Verbalizations

Figure 3 displays child affect and verbalizations. Overall, there were no systematic changes observed across families or behaviors upon introduction of the video. The left panel shows the number of 10-second intervals where child positive and negative affect was recorded during each 10-minute observation. Positive child affect is represented by open squares and negative child affect is represented by closed squares. The right panel displays the number of 10-second intervals where child appropriate and inappropriate verbalizations were recorded during each 10-minute observation. Open triangles represent appropriate verbalizations and closed triangles represent inappropriate verbalizations.

Positive and Negative Child Affect

Occurrence of child positive affect for Family 1 ranged from 18 to 43 intervals (mean = 29) during baseline, 19 to 20 intervals (mean = 20) during the first intervention, and 9 to 34 intervals (mean = 21) during the second intervention. Negative child affect occurrence ranged from 0 to 15 (mean = 5), 3 to 14 (mean = 10), and 0 to 1 (mean = 0.33) intervals during baseline, the first intervention, and the second intervention. For Family 2, positive child affect occurrence ranged from 8 to 33 intervals (mean = 19) during baseline, 23 to 31 intervals (mean = 27) during the first intervention, and 7 to 31 intervals (mean = 17) during the second intervention. The range for negative child affect was 3 to 5 (mean = 4) intervals during baseline, 2 to 9 (mean = 6) during the first intervention, and 0 to 2 (mean = 1) during the second intervention. For Family 3, positive child affect occurrence ranged from 13 to 42 intervals (mean = 26) during baseline and 40 to 41 intervals (mean = 41) during intervention.

Appropriate and Inappropriate Verbalizations

The right panel of Figure 3 displays child verbalizations. The data for Families 1 and 2 show an increasing trend in appropriate verbalizations across conditions whereas the data for Family 3 show a clear change in level and bounce after the introduction of the video. There was little to no change in inappropriate child verbalizations across families and conditions.

Parent and Child Proximity, Leveling, and Touch

Parent-child proximity, leveling, and touch are presented in Figure 4. Overall,

there were no systematic changes observed across families or behaviors upon introduction of the video. The left panel displays the number of 10-second intervals where proximity and leveling were recorded during each 10-minute observation. Proximity is represented by open squares whereas leveling is represented by open triangles. The right panel displays the number of 10-second intervals where appropriate and inappropriate touch were recorded during each 10-minute observation. Open circles denote appropriate touch and closed circles denote inappropriate touch.

Proximity and Leveling

Parent-child proximity for Family 1 ranged from 40 to 53 intervals (mean = 47) during baseline, 17 to 47 intervals (mean = 32) during the first intervention, and 50 to 60 intervals (mean = 55) during the second intervention. Parent-child leveling ranged from 44 to 50 (mean = 46), 14 to 52 (mean = 38), and 52 to 60 (mean = 55) intervals during baseline, the first intervention, and the second intervention. For Family 2, occurrence of leveling and proximity stayed at or near 60 intervals throughout each condition with two exceptions: proximity decreased sharply to 37 and 25 intervals, respectively, during the fourth and sixth observations. These changes were an artifact of the activity in which the parent and child were engaged: proximity was precluded by the nature of the activity. As with the data from the other two families, in Family 3 parent-child proximity and leveling closely tracked each other: baseline occurrences of proximity and leveling ranged from 46 to 60 (mean = 55) and 46 to 60 (mean = 55) whereas intervention occurrences of proximity and leveling ranged from 49 to 58 (mean = 54) and 46 to 59 (mean = 53).

Appropriate and Inappropriate Touch

The right panel of Figure 4 displays parent-child touch. The data for each family show little to no change, with a few exceptions. In each family, there occurred at least one spike when touch occurred for at least three-quarters of the observation. This high level of occurrences does not translate into high rates of touch. In each of these circumstances, the parent and child were sitting near each other with their sides touching or the child was sitting on the parent's lap. These exceptions to the otherwise low rates of touch observed seem to be an artifact of the type of the activity in which the parent and child were engaged, rather than any treatment effect.

Parent and Child Interactions

Occurrence of parent-child interactions is presented in Figure 5. Overall, there were no systematic changes observed across families or behaviors upon introduction of the video. Each open square represents the number of 10-second intervals where an interaction occurred during each 10-minute observation. Parent-child interactions for Family 1 ranged from 33 to 43 intervals (mean = 37) during baseline, 23 to 42 intervals (mean = 35) during the first intervention, and 53 to 60 intervals (mean = 56) during the second intervention. For Family 2, parent-child interactions ranged from 42 to 54 (mean = 50), 46 to 58 (mean = 52), and 52 to 60 (mean = 57) intervals during baseline, the first intervention, and the second intervention. Parent-child interactions for Family 3 ranged from 41 to 58 intervals (mean = 49) during baseline and 58 to 59 intervals (mean = 59) during intervention.

Choice, Physical Movements, Compliance, and Off Camera Behavior

The following behaviors were recorded but are not represented in any figure: parent offer of choice, child physical movements, child compliance to instructions, parent off camera, and child off camera. Instances of parent offering choices remained near or at zero across conditions and families. However, this behavior was not modeled in the video so a change was not anticipated. Child physical movements (both appropriate and inappropriate) across families or conditions did not systematically change with the introduction of the video model. Instances of child compliance to instruction remained steady across families and conditions: the means for Family 1 across conditions were 12, 9, and 8; the means for Family 2 were 7, 8, and 6; and the means for Family 3 were 29 and 31. Parent off camera was variable for Family 1 across conditions. However, for Families 2 and 3, this behavior did not change across conditions and stayed near or at zero. Child off camera was variable for Family 1 and 3 across condition but remained near or at zero for Family 2.

Activities, Video Checklists, Questionnaires, and Website Logins

Family engagement in activities has been summarized and described in Tables 8-10. Overall, there were no systematic changes observed across families or activities upon introduction of the video. However, the parent in Family 3 changed activities after the video was introduced, and she changed to a game that was modeled in the video.

A summary of the video checklists used to record parent behaviors during video viewing is displayed in Tables 11-13. Mostly, all three families attended to the video but seldom made comments about the content. None of the families took notes, replayed

the video, or asked questions about the video. Additionally, a summary of the participants' responses to the parent satisfaction questionnaire is presented in Table 14. And finally, throughout the course of the intervention, none of the families accessed the video through the Website address that was given to them.

DISCUSSION

I first showed a video that modeled favorable parent-child interactions and saw no systematic change from baseline across parent or child behaviors. Then, I embedded instruction into the video to highlight a set of responses and again did not see any change. Several points are discussed below in an attempt to account for these findings.

Needs of the Parent

Most of the parent training literature involves recruitment of participants with some type of need (e.g., to learn how to manage their child's disruptive behavior; Barnard, Christophersen, & Wolfe, 1977; Bernal, Klinnert, & Schultz, 1980; Eyberg & Robinson, 1982; Gardner, Burton, & Klimes, 2006; Herbert & Baer, 1972; Wahler, 1980; Webster-Stratton, 1990, 1994; Zangwill, 1984), previously established problem (e.g., parents with a history of child abuse or neglect; Gershater-Molko, Lutzker, & Wesch, 2003; Hughes & Gottlieb, 2004; Lutzker, Megson, Webb, & Dachman, 1985), or risk (e.g., children at risk of developing conduct disorder; Hutchings et al., 2007). It is probable that these parents are motivated by this need (whether it be to get their children to behave better or to get child protective services out of their lives) and participate in the intervention to eliminate the need, problem, or risk. Within the parent training literature that used video modeling, only four studies involve participants that were not recruited based on needs, problems, or risks (Doherty et al., 2006; Huebner & Meltzoff, 2005; Lim et al., 2005; Wahler & Meginnis, 1997). And from these studies, only the Huebner & Meltzoff (2005) explore video training without the assistance of a

therapist. This study compared in-person video training in a group format, video training with a telephone follow-up, and self-instruction by video alone. Although the behaviors of both groups of parents improved, the authors found evidence of an advantage of in-person training overall among parents and especially parents with a high school education.

The recruitment flyer for this study sought to recruit parents “who would like to learn about positive ways that families can spend time together.” However, not much is known about the reasons why the social worker contacted specific families and what her conversations with them entailed. During initial interviews with the researcher, two families reported difficulty managing their children’s inappropriate behavior and requested additional assistance after completion of the study to help their kids “behave better”. It was stated in the consent form that was reviewed with each parent that the purpose of the study was to improve parent-child interactions but no mention was made of management for inappropriate or problem behavior. The video model itself set the context of the study as enhancing parent-child interactions rather than helping the child behave better. Although the parents expressed a need, they did not necessarily designate the video as a tool to meet that need. Furthermore, it is suggested by the literature that parents with specific needs do well in self-instruction using video (Bigelow & Lutzker, 1998; Koegel, Glahn, & Nieminen, 1978; Neef et al., 1991) but not much is known about the use of this format with parents without specific needs (Huebner & Meltzoff, 2005). In the future, this could be facilitated by changing the context of the vignette presentations (e.g., titling the video “How to Have Fun with Your Child”) and

additional instructions to help the parents understand why certain responses are highlighted (e.g., the benefit to the parent).

Adequate Stimulus Control

According to social learning theory, models are more likely to be influential in the development or modification of behavior when they are perceived as attractive, trustworthy, competent, and similar to the viewer (Graves, 1999). According to Thelen et al. (1979), the use of multiple models increases the odds that the observer will select at least one model to imitate, provides multiple exposures to the target behavior, increases treatment stability, and facilitates generalization. Multiple models were used in the video intervention of the current study in an effort to 1) present models that are similar to the viewers and 2) present several opportunities for the participant to discriminate when the target behavior was occurring and not occurring.

It is possible that the participants did not identify with the models due to perceived differences in socio-economic status, educational background, marital status, the behavior of their children, and ethnic background. Socio-economic and educational differences could have been inferred from the dress, speech, and environment of the models. Five of the models appeared in backgrounds with discernable differences from the participants' homes: a backyard with nice fence and patio; a living room with hardwood floor and leather furniture, a nursery with what seemed like every available item an infant would need, and two rooms with plush light carpet and crown molding. Although only one model was a single mother, two other models may have appeared as single mothers because their husbands were not in the video. However, three models of

fathers/husbands were shown and it appears that fathers/husbands were not involved in the participants' lives. One participant even commented how it was nice to see father involvement in the video. With the exception of one short-lived protest that was less than 3 seconds, the 10-minute video modeled children who were well behaved. The parents may not have drawn a connection between the behavior of the adult models and the behavior of the child models and instead viewed the video model as "what to do when your kids behave well". Regarding differences in ethnic background, two models were African-American but due to other perceived differences from the African-American participant these models may have not been seen as similar. It may not be any one difference but a combination of perceived differences that made the video models dissimilar to the participants. For future video modeling interventions, it would be worthwhile to control for some of these possible differences and add even more exemplars of ethnic, marital, and socio-economic diversity. It might also be beneficial to show more examples of children's misbehavior and techniques for effectively managing difficult behavior.

The nature of the model context could have also contributed to the lack of adequate stimulus control (Thelen et al., 1979). During the initial video (without imbedded instruction), instances of the target behaviors may have gone unnoticed within the larger context of the interactions. The context presentation may have not been clear enough to guarantee discriminations of when and what behaviors were occurring and not occurring. The textual prompts that were added in the second intervention may have still been lost in the same context when antecedents are not discriminated (e.g., the child built a tower and *then* the parent said "cool tower"). Of the

51 affirmations that were modeled with imbedded text, only 7 used descriptive praise that might have called attention to the antecedent. One way of correcting this would be to guide the viewers responding (Neef et al., 1991). Discrimination trials could be added for the viewer to ensure learning. During the first vignette, the video could be stopped after an affirmation was modeled. This could be accomplished with the aid of a therapist or built into the video itself. The video could freeze while a narrator explains what just happened. The video could then replay the same segment for further clarification after the explanation. During the next instance of an affirmation, the video could freeze while a narrator asks the parent to recall that affirmation used. This could be faded across vignettes as the narrator asks the parent to gradually identify more and more affirmations (e.g., “find the next three modeled affirmations”).

Another way to enhance what the parent learned from the video (or at least to gauge what they processed) would be through the addition of a verbal protocol: tell the parents to write down what they learned from the video and what they thought was important. Such a protocol could possibly influence the parent’s behavior in two ways: through instructional control (they may attend to the video more because they know they have to report) and through some effect caused by active responding. Both the discrimination trials and the verbal protocol have benefits in terms of creating a video with guided instruction and feedback. However, this changes the video into a training tool rather than a stand alone intervention.

Finally, in terms of stimulus control, it is important to look at reinforcement of the model’s behavior. Bandura, Ross, & Ross (1963b) found that imitation can be dependent on response-consequences to the model. Did the parents see the models’

behavior be reinforced in the video? The answer is not necessarily. As previously mentioned, the participants may have not viewed the children's appropriate behavior as a result of the parent's appropriate behavior management. For future studies, it would be beneficial to add additional reinforcement to make this more salient to the viewer. For example, each time a parent model affirms a child model's behavior a narrator could appear at the top of the screen and say "Good job, Mom/Dad!"

Measurement Sensitivity

There may have been a change produced by the video that the measures did not capture. All of the families reported receiving some level of benefit from the video, and in the case of one family, improvement in the child's behavior was also reported. The parent from Family 1 initially asked for help managing her child's behavior. By the end of the study, she said she no longer needed help. When asked what changed, she reported using rewards to increase her son's appropriate behavior.

More sensitive measures are needed to explore what quantities of behavior change would result in a perceived change in the quality of parent-child interactions. One such behavior that needs further inspection is affect. Reliability for parent and child affect did not reach acceptable levels. There are other measures that may more reliably capture the quality of affect. Green and Reid (1996) developed indices of happiness for their study by selecting observable responses generally associated with subjective feelings of happiness. They defined happiness as "any facial expression or vocalization typically considered to be an indicator of happiness...including smiling, laughing, and yelling without smiling (p. 69)." Their observation system was reliably implemented by

the experimenters and validated by outside observers (whose ratings of happiness and unhappiness coincided with the behaviorally defined, systematically observed happiness indices). The current observation system, although similar to the Green and Reid system, included additional examples of happiness beyond smiling and laughing (e.g., being “silly”). These additional examples may have made the system too complicated to use because they may have been less quantifiable than smiles or laughs. These changes could be adapted to a partial interval recording system or even an event recording system where indices of happiness are actually counted. Furthermore, the current system would benefit from the addition of social validity measures from the Green and Reid study.

Other studies have used Likert metrics to reliably rate the quality of happiness (Koegel, Bimbela, & Schreibman, 1996; Schreibman, Kaneko, & Koegel, 1991). In addition to happiness, other important measures were rated (e.g., parental interest, stress, communication style, enthusiasm, confidence, warmth/emotional support) using Likert metrics (Brookman-Frazee, 2004; Doherty et al., 2006). These types of measures may help to more effectively measure the quality of interactions. Also, although the study measured parent attention in the form of affirmations and prohibitions, the behavioral definitions were not paired with instances of child behavior. That is, if the parent used an affirmation, it was counted regardless of what the child was doing. Wahler and Meginnis (1997) measured parent responsiveness by recording all appropriate parent reactions to child behaviors. Although instances of affirmations did not systematically change as a result of the intervention, parent responsiveness could

have changed (if the instances of child behavior changed) and the current measurement system did not capture it.

Finally, it is important to discuss the role of the activities in which the parent and child were engaged, in terms of measurement sensitivity. Unsystematic results may have been a function of tasks that were more or less enjoyable for the parent and child and not a function of an insensitive measurement system. A parent might be more likely to laugh and use affirmations if she is involved in an activity that she enjoys compared to an activity she despises. Likewise, a child may be more likely to behave appropriately when engaged in a preferred activity versus a non-preferred activity. This could be remedied by creating a more structured observation and controlling the type of activities in which the parent and child are engaged.

Influence of Methodology

The manner in which the study was conducted could account for some of the changes that were observed in the families' data (that cannot be attributed to the introduction of the video). During each condition, the parents were asked to play with their children. For two of the families, the parents seemed confused when this request was made and they asked for clarification. One parent said that she does not usually play with her son because he is outdoors playing and another parent professed that she only fights with her son, in an effort to make him "tougher" due to the absence of a "father figure." For both of these parents, the principal investigator inquired about what types of activities their children do or what types of toys their children play with. This seemed to be enough of a prompt to give the parents idea of what to do and no

further instruction was needed. However, this does present a picture of parents who may not normally interact with their children just for the sake of interacting (e.g., outside of the normal business of life like feeding and dressing). During the course of the study, observations were conducted at least once a week and sometimes up to three times week. For these parents, the video may have not been the intervention. Instead, it was someone telling them to play with their children and videotaping them at play. This seemed all too apparent after the initial observation for Family 2. The child turned to his grandmother and optimistically asked “does Mommy have to play with me every time the lady comes?” Additionally, the principal investigator noticed on more than one occasion that the parents had planned activities for the upcoming observation. For example, during the second baseline observation for Family 3, the parent told the investigator that “we are going to play a game over there” and motioned to where the investigator should stand to videotape. This was in sharp contrast to the previous observation where the parent said that she usually does not play with her child. In future studies, it would be interesting to compare the difference between using instructions to play and using a less structured observation where the observer shows up and does not give any instructions to the parent other than “try to pretend that I am not here.”

In addition to the instructional influence, the presence of an observer videotaping the interactions may have affected the parents’ behavior. For each of the families, there was at least one instance where the child ran to another room and the parent had to repeatedly instruct the child to come back. This lasted for up to three minutes for some of the families. For Families 2 and 3, these instances were usually occasioned by other people in the environment (e.g., siblings, uncles, grandparents) that the child expressed

an interest in interacting with. For Family 1, these instances were usually followed by the child going to the bathroom or to his room to get another toy. Had the researcher not been present, the parent may have attended to other tasks (e.g., call a friend, do the dishes, or check her email) rather than call her child back. Also, for Family 2 at least, the parent may have been operating under some unsaid rule that once videotaping started the researcher would not be able to move. For example, in one observation, the child said he wanted to play with Play-Doh® materials but the parent said “we can’t play with that here; we have to play with that at the table; let’s play something else instead.” Although the table was adjacent to where the parent and child were currently sitting, the reason for the parent’s decision is unknown. Perhaps the table needed to be cleaned off or the parent thought they needed to stay in one place.

The observer bias could be reduced in several ways. First, the parents could be told to feel free to move about the environment and that the observer would follow. Or the camera could be set up on a fixed position and the observer could go to a separate room for the duration of the observation. Longer observations would also be helpful (e.g., 30 minutes versus 10). In addition to longer observations, longer conditions (i.e., a larger number of observations during each condition) could also reduce any bias introduced by the observer. The parents may have just started to get comfortable with the observation procedure as the video was introduced. Furthermore, if learning was occurring as a result of watching the video, longer conditions would capture learner growth that was delayed.

Finally, due to some of the comments and actions of the participants, changes to the video presentation are recommended for future studies. There is a chance that the

* Hasbro, Inc., Pawtucket, RI, <http://www.hasbro.com>

parents were bored by the repetition of the video (especially Families 1 and 2 who watched the video at least five times during the course of the study). For example, the parent from Family 1 was easily distracted by her children and often attended to their needs while simultaneously viewing the video (e.g., braiding her son's hair, telling her youngest son to eat his breakfast, and helping her daughters find their shoes). After one video viewing, the child from Family 2 commented that he wanted to watch the video again. His mother remarked "Mommy doesn't need to watch that video anymore." Similar observations were made with Family 3: at the beginning of the second video viewing this parent questioned (in a semi-negative tone), "is this the same video?" In an effort to remedy this boredom, the video could be divided and thereby shortened into 3 to 4 separate videos about 3 to 5 minutes in length. The parent would watch a different video at each session. Each video would be formatted to display the same quantity of models.

Community to Support Behavior Change

Although modeled behavior can be acquired merely through observation, reinforcement is paramount if the behavior is to be performed and maintained (Bandura, 1977). Video modeling within a group or one-on-one therapy context usually presents the opportunity for practice and performance feedback of target skills (Alpert & Kaiser, 1992; Doherty et al., 2006; Gardner et al., 2006; Foster & Roberts, 2007; Huebner & Meltzoff, 2005; Hutching et al., 2007; Koegel, Glahn, & Nieminen, 1978; Koegel, Bimbela, & Schreibman, 1996; Neef et al., 1991; Nixon et al., 2003; Wahler & Meginnis, 1997) or at the very least presents social interactions that could potentially reinforce

parenting behaviors (Webster-Stratton, 1990, 1994; Hughes & Gottlieb, 2004; Lim et al., 2005; Mash & Terdal, 1973).

With video modeling used as self-instruction, feedback on performance is less likely. Foster and Roberts (2007) quantified the potential pitfalls of this format in their study. The majority of parents in their study did not attain criterion skill levels from the video self-instruction and needed further training. In fact, parents made several errors in discipline procedures post video self-instruction. Also, a knowledge performance distinction was noted. All of the parents could correctly answer quiz questions about procedures but could not implement those procedures in the absence of external assistance. These findings are interesting in light of the current study: the participants may have not known how to change their own behavior even if they discriminated. Perhaps for some behaviors or populations, self-instruction with video is not the most effective format and more therapist involvement is needed. Such videos consist entirely of antecedent manipulations. The therapist may serve only to complete the contingency and reinforce the parent's behavior. Self-instruction with video could possibly be more effective if some type of consequence was added for the viewer. In the current study, a consequence (a \$5 gift card) was delivered for the parent's participation in each observation and was not contingent upon any appropriate parenting behaviors. However, delivery of the gift card always followed each 10-minute play observation. There is a chance that this inadvertently reinforced some aspect of the parenting behaviors (starting at baseline). In the future, such rewards for participation should be presented at the beginning of the session.

Ideally, the goal would be for the parent's behavior to be reinforced by a positive

change in the child's behavior or by a positive change in the interactions between the parent and child. However, immediate changes are not guaranteed even if the parent is doing everything modeled on the video. A consequence could be added to bridge the gap between the need for immediate reinforcement and the delayed reinforcement that will hopefully come as the parent and child relationship grows. Immediate reinforcement would also offer help to parents who do not have a community to support the behaviors that were learned from the video. One way to add such reinforcement would be for the parents to videotape a brief interaction. The parents could upload the video to the Web where a therapist could view it and call the parent to deliver feedback. Although this format would not longer be considered as "self-instruction", it would still save time and resources and may be a more effective way to train parents.

Creating a contrived situation by adding additional reinforcement for the parent would most likely increase parent responding. This would also be beneficial if the responding is maintained and generalized by the parent across children (if the parent has more than one child) and settings. However, when looking at the larger context—a community to support behavior change, these contrived situations may have no utility. If the parent does not have other people in her environment who value good, lovely, parent-child interactions, why would she maintain such interactions? If the parent lives in a community that does place a high value on quality parent-child interactions, what are the long term supports for parent improvement?

Conclusion

In conclusion, the present study did not demonstrate that video modeling with

and without imbedded textual prompts improved parent-child interactions. These findings are interesting in light of the demonstrated effectiveness of video modeling within the parent training literature. I say interesting instead of disappointing because this study will hopefully serve as a catalyst for a much needed discussion about video modeling and the characteristics that are necessary to effect behavior change using such procedures.

Table 1

Review of Literature Employing Training of Parent-Child Interactions

Reference	Population	Age of Children	Training Medium	Measures	Outcomes
Alpert & Kaiser (1992)	Mothers of children with language delays	2-5 years	Lecture, video modeling, in-vivo modeling, practice, and feedback; one-on-one with therapist	Parent: models, commands, time delays, positive and negative feedback, corrective feedback, no response, and no time for child to respond Child: correct and incorrect responses, no response, and verbal and nonverbal requests/commands	Mothers learned milieu procedures and applied them to home setting plus two untrained settings; mean length utterance, total number of words, and total novel words increased for children
Barnard, Christophersen & Wolfe (1977)	Mothers of children with troublesome behaviors	5-6 years	Instruction and modeling	Parent: positive, neutral, and negative verbalizations and attention Child: product disturbance and proximity to parent	Parent positive verbalizations increased and negative decreased; attention to appropriate behaviors increased; child product disturbance decreased and proximity increased
Bernal, Klinnert & Schultz (1980)	Families of children with conduct problems	5-12 years	Modeling, role-playing, video-taped feedback, and homework used for behavioral therapy training	Parent: commands and attention Child: compliance, noncompliance, annoying, and deviant	Home observations data showed no advantage of behavioral over client-centered and these two groups did not improve significantly more than the wait-listed group

(table continues)

Table 1 (continued).

Reference	Population	Age of Children	Training Medium	Measures	Outcomes
Bigelow & Lutzker (1998)	Families reported for child abuse	2-6 years	Series of five videotapes that included didactic instruction and modeling; parent watching video without therapist involvement	Parent: leveling; attending; positive and negative touch, verbalizations, instructions; and correct use of planned activities Child: positive and negative verbalizations, positive and negative affect, aggression, and following instructions	Parents use of planned activities and appropriate interactions increased; appropriate child behaviors also increased
Brookman-Frazer (2004)	Families of children with autism	2 years	Two treatments: parent-clinician partnership and clinician directed; both treatments included instruction and feedback during training	Parent: stress and confidence Child: affect, appropriate engagement, and responding	Mothers in partnership condition demonstrated lower levels of stress and higher levels of confidence; children demonstrated more positive affect, higher levels of responding, and more appropriate engagement when parents were in partner condition
Campbell, O'Brien, Bickett & Lutzker (1983)	At-risk family	4 years	Role-playing, modeling, and verbal feedback; in-home marital counseling	Behavioral postural checklist; frequency of reinforcement, verbal praise, attends, questions, criticism, and Alpha and Beta commands; Marital Happiness Scale	Parent learned to relax her body; eliminate headaches; increase use of rewards and precise commands with her child; modest improvements in marital happiness; improvements maintained at one year follow-up

(table continues)

Table 1 (continued).

Reference	Population	Age of Children	Training Medium	Measures	Outcomes
Clark et al. (1977)	Teaching families from a group home for dependent-neglected children	4-9 years	Written instructions, explanations, and quizzes	Parent: teaching and coercive comments Child: distracting behaviors and comments, social and educational comments	Parent coercive comments, child distracting behaviors and comments all decreased; parent teaching comments increased
Doherty, Erickson & LaRossa (2006)	Pregnant couples (married or cohabiting)	0-5 months	Mini-lectures, group discussion, videotape models, role-plays	Father: warmth/emotional support, intrusiveness, engagement with child, positive and negative affect, dyadic synchrony and involvement	Intervention had positive effects on fathers' interactions skills with infants and their involvement on work days but not home days.
Eyberg & Matarazzo (1980)	Families of children with speech and language deficits	4-9 years	Two treatments: group didactic training (reading, homework, and feedback on homework) and parent-interaction training (description, modeling, practice with feedback)	Behavioral Coding System used to measure 24 discrete behavior categories of parent and child behaviors	Improvement in parent and child behaviors for parent-interaction training; no improvements for group didactic training
Eyberg & Robinson (1982)	Families of children with active behavior problems	Mean = 4 years	Description, modeling, practice with coaching (bug in ear device)	Parent: praise, direct command, no opportunity Child: deviance, compliance, noncompliance	Parent and child behaviors improved; effect generalized to untreated sibling behavior

(table continues)

Table 1 (continued).

Reference	Population	Age of Children	Training Medium	Measures	Outcomes
Foster & Roberts (2007)	Families of children with disruptive behavior	2-7 years	Written materials, video model, quiz, practice, and feedback; if criterion was not met then in-vivo modeling and coaching (bug-in-ear device) was used	Parent: descriptions, praise, imitations, instructions, questions, contingent attention Child: compliance	Parent and child behavior improved
Gardner, Burton & Klimes (2006)	Families of children with conduct problems	2-9 years	Group training; video models, discussion, role-plays, practice at home	Parent: positive and negative parenting Child: negative behavior; independent play	Significant effects found for child and parent behavior
Girolametto, Verbey & Tannock (1994)	Families of children with developmental delays	1-3 years	Instructional guidebook and video feedback	Parent and child: interactive and unitary engagement, un-engagement Child: acquisition of joint attention skills	Parents successfully facilitated an increase in duration and frequency of interactive engagement
Gershater-Molko, Lutzker & Wesch (2003)	Families at risk or reported for child abuse and neglect	0-5 years old	Description, modeling, practice with feedback	Parent: leveling, attending, touching, verbalizations, giving instructions, and incidental teaching Child: verbalizations, affect, aggression, and following instructions	Statistically significant improvements were seen in health training, home safety, and parent-child interactions.
Greene, Kamps, Wyble & Ellis (1999)	Families of children involved in an on-going behavior prevention project	4-7 years	Written information, discussion, modeling, role-playing, practice, and feedback	Parent: praise, instructions, interactions Child: on task, compliance, inappropriate behavior	Parent use of praise and child compliance increased; child inappropriate behaviors decreased

(table continues)

Table 1 (continued).

Reference	Population	Age of Children	Training Medium	Measures	Outcomes
Harrold, Lutzker, Campbell & Touchette (1992)	Mother-child pairs; children diagnosed with some type of developmental disability	3-8 years	Two treatments: child management training (CMT) and planned activities training (PAT). Description, discussion of when to use, role-playing, and practice with feedback	Parent behaviors included leveling, verbal responses, verbal instructions, and appropriate follow-up. Child behaviors included on task, crying, and aggression.	PAT and CMT were equally effective in improving mother-child interactions in four families. Social validation questionnaire results indicated parents were satisfied and that PAT was slightly preferred.
Herbert & Baer (1972)	Mother-child pairs; child had behavior problems	5 years	Written instructions	Parent: attention Child: appropriate and inappropriate behaviors	Parent attention to appropriate behaviors and child appropriate behaviors increased
Huebner & Meltzoff (2005)	Typical families	2-3 years	Instructional videotape alone compared to video in group setting with in-vivo modeling, role-plays, and feedback	Parent: reading behaviors that reduce or increase child participation Child: total number of words and mean length utterance	Parent behavior improved; child mean length utterance and total number of words increased; more improvement with in-person training
Hughes & Gottlieb (2004)	Families with history of abuse	3-8 years	Series of 6 to 10 videotapes that modeled parenting skills. After each vignette, therapist stopped video and led a focused group discussion	Parent: involvement, structure, autonomy support Child: autonomy	Parental involvement increased significantly; small increase in autonomy support; no improvement on structure and no difference in child behavior

(table continues)

Table 1 (continued).

Reference	Population	Age of Children	Training Medium	Measures	Outcomes
Hutchings et al. (2007)	Socially disadvantaged families of children at risk for developing conduct disorder	3-4 years	Series of 6 to 10 videotapes that modeled parenting skills. After each vignette, therapist stopped video and led a focused group discussion. Intervention also included role-playing	Primary measure used was the Eyberg child behavior inventory. Dyadic parent-child interaction coding system was used for direct observation of positive parenting and deviant child behaviors.	At follow-up in the intervention group, most of the measures of parenting and problem behavior in children showed significant improvement.
Koegel, Glahn & Nieminen (1978)	Mothers of children with autism	4-13 years	Three treatments: modeling, discussion, practice; video modeling with lecture, practice, and feedback; video without lecture divided into two parts (antecedent models and consequence models)	Parent: instructions, prompts, shaping, consequences, and discrete trials Child: correct responses	Videotape models of procedures were sufficient to teach adults; however, videotape models were not successful when divided into two parts without instruction
Koegel, Bimbela & Schreibman (1996)	Families of children with autism	Mean = 6 years	Video and in-vivo modeling, practice, and feedback	Parent: happiness, interest, stress, and communication style	Families in pivotal response training group showed more positive interactions

(table continues)

Table 1 (continued).

Reference	Population	Age of Children	Training Medium	Measures	Outcomes
Koegel, Symon & Koegel (2002)	Families of children with autism	3-5 years	In-vivo modeling and feedback	Parent: implementation of pivotal response techniques, affect Child: expressive verbal communication	Data indicate improvements in the parents' use of the procedures, parent affect, and child expressive language. Follow-up measures show generalization to home settings and maintenance.
Laski, Charlop & Schreibman (1988)	Families of children with autism	5-9 years	Discussion, in-vivo modeling, practice, and feedback	Parent: verbalizations Child: vocalizations and echolalia	Parents increased frequency of requiring child to speak and child vocalizations increased
Lim, Stormshak & Dishion (2005)	Typical families	12-13 years	One video presentation that included modeled examples and non-examples of target parent behavior. Video presentation was followed by a group discussion of the video	Parent-adolescent interactions (positive and negative family interactions) and self-reported parent management skills (parental involvement and parent motivation to change)	Significant results found for positive family interactions in video modeling group
Lutzker, Megson, Webb & Dachman (1985)	Families referred to the Illinois Department of Children and Family Services that had not received previous parent training by Project 12-Ways	4-7 years	Modeling, role-playing, and feedback	Parent: leveling, physical contact, simple and complex verbal statements, appropriate and inappropriate commands, incongruence, scolding, gestures only, and praise. Child: positive, neutral and negative behavior	Mothers showed generalization of the skill to new children (untrained); untreated child behavior improved as mothers learned skills.

(table continues)

Table 1 (continued).

Reference	Population	Age of Children	Training Medium	Measures	Outcomes
Mash & Terdal (1973)	Mothers of children with mental retardation	4-10 years	Video tapes examples and non-examples of appropriate play interactions were combined with therapist led group discussion.	Parent: commands, questions, interactions, praise, and negative comments during play Child: responses to mother's behavior	Mothers' use of commands during play decreased; child appropriate responses increased
Neef, Trachtenberg, Loeb & Sterner (1991)	Respite care providers for developmentally disabled children	Unknown	Three formats: alone, with partner, and in group. One videotape that included didactic instruction and modeling; accompanied by written guideline	Six areas of skills: preparation, daily routines, behavior management, physical/medical management, emergencies	No differences found between formats; respite care improved on 5 out of 6 skill areas for all trainees
Nixon, Sweeney, Erickson & Touyz (2003)	Families with oppositionally defiant children	3-5 years	Two treatments: standard (in-vivo modeling, discussion) and abbreviated (video modeling, in-vivo modeling, and discussion).	Parent: praise, criticisms, commands Child: compliance, deviant behavior	Standard treatment immediately superior to abbreviated but not at 6 mo follow-up

(table continues)

Table 1 (continued).

Reference	Population	Age of Children	Training Medium	Measures	Outcomes
Pollard, Ward & Barkley (1984)	Families of children diagnosed as hyperactive	6-7 years	Three treatments: parent training alone, Ritalin alone, and parent training with Ritalin Parent training used modeling, role-playing, and feedback	Parent: commands, command-questions, praise, negative, interaction, and no response (plus questionnaire responses). Child: compliance, independent play, negative, competing, interaction, and no response	Both treatments alone decreased amount of commands as well as parent ratings of deviant behavior; child compliance was variable. Combination of treatments failed to produce further improvements beyond each treatment alone.
Schreibman, Kaneko & Koegel (1991)	Families of children with autism	2-12 years	Two treatments: pivotal response and discrete trial; both used manuals, video models, and in-vivo feedback	Parent: enthusiasm, interest, happiness	Pivotal response training parent had more positive affect than discrete trial parents
Seung, Ashwell, Elder & Valcante (2006)	Fathers of children with autism	4-7 years	Two components trained: expectant waiting and imitation with animation; videotaped feedback was used as part of training	Ratio of parent utterances to the number of children's utterances; number of parents' verbal imitations; number of single word utterances produced by child; frequencies of child's verbal responses to the parent's questions.	Parent to child utterances decreased but the use of imitation by parents and the number of single words and different words by children increased.

(table continues)

Table 1 (continued).

Reference	Population	Age of Children	Training Medium	Measures	Outcomes
Symon (2005)	Primary caregivers of children with autism	2-5 years	Manual; in-vivo modeling, in-vivo feedback	Parent: fidelity of implementation Child: functional verbal utterances; appropriate behavior	Parents learned pivotal response techniques and generalized to home; training generalized to other caregivers; child behavior improved
Wahler (1980)	Families seeking psychological help for child behavior problems	4-10 years	Feedback from baseline performance; discussion; in-vivo model; practice	Parent: social interactions, aversive behavior Child: opposition	Child opposition decreased; mother aversive behavior decreased; not maintained at follow-up
Wahler & Meginnis (1997)	Typical mother-child pairs	Mean age 7.45 years	Two treatments: mirroring and praise; both used description, video models, and role-plays	Parent: mirroring, praise, instructions, responsiveness, and satisfaction Child: compliance and satisfaction	Mother and child satisfaction increased; child compliance increased; mother responsiveness increased
Webster-Stratton (1990)	Families with children diagnosed with oppositional defiant disorder, conduct disorder, or both	3-8 years	Two conditions: self-administered videotape modeling treatment (IVM) or IVM plus therapist consultation. Video modeling consisted of a series of 6 to 10 videotapes that modeled parenting skills.	Parent: distress, praise, non-intrusive descriptive statements, and critical statements Child: whining, crying, physical negative behavior, smart talk, yelling, destructive behavior, and noncompliance	Both groups improved but children from IVM plus therapist group were significantly less deviant

(table continues)

Table 1 (continued).

Reference	Population	Age of Children	Training Medium	Measures	Outcomes
Webster-Stratton (1994)	Families with children diagnosed with oppositional defiant disorder, conduct disorder, or both	3-8 years	Two treatments: basic and advanced. Both used a series of 6 to 10 videotapes that modeled parenting skills. After each vignette, therapist stopped video and led a focused discussion.	Parent: distress, praise, non-intrusive descriptive statements, and critical statements Child: whining, crying, physical negative behavior, smart talk, yelling, destructive behavior, and noncompliance	Both groups significantly improved; additionally advanced treatment produced significant improvements in parent communication, problem-solving skills, and satisfaction
Wells et al. (2006)	Families of children with ADHD	7-10 years	4 conditions: medical management, behavior therapy, combined (medical and behavior), and control; used group and individual training; child attended summer program and had assistance at school	Parent: setting stage, behavior management, annoy, positive reinforcement, and warmth Child: complaining or whining, verbal abuse, compliance, and likeable	The combined treatment produced significantly greater improvements in parent behavior; no significant effect on child behavior across conditions
Zangwill (1984)	Families with children who were felt by their parents to have serious conduct problems	2-8 years	Discussion, role-play, coaching (bug-in-ear device)	Parent: rate of reinforcement and punishment Child: rate of compliance and deviant behavior	Rate of reinforcement and compliance increased; rate of punishment decreased; generalized to home setting

Table 2

Brief Definitions of Parent and Child Measures

Behavior	Recording	Participant	Definition
Appropriate Instructions	Event	Parent	Any verbal utterance emitted by the adult that directs the child to immediately engage in an acceptable form of a given behavior; instructions are stated directly and specify the child behavior to be initiated.
Inappropriate Instructions	Event	Parent	Instructions that are nonspecific, do not give the child an opportunity to follow the instruction, consist of gestures only, are overly complex, or are inappropriate for the child's vocabulary.
Affirmations	Event	Parent	Verbal statements that explicitly state parent approval (e.g., a praise statement) or repeat/rephrase child's utterance.
Elaborations	Event	Parent	Parent adds descriptions or sounds to the activity in which the child and/or parent is engaged.
Open-Ended Questions	Event	Parent	Questions that cannot be answered with a yes or no.
Yes-No Questions	Event	Parent	Questions that can be answered with a yes or no that are not indirect commands.
Suggestions	Event	Parent	Parent suggests ways for the child to expand on the activity in which the child is engaged.
Choices	Event	Parent	Parent presents opportunity for child to pick rewards, do activities, go any places, and/or pick toys to play with.
Prohibitions	Event	Parent	Verbal statements that state parent disapproval or verbal imperatives that specify for the child to discontinue certain behavior.
Proximity	Interval	Parent	Parent and child are within 2 feet of each other (within arms reach).
Interaction	Interval	Parent	Parent and child are doing something together. This could be a play activity or a conversation about the activity. There must be some type of exchange of materials, actions, and/or words between the parent and child.

(table continues)

Table 2 (continued).

Behavior	Recording	Participant	Definition
Leveling	Interval	Parent	Parent assumes a physical position that approximates the height of the child so that he/she is able to make horizontal eye contact.
Appropriate Touch	Interval	Parent	Direct physical contact made by the adult to the child (or his/her clothing) in an affectionate, gentle, pleasant, or helping manner.
Inappropriate Touch	Interval	Parent	Direct physical contact made by the adult to the child (or his/her clothing) that is rough, painful, constraining, or restraining.
Positive Affect	Interval	Parent and child	Any facial expression or vocalization made by parent/child which is indicative of positive emotion.
Negative Affect	Interval	Parent and child	Any facial expression or vocalization made by the parent/child which is indicative of negative emotions
Off Camera	Interval	Parent and child	Parent/child leaves the frame of the video (e.g., not on camera).
Compliance	Event	Child	After an instruction by the adult, the child begins the appropriately requested behavior within 10 seconds of the first instruction.
Positive Verbalizations	Interval	Child	A question, answer, interpretation, elaboration, story, attention statement, or vocal noise.
Negative Verbalizations	Interval	Child	Any defiant, socially unacceptable, or disrespectful statements, comments, or vocal noises made by the children.
Appropriate Physical Movements	Interval	Child	Physical contact with materials in an appropriate manner; engagement in physical activities in an appropriate manner.
Inappropriate Physical Movements	Interval	Child	Any physical contact or gesture to make such contact with or toward another person, animal, or materials in a manner that could cause harm or discomfort or is likely to if that behavior continues; engagement with materials in an inappropriate manner.

Table 3

Summary of Event Recording IOA Across Conditions

Behaviors	Occurrence Averages		
	Baseline	Family Interaction Video	Video with Affirmation Instruction
Appropriate instructions	97%	89%	88%
Inappropriate instructions	85%	91%	100%
Affirmations	91%	90%	90%
Elaborations	88%	93%	91%
Open-ended questions	95%	92%	82%
Yes-no questions	87%	92%	92%
Suggestions	92%	100%	86%
Choice	100%	100%	100%
Prohibitions	89%	94%	93%
Child compliance to instructions	87%	94%	93%

Table 4

Summary of Event Recording IOA Across Families

Behaviors	Occurrence Averages		
	Family 1	Family 2	Family 3
Appropriate instructions	89 %	94%	91%
Inappropriate instructions	94%	91%	92%
Affirmations	84%	100%	87%
Elaborations	86%	93%	93%
Open-ended questions	90%	83%	97%
Yes-no questions	95%	84%	92%
Suggestions	88%	90%	100%
Choice	100%	100%	100%
Prohibitions	100%	92%	90%
Child compliance to instructions	91%	91%	91%

Table 5

Summary of Interval Recording IOA Across Conditions

Behaviors	Occurrence Averages			Non-Occurrence Averages		
	Baseline	Family Interaction Video	Video with Affirmation Instruction	Baseline	Family Interaction Video	Video with Affirmation Instruction
Proximity	94%	96%	99%	90%	93%	96%
Interactions	93%	94%	100%	86%	85%	100%
Leveling	99%	99%	99%	96%	84%	96%
Appropriate touch	97%	93%	81%	97%	96%	97%
Inappropriate touch	89%	100%	100%	99%	100%	100%
Parent positive affect	70%	86%	65%	86%	93%	68%
Parent negative affect	80%	75%	100%	98%	97%	100%
Parent off camera	100%	95%	93%	100%	98%	98%
Child positive affect	84%	80%	73%	89%	90%	77%
Child negative affect	92%	75%	100%	99%	98%	100%
Child appropriate verbalizations	93%	93%	99%	86%	85%	88%
Child inappropriate verbalizations	100%	100%	100%	100%	100%	100%
Child appropriate physical movements	92%	91%	92%	93%	89%	89%
Child inappropriate physical movements	95%	90%	100%	99%	97%	100%
Child off camera	100%	95%	95%	100%	98%	99%

Table 6

Summary of Interval Recording IOA Across Families

Behaviors	Occurrence Averages			Non-Occurrence Averages		
	Family 1	Family 2	Family 3	Family 1	Family 2	Family 3
Proximity	93%	98%	100%	84%	98%	100%
Interactions	92%	98%	98%	88%	95%	89%
Leveling	98%	99%	98%	88%	95%	89%
Appropriate touch	91%	87%	94%	97%	97%	96%
Inappropriate touch	100%	89%	100%	100%	99%	100%
Parent positive affect	71%	76%	67%	79%	84%	80%
Parent negative affect	78%	85%	100%	98%	98%	100%
Parent off camera	90%	100%	100%	96%	100%	100%
Child positive affect	74%	79%	87%	78%	89%	89%
Child negative affect	83%	92%	100%	99%	99%	100%
Child appropriate verbalizations	93%	95%	98%	80%	91%	90%
Child inappropriate verbalizations	100%	100%	100%	100%	100%	100%
Child appropriate physical movements	98%	85%	94%	94%	90%	85%
Child inappropriate physical movements	93%	95%	100%	99%	98%	100%
Child off camera	97%	100%	93%	98%	100%	99%

Table 7

Summary of Modeled Behavior on Video

Parent Behaviors		Parent-Child Behaviors	
Affirmations	53 instances (51 with subtitles in affirmation instruction video)	Proximity	45 intervals
Prohibitions	0 instances	Leveling	45 of 60 intervals
Positive affect	41 of 60 intervals	Appropriate touch	25 of 60 intervals
Negative affect	0 of 60 intervals	Inappropriate touch	0 of 60 intervals
Appropriate instructions	16 instances	Interactions	56 of 60 intervals
Inappropriate instructions	0 instances		
Suggestions	19 instances		
Elaborations	48 instances		
Open-ended questions	8 instances		
Yes-no questions	6 instances		
Choice	0 instances		

Table 8

Activity Description for Family 1

	Baseline			Family Interaction Video			Video with Affirmation Instruction		
Bike and little truck (racing)	■	■	■						
Bike and little truck (crashing into each other)	■	■	■						
Bike and little truck (hauling)		■	■						
Tickling		■	■						
Round ball and football (throwing, catching, and rolling)					■	■			
Mr. Potato Head® toy (creating and dressing)								■	
Large car (child sitting on top and riding)								■	■
Buzz Lightyear (working on him with tools)						■			
Buzz Lightyear and Woody (talking to each other)									■
Buzz Lightyear and Woody (flying)									■
Buzz Lightyear and Woody (working on them with tools)									■
Big truck (driving)			■	■	■				
Big truck and bike (racing)			■	■	■				
Big truck and bike (hauling)			■	■	■				
Big truck (lifting and flying through air)			■	■	■				
Big truck (trying to ride it)			■	■	■				
Big truck, bike, and car (crashing into each other)			■	■	■				
Medium truck (working on it with tools)						■			
Large car (getting gas and paying for it)								■	
	1	2	3	4	5	6	7	8	9

Darkened squares represent 10-minute observation in which the activity occurred

* Hasbro, Inc., Pawtucket, RI, <http://www.hasbro.com>

Table 9

Activity Description for Family 2

	Baseline			Family Interaction Video			Video with Affirmation Instruction		
Basket of toys <i>(talking about toys)</i>	Darkened	Darkened	Darkened	Darkened	White	White	Darkened	White	Darkened
Action figures <i>(riding vehicles)</i>	Darkened	Darkened	White	Darkened	White	Darkened	White	White	Darkened
Book <i>(reading book and talking about it)</i>	White	White	White	White	White	White	Darkened	White	White
Book <i>(making funny animal sounds)</i>	White	White	White	White	White	White	White	White	White
Light up cars <i>(winding them up and letting go)</i>	White	White	White	Darkened	White	White	White	White	White
Magnet erase board <i>(drawing pictures)</i>	White	White	Darkened	White	White	White	White	White	White
Magnet erase board <i>(writing name)</i>	White	White	White	White	White	White	Darkened	White	White
Spider-Man® punching bag <i>(punching it back and forth)</i>	White	White	White	White	White	Darkened	White	White	White
Spider-Man punching bag <i>(riding it like a horse)</i>	White	White	White	White	White	Darkened	White	White	White
Farm with farm animals <i>(where animals go and what sounds they make)</i>	White	White	White	White	Darkened	White	White	White	White
Cars <i>(crashing)</i>	Darkened	Darkened	White	White	White	White	White	White	White
Cars <i>(monster truck rally line-up)</i>	White	White	White	White	White	White	White	White	Darkened
Cars <i>(driving)</i>	Darkened	Darkened	White	White	White	White	White	White	White
	1	2	3	4	5	6	7	8	9

Darkened squares represent 10-minute observation in which the activity occurred

* Marvel Characters, Inc., Beverly Hills, CA, <http://www.marvel.com>

Table 10

Activity Description for Family 3

	Baseline			Video with Affirmation Instruction	
Barney™ video (watching video and singing songs)	■				
Barney video (watching video and dancing)					
Barney video (watching video and naming characters)					
Memory®† game (playing the game together)		■			
Book (reading book and talking about it)			■		
Candy Land®† game (playing game together)				■	■
	1	2	3	4	5

Darkened squares represent 10-minute observation in which the activity occurred

* Lyons Partnership, L.P., Allen, TX, <http://www.hitentertainment.com>

† Hasbro, Inc., Pawtucket, RI, <http://www.hasbro.com>

Table 11

Summary of Video Checklist of Parent Behavior for Family 1

	Family 1					
	Family Interaction Video			Video with Affirmation Instruction		
	1	2	3	1	2	3
Does the parent attend to the video (she was not distracted for three seconds or more)?	No	Yes	Yes	No	Yes	Yes
Does the parent get distracted by a child (ten seconds or more)?	Yes	Yes	Yes	Yes	No	Yes
Does the parent replay a portion of the video while viewing?	No	No	No	No	No	No
Does the parent write down any notes from the content of the video?	No	No	No	No	No	No
Does the parent make comments regarding the content of the video? If yes, describe briefly.	Yes Answered questions asked by child about video	No	No	No	No	Yes Answered questions asked by child about video
Does parent ask questions regarding the content of the video?	No	No	No	No	No	No

Table 12

Summary of Video Checklist of Parent Behavior for Family 2

	Family 2				
	Family Interaction Video		Video with Affirmation Instruction		
	1	2	1	2	3
Does the parent attend to the video (she was not distracted for three seconds or more)?	Yes	Yes	Yes	Yes	Yes
Does the parent get distracted by a child (ten seconds or more)?	Yes	No	No	No	No
Does the parent replay a portion of the video while viewing?	No	No	No	No	No
Does the parent write down any notes from the content of the video?	No	No	No	No	No
Does the parent make comments regarding the content of the video? If yes, describe briefly.	Yes Said intro pictures were cute; said it was nice to see fathers interactions with children	No	Yes Commented when she noticed that the video had been changed	Yes Laughed at some of the child models and said they were cute	No
Does parent ask questions regarding the content of the video?	No	No	No	No	No

Table 13

Summary of Video Checklist of Parent Behavior for Family 3

Family 3		
Video with Affirmation Instruction		
	1	2
Does the parent attend to the video (she was not distracted for three seconds or more)?	Yes	Yes
Does the parent get distracted by a child (ten seconds or more)?	Yes	Yes
Does the parent replay a portion of the video while viewing?	No	No
Does the parent write down any notes from the content of the video?	No	No
Does the parent make comments regarding the content of the video? If yes, describe briefly.	No	Yes Answered questions asked by child about video
Does parent ask questions regarding the content of the video?	No	No

Table 14

Responses for Each Family on the Parent Satisfaction Questionnaire

Question	Response		
	Family 1	Family 2	Family 3
Watching the parent-child interactions video intervention has improved my relationship with my child(ren).	Agree	Neutral	Agree
The video demonstrations were useful.	Agree	Agree	Neutral
The video helped my child and I have more fun together.	Strongly agree	Agree	Agree
The video gave me ideas about how to play with my child.	Strongly agree	Agree	Agree
The video gave me ideas about how to encourage my child during play.	Agree	Agree	Agree
I would recommend this video to other parents.	Strongly agree	Agree	Strongly agree
The video has <i>not</i> changed the way I interact with my child(ren).	Strongly disagree	Disagree	Disagree
What (if anything) would you change about the video and its presentation?	Nothing	None	Nothing

Parent Behaviors

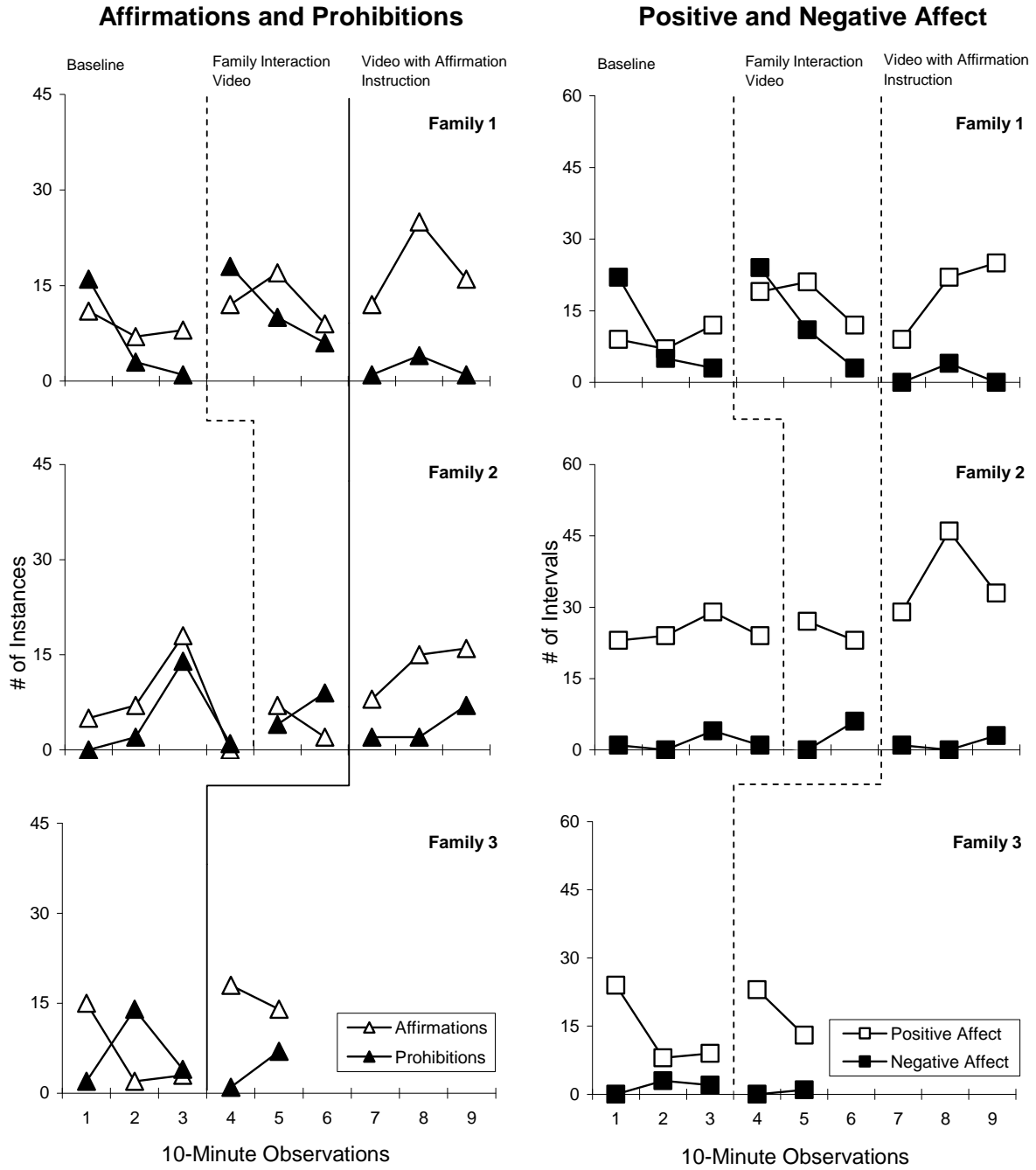


Figure 1. Parent affirmations, prohibitions, and affect.

Parent Behaviors

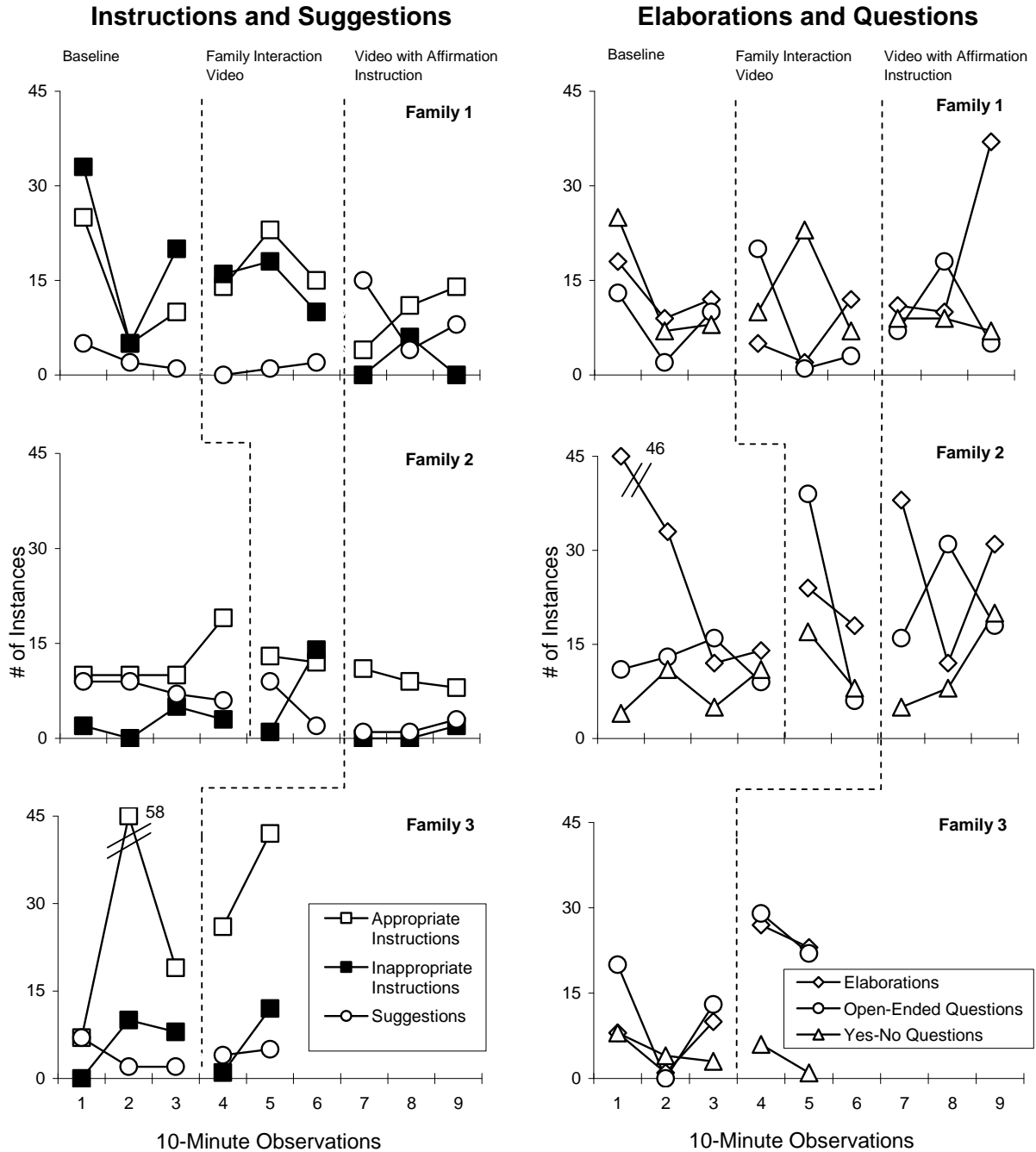


Figure 2. Parent instructions, suggestions, elaborations, and questions.

Child Behaviors

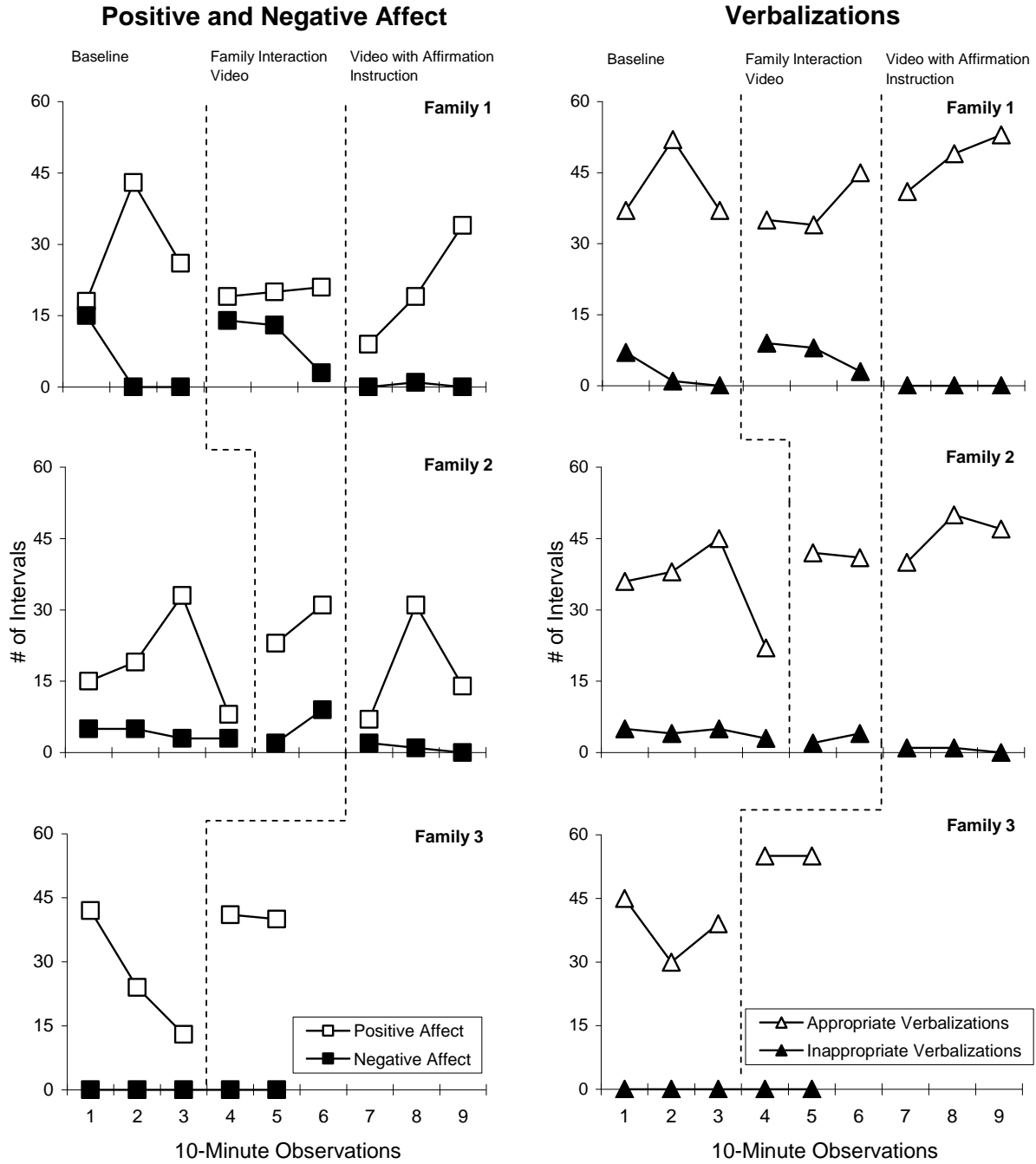


Figure 3. Child affect and verbalizations.

Parent and Child Behaviors

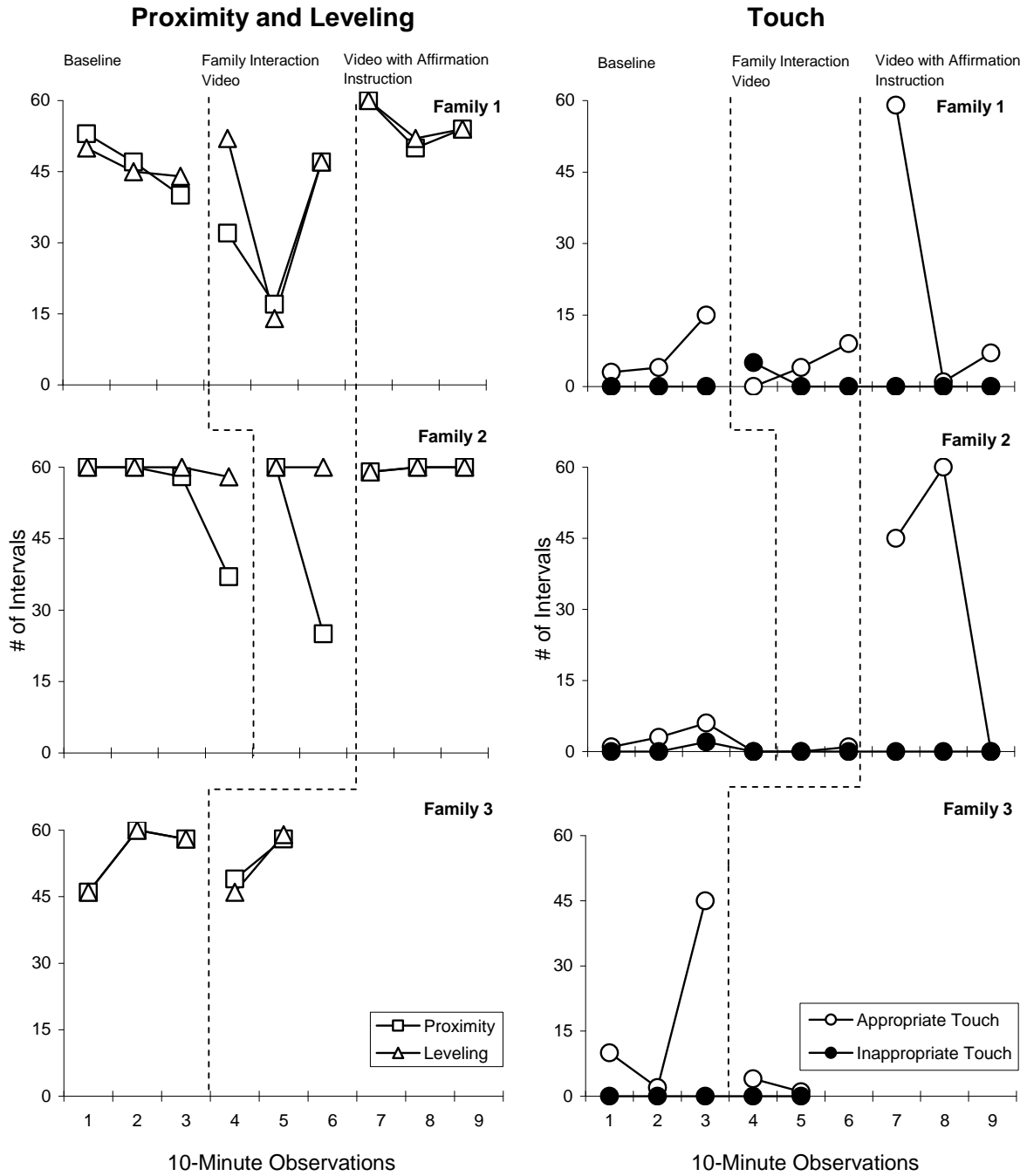


Figure 4. Parent and child proximity, leveling, and touch.

Parent and Child Behaviors

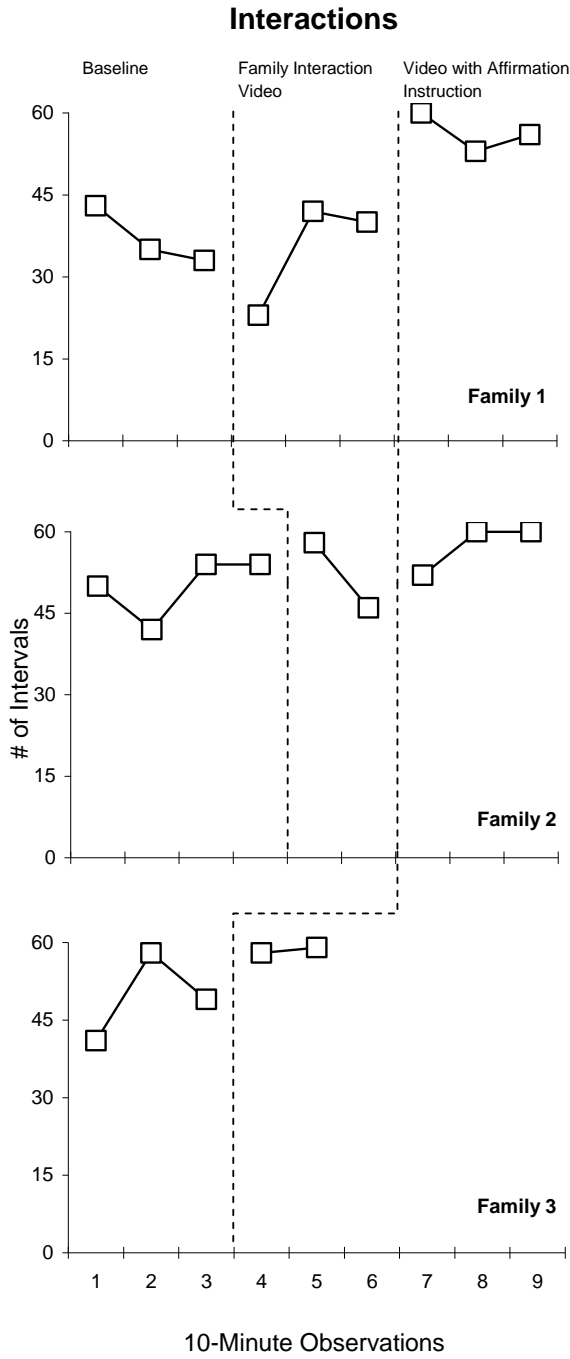


Figure 5. Parent and child interactions.

APPENDIX A
SAMPLE OF VIDEO FRAMES FROM MODEL

Sample of Video Frames from Model

Vignette 1



Vignette 2



Vignette 3



Vignette 4



Vignette 5



Vignette 6



Vignette 7



Vignette 8



Vignette 9



APPENDIX B
RECORDING PROTOCOL

Observation Code

This observation system is adapted from Ala'i-Rosales, Family Connections Project; Forehand and McMahon, 1981, *Helping the Noncompliant Child: A Clinician's Guide to Parent Training*; Hart & Risley, 1995, *Meaningful Differences in the Everyday Experience of Young American Children*; and Lutkzer & Bigelow, 2002, *Reducing Child Maltreatment: A Guidebook for Parent Services*.

You have been asked to score a ten minute video clip taken from an observation of family at home. The principle investigator will give you a list of file names that correspond to the video clips that you will be asked to score.

The following definitions correspond to the data sheets you have been given. 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 10 minute clip.

The behaviors are grouped according to how/when you should score them. For example, Group 1 behaviors will all be scored at the same time (the first time you watch the 10 minute clip), then Group 2 behaviors will be scored (the second time you watch the 10 minute clip), and so on. Group 1 behaviors will be scored by tallying the frequency of each target behavior. Group 2 and Group 3 behaviors will be scored using partial interval recording: circle the symbol for the behavior in the corresponding 10 second interval if the behavior occurs at anytime within those 10 seconds (see data sheet). For example, if the behavior starts in the 0-10" interval and ends in the 21-30" interval, you would check off 3 intervals for that behavior.

For families with two parents who watched the video, separate data sheets will be scored for each parent (if both parents were present in the 10 minute clip and both interacted with the child). The principle investigator will notify you when this is needed. For families with multiple children present in the 10 minute video clip, score all of the interactions with the child of interest (the principal investigator will inform you which child that is).

Use the following guidelines for when to exclude intervals from data collection. Denote an excluded interval or section of behavior by drawing an x through it. Visual demonstrations are provided on the following pages.

1. *Data sheet 1 is used to record parent behaviors (except for child compliance to instructions). Only score these behaviors if they occur during an interaction with the child of interest. For example, you would not score a prohibition if it was directed to another child in the room. Since frequency is being recorded, do not worry about when the parent or child is off camera. However, please note within the one-minute interval block (notes section on the data sheet) if the parent or child leaves the frame at anytime.*
2. *Data Sheet 2 is used for recording both parent and child behaviors. Score for parent and child if any of these behaviors occur within the interval. Data sheet 3 is used for recording only child behaviors.*
 - a. *If the parent or child leaves the camera frame during a 10-second interval, circle parent or child under the "Off Cam" section of the data sheet (for the interval in question). For example, if the parent was out of the camera frame for the beginning of the interval but came into the frame before the end of interval and interacted with her child: circle parent under "Off Cam" section and also circle any target behaviors that were observed before the interval ended (e.g., P, I, L, Pa+, Pa-, and so on). Score Off Cam for parent on Data Sheet 2 and Off Cam for child on Data Sheet 3.*

- b. If the frame is distorted or blurry (for example, in the beginning of the clip when the video is recording while the lens cap is being removed), cross out the entire interval by drawing an x through it (see Example E).
- c. Since the recording system is partial interval, if you cannot see or hear the behaviors occurring for any part of the interval—those behaviors need to be excluded (the exception would be when the parent or child actually moves off camera during an interval because you would score that separately). There are three ways to exclude: 1) the entire interval (see example E); 2) the parent behaviors (P, I, L, Pa+, Pa-, T+, T-); and 3) the child behaviors (Ca+, Ca-, V+, V-, Ph+, Ph-). Since the parent behaviors are all in relation to the child, you can still score them when the parent is off camera but the child is on camera (because you know that the parent is not proximal or level, they are not having a play interaction, and the parent is not showing any affect to the child (see example C). There may be a reason that you need to exclude only the child behaviors (child if off camera for the entire interval—see example G). The main point is: exclude by section (by one of the three ways). Do not exclude by target behavior only.
3. Data Sheet 4 is a 10 item checklist. It is intended to capture a more global measure of the observation. Score + for items completed correctly according to the definitions, score – for items completed incorrectly or not completed at all, and score N/A for items that were not applicable. For example, if the video clip does not start at the beginning of the interaction, you would score N/A for explain activity, explain consequences, and explain rules because that usually happens at the beginning of the interaction.

Data Sheet Scoring Examples

Data Sheet 1

Min	Instructions Circle tally mark if child complied	Appropriate (AI)	Inappropriate (II)	Affirmations (Aff)	Elaborations (Ela)	Questions Write O for OEQ and X for YNQ Open-Ended (OEQ) Yes/No (YNQ)	Suggestions (Sug)	Choices (Ch)	Prohibitions (Pro)	Interaction Partners/Materials/Notes
0:00	I II	AI	II	Aff	Ela	OOOO XX OEQ/YNQ	Sug	Ch	Pro	Mother and son getting blocks out of closet.
1:00		AI	II	Aff	Ela	O OEQ/YNQ	Sug	Ch	Pro	Mom left to check dinner. Blocks on floor.

- Note in the first minute that 4 appropriate instructions were scored (but none were complied with), 1 inappropriate instruction was scored, 3 affirmations, 4 open-ended question, 2 yes/no questions, and 1 suggestion. The notes tell us that this all occurred while the mother and son were getting the blocks out of the closet.
- During the second minute, 2 elaborations were scored, 1 open-ended question, 1 suggestion, and one prohibition. The notes tell us that at this point the blocks were on the floor and that the mother left the room for a period of time.

Data Sheet 2

0:00-0:09		0:10-0:19		0:20-0:29		0:30-0:39		0:40-0:49		0:50-0:59	
P	I	P	I	P	I	P	I	P	I	P	I
T+		T+		T+		T+		T+		T+	
T-		T-		T-		T-		T-		T-	
Pa+	Pa-	Pa+	Pa-	Pa+	Pa-	Pa+	Pa-	Pa+	Pa-	Pa+	Pa-
Parent Off Cam Child	Parent Off Cam Child	Parent Off Cam Child	Parent Off Cam Child	Parent Off Cam Child	Parent Off Cam Child	Parent Off Cam Child	Parent Off Cam Child				

Example A: In the example above, the parent was on camera for at least part of the interval (because parent behaviors were circled) but must have moved off camera for part of the interval (because parent was circled in the "Off Cam" section). The child was on camera for the entire interval.

Example B: In this example, the child was crying (Ca- and V-; see corresponding interval below); the parent bent down and patted the child on the back (P, L, T+). The child said yes (V+) and moved off camera to blow his nose (child was circled in the "Off Cam" section). During this time, the child was walking back and forth but is not physically manipulating any materials (Ph not circled). The parent and child were also not engaged in a play activity (no I circled).

Example C: The parent was off camera for the entire interval. However, the child was still on camera. So, child behaviors were scored if they occurred (see corresponding intervals below). Parent behaviors are all in relation to the child (even affect) so they can also be scored—they were left blank because the parent was not interacting with the child at all (out of room). The child had neutral affect—so affect was not circled.

Example D: This example shows that positive and negative behaviors can be scored in the same interval (Pa+ and Pa-; T+ and T-).

Example E: This example shows what the data sheet would look like if the whole interval was excluded: an x would be drawn through the entire interval. In this example, the whole frame was blurry for part of the interval (so behaviors for the parent and the child could not be scored). See that the corresponding interval is crossed out on Data Sheet 3 below.

Data Sheet 3

0:00-0:09		0:10-0:19		0:20-0:29		0:30-0:39		0:40-0:49		0:50-0:59	
Ca+	Ca-	Ca+	Ca-	Ca+	Ca-	Ca+	Ca-	Ca+	Ca-	Ca+	Ca-
V+		V+		V+		V+		V+		V+	
V-		V-		V-		V-		V-		V-	
Ph+	Ph-	Ph+	Ph-	Ph+	Ph-	Ph+	Ph-	Ph+	Ph-	Ph+	Ph-
Parent Off Cam Child	Parent Off Cam Child	Parent Off Cam Child	Parent Off Cam Child	Parent Off Cam Child	Parent Off Cam Child	Parent Off Cam Child	Parent Off Cam Child	Parent Off Cam Child	Parent Off Cam Child		

Example F: In this example, the whole interval has been included but target behaviors did not occur (so nothing was circled).

Example G: In this example, parent behaviors are scored (see corresponding interval above) but child behaviors are excluded. This would be an instance where the parent was on camera but the child was off camera for the entire interval.

Group 1 Behaviors (see Data Sheet 1)

Appropriate instructions (AI): Any verbal utterance emitted by the adult that directs the child to immediately engage in an acceptable form of a given behavior; instructions are stated directly and specify the child behavior to be initiated. Instructions should be stated in a neutral or positive tone of voice (no negative affect) and should be simple (2-10 simple words within child's vocabulary). Parents should give the child an opportunity to respond following the instruction (10 seconds) and refer to one response at a time. Questions are not scored as appropriate instructions (but some questions can be considered as suggestions; see definition).

Examples: "Put your toys away."; "It is time to go to bed."; "Put the green block on top of this red one"; "Come over here" (if parent is within the child's field of vision); "okay sweetie, get out of bed and come into the kitchen"; "play with the blocks"; "look here"; "come here"; "build it higher"; "find another one"; "color it red"; "tell you sister about it"; "roll it into a ball"; "put it below the line"; "let me put the block on the tower"; "you need to move your feet"; "Run, run, run" (said in one breath, really fast, count as 1 instruction); "Go, quick, fast, hurry" (said in one breath, really fast, count as 1 instruction).

Note: Instructions should include each aspect of the definition in order to be scored as appropriate. An instruction in which the content is appropriate but that is given in an inappropriately angry or mean tone is scored as inappropriate. In the case, negative affect is also scored.

Non-Examples: Parent states instruction in a positive manner but exceeds 10 words (e.g., "I need you to go into your room, look for all the toys that are out on the floor, and then put them away" would exceed the 10 word limit) or uses language that is not within the child's vocabulary (e.g., "you need to get this room organized"); parent does not give child a chance to respond before giving another instruction (*in this case, mark the first instruction as appropriate if it meets the other definition requirements and then mark the repeated instructions as inappropriate—if the parent did not give the child at least 10 seconds to comply*); parent tells the child to terminate a given behavior (*this would be scored as a prohibition not an instruction*); parent asks child "do you want to play blocks", child says "no", and then parent says "come on, let's play with the blocks" (score as 2 suggestions).

Inappropriate instructions (II): Instructions that are nonspecific, do not give the child an opportunity to follow the instruction, consist of gestures only, are overly complex (11 or more words), or are inappropriate for the child's vocabulary.

Examples: Parent only uses gestures or facial expression to communicate with the child; "Pick these up...pick these up..." (without giving the child an opportunity to respond before a second instruction). *In this case, mark the first instruction as appropriate if it meets the other definition requirements and then mark the repeated instructions as inappropriate—if the parent did not give the child at least 10 seconds to comply.* Parent gives a complex instruction (e.g., "You need to go into your room, pick

up all of your dirty clothes, and then bring them into the laundry room”); parent uses language that is not within the child’s vocabulary (e.g., “pretend to be an architect”); parent says child’s name over and over again (e.g., Bryan,...Bryan...Bryan!); parent says “come here” in negative, angry tone.

Non-Examples: Parent gives child an appropriate verbal instruction that is accompanied by a gesture (e.g., pointing); parent tells the child to stop doing something (score as prohibition). If the child adds an instruction to clarify before the 10 seconds that the child had to comply, do not count as inappropriate instruction (e.g., parent says “come here Billy” and then follows that up with “come here and help me make the brownies” within 10 seconds, count as two instances of appropriate instructions). If parent gives instruction and child asks her to clarify or repeat, do not count as inappropriate instruction (e.g., parent says “come help me”, child asks “huh?”, and parent repeats “come help me”, count as two instances of appropriate instructions).

Child following instructions (indicated by a circled tally mark on the data sheet):

After an instruction by the adult, the child begins the appropriately requested behavior within 10 seconds of the first instruction.

Note: Following instructions should be scored within the interval in which the instruction occurs and is scored by circling the tally mark for the particular instruction. Following instructions should be scored, if it occurs, even when the parent gave the instruction inappropriately.

Examples: Child putting a toy away following an instruction to do so; child walking over to individual following an instruction to do so; child saying “thank you” following an instruction to do so; child looking following an instruction to look.

Non-Examples: Child saying “bye” following another individual saying “bye;” child handing an item to an individual following an instruction for the child to throw the item in the trash can; child putting a toy away following the phrase “honey, can you put this in the cupboard please?”; parent says “give me the truck” and then physically removes the truck from the child’s hands.

Affirmations (Aff): Verbal statements that explicitly state parent approval (e.g., a praise statement), utterances immediately following a child utterance the used one or more of the child’s contentive words in repetition, an expansion of the child’s utterance into a more acceptable form, an extension that added words to the child’s utterance, or statements that encourage the child’s behavior. These statements are directed back to the child. Affirmations must be made in a neutral or positive tone of voice (unless otherwise stated in the non-examples). For example: if the parent repeats back what the child said in a neutral tone of voice score affirmation but if the parent says “okay” in a neutral voice after the child says something do not score affirmation.

Examples: “Yeah!” (excited tone of voice); “Wow, I like that”; “you are so smart”; “how sweet”; “good job”; “nice!”; “excellent!”; “that’s neat”; “so, you want pasta” (after child

says he/she wants pasta); “I know you are playing in the sand” (after child says sand while playing in the sand); “thank you”; “that’s a great idea”; “You’re right, that’s a dog” (after child says dog); parent says “Okay”, “Alright”, “Sure”, or “Of course “ in an encouraging tone; “Super”; during block play while the child is building a tower, the parent says “Wow! It is getting so tall! (score affirmation and elaboration); parent asks the child “who will live in the building?”, the child says “people”, and the parent repeats “people”; child says “I need your help” and parent asks “what do you need my help with?” (score affirmation and open-ended question); parent says “Look what you did” with a positive tone of voice after the child builds a tall block tower.

Non-Examples: Parent says “Wow”; “Okay”, “alright”; “of course”; “sure”; or “I know” in a neutral or negative tone (even if the negative tone is sarcastic); sarcastically praising (saying nice job when child makes a mistake); parent says “you have so many blocks” (this is an elaboration not an affirmation); child says to sibling “give me the car” and the parent says to same sibling “give him the car” (the parent is not directing the statement back to the child of origin); parent says “Look what you did’ in a negative tone of voice after child breaks a toy.

Elaborations (Ela): Parent adds words (descriptions) or sounds to the activity in which the child is engaged or describes his/her own actions to the child. These statements or questions should be made in a positive or neutral tone of voice.

Examples: “Look, you put the soap on your feet.” (while the child is taking a bath); “oh no, I am driving the car over your head” (parent describing what she is doing); “wow, you have a lot of blocks”; “here is the green block.” “I’m gonna get you” (when parent and child are playing game of chase); the parent is playing cars with the child and says “vroom, vroom” as she pushes the car around; child is playing cars with parent and parent says “Oh no!” in an excited voice when the cars crash into each other; parent is pretending to fly an action figure through the air and asks “does he fly?” to child (score as elaboration and yes-no question).

Non-Examples: The parent describes events out of the blue (e.g., “apples are red and green” when it is not within the context of what that parent and child are doing or talking about). “Oh, great, you are finished” (said in a sarcastic tone of voice).

Open-Ended questions (OEQ): Questions that cannot be answered with a yes or no. Open-ended questions usually begin with “what”, “who”, “how”, or “where.” Open-ended questions can also start with “why”, but pay attention to the whole phrase to see if it is really a question that cannot be answered with a yes or no (e.g., some why phrases are actually suggestions and not an open-ended question; see examples below).

Examples: “Where do you put your arm?” (while child is putting on a shirt); “What do we do next?” (after child puts toothpaste on the toothbrush); “What should we do with these cups?”; “What color are these apples?” (while grocery shopping); “What kind of animal is that?”; “Where are your toys?”; “What did you do with your crayons?”; “Where is your big truck?”; “Why are doing that?”

Non-Examples: “Do you want to play with the blocks?” (a yes/no question); “Why don’t we play with the cars?” (a suggestion); “Why don’t you move over here?” (a suggestion).

Yes/No questions (YNQ) about the activity: Questions that can be answered with a yes or no that are not indirect commands. For a question to be considered a yes/no question (as compared to a suggestion), it has to pertain to an activity that the child is ALREADY doing. For example, if the child is coloring and the parent says “Are you coloring?” this would be scored as a yes/no question. But if the child is not coloring and the parent says “Do you want to color?”, a suggestion should be scored.

Examples: “Are you coloring?” (while child is coloring); “Are you helping Mommy?” (while child is trying to help); “Got it?” (when child is trying to reach for something); “Are you ready?” (when an activity is about to begin). “Do you like playing with cars?” (while child is playing with cars); “Yeah, you want to build something” (after child says he wants to build something—score as affirmation and yes/no question); parent is pretending to fly an action figure through the air and asks “does he fly?” to child (score as yes-no question and elaboration).

Non-Examples: “Where is your doll?” (score as open-ended question if stated in positive or neutral tone); “Why don’t we play with the cars?” (a suggestion); “Why don’t you move over here?” (a suggestion); “What is this mess?” (stated in a negative, accusatory tone—scored as a prohibition); “do you want to play with the dolls or with my little pony?” (score as choice); “Do you want to play with blocks?” (score as suggestion); “Do you need help?” (score as suggestion).

Suggestions (Sug): Parent suggests ways for the child to expand on the activity in which the child is engaged. Suggestions are similar to instructions but are not stated directly (they are indirect commands). Suggestions are characterized by beginning phrases like “why don’t we/you”, “how about we/you”, “let’s”, “what if we/you”, “see if”. Questions that seem to be yes/no questions (by topography of the answer), but are asked when the child is not engaged in the activity are considered suggestions (they still specify some motoric or verbal response). Suggestions must be made in a neutral or positive tone of voice.

Examples: “We can build a house with the blocks.”; “Let’s soak up the water with the sponge.”; “Why don’t we stack the cups and make a tower?”; “Let’s add the flour to the cookie dough and see what happens.”; “Why don’t you use the big blocks?”; “You need a little block to put in there.”; “Let’s play cowboys”; “Maybe you can tell me what it is called”; “See if that works.”; “Now, see if that will reach.”; “Do you want Mommy to help you?”; “Can I play with you?”

Non-Examples: “Put the car here” (score as appropriate instruction); “why did you do that?” (score as an open-ended question); “where does this go?” (score as an open-ended question); parent starts to say “Why don’t you”, but then pauses and says “move

over here” (parent changed command from indirect to direct when she paused—score as appropriate instruction); parent says “let’s don’t do that anymore, please (score as prohibition).

Choices (Ch): Parent offers the child choices (vocally or non-vocally) to pick rewards, and/or to do activities, and/or to go any places, and/or pick toys to play with. Each time the parent re-presents a choice given earlier in the observation, another instance of choice offered is tallied. Do not score choice when parent asks yes/no questions (e.g., “do you want the knife”) or when the parent asks open ended questions (e.g., “what do you want to play with?”). A choice is offered when at least two items/activities/etc. are presented to the child.

Examples: Parent holds up two items and says, "which one?;" Parent places two items on the floor and says, "pick one;" Parent says, "Do you want to play outside or in your room?;" parent holds up a cracker in one hand and juice in the other hand and presents them to the child (1 choice), the child walks away and when he returns, the parent picks the items back up and re-presents the cracker and the juice (1 choice).

Non-Examples: Child picks between two toys, parent is on the other side of the room; Parent says, "let’s go outside.;" parent asks child “what do you want to do?”; parent asks child “do you want the knife?” while playing with play-doh.

Prohibitions (Pro): Verbal statements that state parent disapproval or verbal imperatives that specify for the child to discontinue certain behavior (e.g., “Don’t,” “Stop,” “Quit,” or “Shut up”).

Examples: “Stop it”; “I don’t like that”; “You’d better not”; “Do NOT!”; “You are being mean”; “That’s bad”; the child asks to go get ice cream, parent says no but child starts to go over and get ice cream anyway, then parent says “ I said NO” (the second “no” would be an imperative telling the child to stop getting ice cream); “you are stupid...a moron....are ungrateful”; “shhh”; “you’re gonna hurt yourself”; “you’re not supposed to do that”; “be nice” (said after the child says something mean to a sibling); telling child “you’ll be fine” in an annoyed tone when child is crying.

Non-Examples: Telling a child to stop something playfully when it seems that it is not to discourage behavior but just playing with the child (“Don’t do it, I’m gonna get you” said in a playful manner); if the child asks permission for something (e.g., can I have some ice cream) and the parent says no; saying to the child “ you are silly” playfully when it seems that it is not to discourage child but just playing with child; saying “you’re spoiled rotten” playfully when it seems that is not to discourage the child but parent just playing with child”.

Group 2 Behaviors (see Data Sheet 2)

Proximity (P): Parent or child walks within 2 feet of each other (roughly within arms reach). Do not score proximity during pass bys. Pass bys are defined as when the parent or child walks by the other without stopping (e.g., the parent walks by the child on her way to go do something else).

Examples: Parent walks up to child and hands child towel. Child walks up and tugs at parent's shirt. Parent walks by child and stops to talk to him/her.

Non-examples: The child is sitting at the table, and the parent walks by on his/her (proximity for 1 second).

Parent/Child play interaction (I): Parent and child are doing something together. This could be a play activity or a conversation about the activity. There must be some type of exchange (a back and forth motion; initiation and reciprocation), whether it be materials, actions, and/or words. If the interaction starts in one interval (say the parent asks a question) and ends in another interval (the child answers), score both intervals for interaction. This interaction must be play or activity related and cannot be negative in nature. For example if the parent hands toy to child and says "look at this" and child takes toy and throws it at parent, this would not be scored as an interaction.

Examples: Parent is playing blocks with the child: handing the child blocks to put on the tower, talking about the activity, and directly putting blocks on the tower herself; parent is tickling child and child is laughing; parent is playing soccer with the child: ball is being kicked back and forth from parent to child; parent is racing cars with the child (the two cars are in competition as compared to playing cars alongside each other without any exchange); child is playing with blocks while parent sits beside him and talks about the activity (no exchange of materials but conversational exchange occurs about the activity).

Non-examples: Parent is playing blocks alongside the child but no exchanges are made of conversation or materials (parallel play); parent is talking to the child from the other room and child responds (not play related).

Leveling (L): Parent assumes a physical position that approximates the height of the child (1 foot rule) so that he or she is able to make horizontal eye contact. The parent's eyes should be no more than one foot above or below those of the child.

Examples: Parent kneels next to child; parent sits on the floor; parent sits next to the child on the couch; parent has child on his or her lap; parent holds the child

Non-Examples: Parent is standing next to child on floor (parent is standing and child is standing, but child is at least 4 feet shorter than parent) and talking to child (parent must look down at child because of height difference).

Appropriate touch (T+): Any direct physical contact in any area other than the groin or buttocks made by the adult to the child (or his/her clothing) in an affectionate, gentle, pleasant, or helping manner. This includes holding. This does not include instances when the parent is touching the child with objects (e.g., a toy).

Examples: Hugging; cuddling; kissing; patting; stroking; tickling; gentle bouncing; sitting on parent's lap; holding hands; having arms around the child; caressing; massaging; giving high fives; child gives mom a hug and mom scratches his back; child gives mom a hug and mom holds the hug for a few seconds; child asks to be picked up and mom picks him up; mom picks up child and holds him; mom takes child's hands and helps him open a container; child is sitting next to parent on the couch and their bodies are touching.

Non-Examples: Parent grabs the child's hand and pulls him toward the door in a rough manner; parent hits the outside of the child's hand when he reaches to turn on the video; parent is playing a toy car and is running over the child's head in a playful manner (contact is between the child and toy, not the child and parent).

Inappropriate touch (T-): Any direct physical contact by the adult to the child (or his/her clothing) that is rough, painful, constraining, or restraining.

Examples: Hitting; spanking; jerking; pulling; grabbing tightly; attempting to hug the child when the child is struggling to move away from the parent; tickling child despite that fact that child has asked for parent to stop

Non-Examples: Parent picks up child, child asks to be put down, and parent complies; child hits parent (count this as inappropriate physical movement for child instead).

Positive affect for parent (Pa +): Any facial expression or vocalization made by parent which is indicative of positive emotion. Positive emotions include happiness, enjoyment, pleasantness, and encouragement. Facial expressions include smiling and eye brow raises accompanied by smiles or looks of contentment. Vocalizations include laughing, yelling when smiling, and statements or questions with a lot of inflection or excitement.

Note: Only score Pa+ when you see a facial expression or hear a vocalization that is positive. Do not score neutral affect.

Parent Examples: Child says "Look, Mommy I got ice cream" and mother replies "I know, you got ice cream with cheerful inflection in voice and eyebrows raised. The child is upset and crying and mother says in sympathetic tone "oh sweetie, what's wrong?"; the parent is smiling at her child while she looks at him playing (note, that she is not saying anything); the parent cheerfully asks the child "what are going to do with that?"; the parent is laughing at what the child is doing or laughing with the child; the parent says "no I didn't" in a playful tone to the child (parent is laughing); parent is describing activity in a silly or playful tone (e.g., "oh, yeah, well I am gonna run over your feet").

Parent Non-Examples: Child says “Look, Mommy I got ice cream” and mother replies, “I know” with annoyance (facial expression also indicates annoyance); parent yells at child “I said stop” and looks at child in threatening way; parent is playing with child and looks neither happy nor upset.

Negative affect for parent (Pa -): Any facial expression or vocalization made by the parent which is indicative of negative emotions. Negative emotions include disapproval, dissatisfaction, disgust, confusion, un-sureness, embarrassment, tension, frustration, sarcasm, and regret. Facial expressions include frowning, grimacing, lip/cheek biting, eye rolls, and eye brow raises accompanied by frowns or looks of disapproval. Vocalizations include crying, yelling without smiling, and statements or questions that are threatening.

Note: Only score Pa- when you see a facial expression or hear a vocalization that is negative. Do not score neutral affect.

Parent Examples: Parent yells at child “stop that, right now”; while playing with child, parent looks around a lot and keeps checking watch; while interacting with the child, parent has a frown on his/her face; parent sighs heavily (but not in a playful manner); parent abruptly and harshly tells child, “I said put the block here, not here”; parent tells the child that he “needs to wait”, eyebrows are raised but face is not smiling and tone is very stern.

Parent Non-Examples: Parent is yelling (in the sense that volume is loud) but is clearly enjoying him/herself because he/she is smiling or laughing (as if part of a game with the child); parent tells child no, but is smiling and laughing; parent says “no honey” in calm voice; parent tells child to come back into the living room but is not harsh in tone and has neutral expression on face.

Group 3 Behaviors (see Data Sheet 3)

Positive affect for child (Ca +): Any facial expression or verbalization made by the child which is indicative of positive emotion. Positive emotions include happiness, enjoyment, contentment, comfort, relaxed, pleasantness, and encouragement. Facial expressions include smiling and eye brow raises accompanied by smiles or looks of contentment. Vocalizations include laughing, yelling when smiling, and statements or questions with a lot of inflection or excitement.

Note: Only score Pa+ when you see a facial expression or hear a vocalization that is positive. Do not score neutral affect.

Child Examples: Child says “Look, Mommy I got ice cream” in cheerful voice; child is enthusiastically trying to get parent’s attention by saying “Daddy, Daddy, come here.”

Child Non-Examples: Child is trying to get parent’s attention but his whining while he says “Daddy, Daddy, come here.”; child is crying; child is sitting with parent, refusing to play with arms crossed and frown on his face; child is talking about the activity but not in a very excited way; child is playing and has a neutral look on his face (he is concentrating on what he is doing).

Negative affect for child (Ca -): Any facial expression or vocalization made by the child which is indicative of negative emotions. Negative emotions include unhappiness, dissatisfaction, disgust, confusion, un-sureness, embarrassment, tension, frustration, sarcasm, and regret. Facial expressions include frowning, grimacing, lip/cheek biting, eye rolls, and eye brow raises accompanied by frowns or looks of disapproval. Vocalizations include crying, yelling without smiling, and statements or questions that are defiant.

Note: Only score Pa- when you see a facial expression or hear a vocalization that is negative. Do not score neutral affect.

Child Examples: Child is crying; child says “I don’t want to clean up” in a whiny or defiant voice; while parent is playing with child, child says “give me that” in a harsh voice and grabs a toy that the parent has; the child screams or cries and it seems that he/she is scared.

Child Non-Examples: Child is yelling (in the sense that volume is loud) but is clearly enjoying him/herself because he/she is smiling or laughing (as if part of a game with the parent); child yells “Mommy, watch this!” with volume at a yelling point but child is clearly excited; child screams “aghhh” as part of a game, eyebrows are raised in excitement; parent asks the child if he wants to play play-doh and he says “no” in neutral manner.

Appropriate verbalizations (V+): A question, answer, interpretation, elaboration, story, attention statement, or vocal noise. This includes requests for information regarding any of the day's activities, planned activities or routines, and remarks about school, work, or social occasions.

Examples: "When is lunch?"; "Can we go outside?"; "We went to the park."; "The house is tall."; "I want some juice."

Non-Examples: Any verbal that is associated with negative affect. The child says, "I want some juice" but in a demanding tone.

Inappropriate verbalizations (V-): Any defiant, socially unacceptable, or disrespectful statements, comments, or vocal noises made by the children.

Examples: Refusals to do something, complaining, whining, demanding, yelling, screaming, arguing, crying, repeatedly questioning something that the adult has already denied, repeatedly calling the adult's name (twice within 3 seconds; e.g., "Mom, Mom, ..."), threatening, warning, calling another person a derogatory or disrespectful name, including foul language; "When's lunch?!" (demanding); "I don't want to." (whining); "Mom, Mom, Mom . . ."; "I want to go outside!" (yelling, whining, arguing, or repeating)

Non-Examples: Child tells parent something in an urgent tone (e.g., "Mom, I have to go to the bathroom"). The child says "No" when the parent asks him/her a yes/no question.

Appropriate physical movements (Ph +): Physical contact with materials in an appropriate manner; engagement in physical activities in an appropriate manner (e.g., playing with toys according to conventional use).

Examples: Child is driving a toy truck, building with blocks; jumping on outdoor equipment (like a swing or slide); holding a book and looking at it; child is running around the room pretending to be Superman

Non-Examples: Climbing on shelves; chewing/biting on pretend food; jumping on couch; laying on couch sleeping; sitting on floor, looking at mother, but not engaged in activity or manipulating toy.

Inappropriate physical movements (Ph -): Any physical contact or gesture to make such contact with or toward another person, animal, or materials in a manner that could cause harm or discomfort or is likely to if that behavior continues; engagement with materials in an inappropriate manner (unconventional use).

Examples: Child physically strikes, grabs, kicks, pushes, trips, swings, spits at, bites, pulls hair of, pinches, scratches, or throws something at (not to, as in playing catch) another person or animal; tearing pages from a book that is not a workbook; mouthing blocks or toys; slamming doors; child is playing cars and runs the car over the parent's hand with enough force to cause the parent pain.

Note: Attempts to engage in these behaviors are also scored as inappropriate physical.

Non-Examples: Child pretend hits (during play) or hits but in a light, non-forceful, and playful manner (again as part of play); child is playing with cars and is running the cars into each other (pretend crashing).

APPENDIX C
DATA SHEETS

Data Sheet 1: Group 1 Behaviors

Date Scored: _____

Clip #: _____

Parent: _____

Observer: _____

Child: _____

1. Score video clip from Minute 0 (0:00) to the end of Minute 9 (9:59).
2. Put a tally mark (I) for each occurrence of the target behavior in the interval in which it occurred (from 0 to 9).
3. If a target behavior started in one interval but finished in another, put the tally mark on the line between the intervals.
4. For instructions, circle tally marks if the child complied with that instruction (appropriate and inappropriate).
5. Refer to observation code for a definition of each target behavior (as well as examples and nonexamples).
6. NOTE: Tone has to be neutral or positive in order to score appropriate instructions, affirmations, elaborations, and suggestions.

Min	Instructions <small>Circle tally mark if child complied</small>	Appropriate (AI)	Inappropriate (II)	Affirmations (Aff)	Elaborations (Ela)	Questions <small>Write O for OEQ and X for YNQ</small>	Open-Ended (OEEQ) <small>Yes/No (YNQ)</small>	Suggestions (Sug)	Choices (Ch)	Prohibitions (Pro)	Interaction Partners/Materials/Notes
0:00	AI	II	Aff	Ela	OEQ/YNQ	Sug	Ch	Pro			
1:00	AI	II	Aff	Ela	OEQ/YNQ	Sug	Ch	Pro			
2:00	AI	II	Aff	Ela	OEQ/YNQ	Sug	Ch	Pro			
3:00	AI	II	Aff	Ela	OEQ/YNQ	Sug	Ch	Pro			
4:00	AI	II	Aff	Ela	OEQ/YNQ	Sug	Ch	Pro			
5:00	AI	II	Aff	Ela	OEQ/YNQ	Sug	Ch	Pro			
6:00	AI	II	Aff	Ela	OEQ/YNQ	Sug	Ch	Pro			
7:00	AI	II	Aff	Ela	OEQ/YNQ	Sug	Ch	Pro			
8:00	AI	II	Aff	Ela	OEQ/YNQ	Sug	Ch	Pro			
9:00	AI	II	Aff	Ela	OEQ/YNQ	Sug	Ch	Pro			
Totals	AI	II	Aff	Ela	OEQ/YNQ	Sug	Ch	Pro			

Observer/Date Scored: _____
 Clip #: _____

Data Sheet 2: Group 2 Behaviors

Parent: _____
 Child: _____

1. Score video clip from Minute 0 (0:00) to the end of Minute 9 (9:59).
2. For proximity, interaction, leveling, and positive/negative touch: circle the target if it occurs in the interval.
3. For parent affect: circle Pa+, Pa^N, or Pa- if affect is positive, neutral, or negative in each interval (can circle all three within one interval).
4. If either the parent or child is off camera (Off Cam) during the interval, circle either parent and/or child in the off camera box at the bottom of the interval cell.
5. **Note that this data sheet is TWO PAGES (front/back).** You should flip over to the second page once minute 5:00 appears.
6. Refer to observation code for a definition of each target behavior (as well as examples and non-examples).

P=proximity I=interaction L=leveling Pa = parent affect (+ or -) T=touch (+ or -) Off Cam = parent or child

0:00-0:09			0:10-0:19			0:20-0:29			0:30-0:39			0:40-0:49			0:50-0:59			Interaction Partners/Materials/Notes		
P	I	L	P	I	L	P	I	L	P	I	L	P	I	L	P	I	L			
T+			T+			T+			T+			T+			T+					
T-			T-			T-			T-			T-			T-					
Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	Pa+		Pa-			
ParentOff CamChild			ParentOff CamChild			ParentOff CamChild			ParentOff CamChild			ParentOff CamChild			ParentOff CamChild					
1:00-1:09			1:10-1:19			1:20-1:29			1:30-1:39			1:40-1:49			1:50-1:59					
P	I	L	P	I	L	P	I	L	P	I	L	P	I	L	P	I	L			
T+			T+			T+			T+			T+			T+					
T-			T-			T-			T-			T-			T-					
Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	Pa+		Pa-			
ParentOff CamChild			ParentOff CamChild			ParentOff CamChild			ParentOff CamChild			ParentOff CamChild			ParentOff CamChild					
2:00-2:09			2:10-2:19			2:20-2:29			2:30-2:39			2:40-2:49			2:50-2:59					
P	I	L	P	I	L	P	I	L	P	I	L	P	I	L	P	I	L			
T+			T+			T+			T+			T+			T+					
T-			T-			T-			T-			T-			T-					
Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	Pa+		Pa-			
ParentOff CamChild			ParentOff CamChild			ParentOff CamChild			ParentOff CamChild			ParentOff CamChild			ParentOff CamChild					
3:00-3:09			3:10-3:19			3:20-3:29			3:30-3:39			3:40-3:49			3:50-3:59					
P	I	L	P	I	L	P	I	L	P	I	L	P	I	L	P	I	L			
T+			T+			T+			T+			T+			T+					
T-			T-			T-			T-			T-			T-					
Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	Pa+		Pa-			
ParentOff CamChild			ParentOff CamChild			ParentOff CamChild			ParentOff CamChild			ParentOff CamChild			ParentOff CamChild					
4:00-4:09			4:10-4:19			4:20-4:29			4:30-4:39			4:40-4:49			4:50-4:59			TOTALS		
P	I	L	P	I	L	P	I	L	P	I	L	P	I	L	P	I	L			
T+			T+			T+			T+			T+			T+					
T-			T-			T-			T-			T-			T-					
Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	Pa+		Pa-			
ParentOff CamChild			ParentOff CamChild			ParentOff CamChild			ParentOff CamChild			ParentOff CamChild			ParentOff CamChild					
																		P I L T + T - Pa+ Pa- Parent Off Cam Child		

Observer/Date Scored: _____
 Clip #: _____

Data Sheet 2: Group 2 Behaviors (continued)

Parent: _____
 Child: _____

P=proximity I=interaction L=leveling Pa = parent affect (+ or -) T=touch (+ or -) Off Cam = parent or child

5:00-5:09			5:10-5:19			5:20-5:29			5:30-5:39			5:40-5:49			5:50-5:59			Interaction Partners/Materials/Notes
P	I	L	P	I	L	P	I	L	P	I	L	P	I	L	P	I	L	
T +			T +			T +			T +			T +			T +			
T -			T -			T -			T -			T -			T -			
Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	
Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			
6:00-6:09			6:10-6:19			6:20-6:29			6:30-6:39			6:40-6:49			6:50-6:59			
P	I	L	P	I	L	P	I	L	P	I	L	P	I	L	P	I	L	
T +			T +			T +			T +			T +			T +			
T -			T -			T -			T -			T -			T -			
Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	
Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			
7:00-7:09			7:10-7:19			7:20-7:29			7:30-7:39			7:40-7:49			7:50-7:59			
P	I	L	P	I	L	P	I	L	P	I	L	P	I	L	P	I	L	
T +			T +			T +			T +			T +			T +			
T -			T -			T -			T -			T -			T -			
Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	
Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			
8:00-8:09			8:10-8:19			8:20-8:29			8:30-8:39			8:40-8:49			8:50-8:59			
P	I	L	P	I	L	P	I	L	P	I	L	P	I	L	P	I	L	
T +			T +			T +			T +			T +			T +			
T -			T -			T -			T -			T -			T -			
Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	
Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			
9:00-9:09			9:10-9:19			9:20-9:29			9:30-9:39			9:40-9:49			9:50-9:59			
P	I	L	P	I	L	P	I	L	P	I	L	P	I	L	P	I	L	
T +			T +			T +			T +			T +			T +			
T -			T -			T -			T -			T -			T -			
Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	Pa+		Pa-	
Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			
																TOTALS		
																P	I	L
																T +		
																T -		
																Pa+		Pa-
																Parent Off Cam Child		

Grand Totals (sheet 1 + sheet 2 = grand total):

P	I	L
T+	T-	
Pa+	Pa-	
Parent Off Cam	Child Off Cam	

Observer/Date Scored: _____
 Clip #: _____

Data Sheet 3: Group 3 Behaviors

Parent: _____
 Child: _____

- Score video clip from Minute 0 (0:00) to the end of Minute 9 (9:59).
- For positive/negative child verbalizations, and positive/neutral/negative child physical movements: circle the target if it occurs in the interval (note that positive, negative, and neutral can be scored in the same interval).
- For child affect: circle Ca+, Ca^N, or Ca- if affect is positive, neutral, or negative in each interval (can circle all three within one interval).
- If either the parent or child is off camera (Off Cam) during the interval, circle either parent and/or child in the off camera box at the bottom of the interval cell.
- Note that this data sheet is TWO PAGES (front/back).** You should flip over to the second page once minute 5:00 appears.
- Refer to observation code for a definition of each target behavior (as well as examples and non-examples).

Ca = child affect (+ or ^N or -) V = verbalizations (+ or -) Ph = child physical (+ or -) Off Cam = parent or child

0:00-0:09			0:10-0:19			0:20-0:29			0:30-0:39			0:40-0:49			0:50-0:59			Interaction Partners/Materials/Notes
Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	
V+			V+			V+			V+			V+			V+			
V-			V-			V-			V-			V-			V-			
Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	
Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			
1:00-1:09			1:10-1:19			1:20-1:29			1:30-1:39			1:40-1:49			1:50-1:59			
Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	
V+			V+			V+			V+			V+			V+			
V-			V-			V-			V-			V-			V-			
Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	
Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			
2:00-2:09			2:10-2:19			2:20-2:29			2:30-2:39			2:40-2:49			2:50-2:59			
Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	
V+			V+			V+			V+			V+			V+			
V-			V-			V-			V-			V-			V-			
Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	
Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			
3:00-3:09			3:10-3:19			3:20-3:29			3:30-3:39			3:40-3:49			3:50-3:59			
Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	
V+			V+			V+			V+			V+			V+			
V-			V-			V-			V-			V-			V-			
Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	
Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			
4:00-4:09			4:10-4:19			4:20-4:29			4:30-4:39			4:40-4:49			4:50-4:59			TOTALS
Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	
V+			V+			V+			V+			V+			V+			
V-			V-			V-			V-			V-			V-			
Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	
Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			Parent Off Cam Child			

Observer/Date Scored: _____
 Clip #: _____

Data Sheet 3: Group 3 Behaviors (continued)

Parent: _____
 Child: _____

Ca = child affect (+ or ^N or -) V = verbalizations (+ or -) Ph = child physical (+ or -) Off Cam = parent or child

5:00-5:09			5:10-5:19			5:20-5:29			5:30-5:39			5:40-5:49			5:50-5:59			Interaction Partners/Materials/Notes	
Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	Ca+		Ca-		
V+			V+			V+			V+			V+			V+				
V-			V-			V-			V-			V-			V-				
Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	Ph+		Ph-		
Parent	Off	Cam	Parent	Off	Cam	Parent	Off	Cam	Parent	Off	Cam	Parent	Off	Cam	Parent	Off	Cam		
6:00-6:09			6:10-6:19			6:20-6:29			6:30-6:39			6:40-6:49			6:50-6:59				
Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	Ca+		Ca-		
V+			V+			V+			V+			V+			V+				
V-			V-			V-			V-			V-			V-				
Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	Ph+		Ph-		
Parent	Off	Cam	Parent	Off	Cam	Parent	Off	Cam	Parent	Off	Cam	Parent	Off	Cam	Parent	Off	Cam		
7:00-7:09			7:10-7:19			7:20-7:29			7:30-7:39			7:40-7:49			7:50-7:59				
Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	Ca+		Ca-		
V+			V+			V+			V+			V+			V+				
V-			V-			V-			V-			V-			V-				
Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	Ph+		Ph-		
Parent	Off	Cam	Parent	Off	Cam	Parent	Off	Cam	Parent	Off	Cam	Parent	Off	Cam	Parent	Off	Cam		
8:00-8:09			8:10-8:19			8:20-8:29			8:30-8:39			8:40-8:49			8:50-8:59				
Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	Ca+		Ca-		
V+			V+			V+			V+			V+			V+				
V-			V-			V-			V-			V-			V-				
Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	Ph+		Ph-		
Parent	Off	Cam	Parent	Off	Cam	Parent	Off	Cam	Parent	Off	Cam	Parent	Off	Cam	Parent	Off	Cam		
9:00-9:09			9:10-9:19			9:20-9:29			9:30-9:39			9:40-9:49			9:50-9:59				
Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	Ca+		Ca-	Ca+		Ca-		
V+			V+			V+			V+			V+			V+				
V-			V-			V-			V-			V-			V-				
Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	Ph+		Ph-	Ph+		Ph-		
Parent	Off	Cam	Parent	Off	Cam	Parent	Off	Cam	Parent	Off	Cam	Parent	Off	Cam	Parent	Off	Cam		
																	TOTALS		
																	Ca+		Ca-
																	V+		
																	V-		
																	Ph+		Ph-
																	Parent	Off	Cam

Grand Totals (sheet 1 + sheet 2 = grand total):

Ca+	Ca-
V+	
V-	Child Off Cam
Ph+	Ph-

APPENDIX D
PARENT SATISFACTION QUESTIONNAIRE

Parent Satisfaction Questionnaire

(adapted from Lutkzer & Bigelow, 2002, *Reducing Child Maltreatment: A Guidebook for Parent Services*)

Thank you for participating in this study. We would like to learn some of your thoughts and feelings about this study. Information we receive from parents like you will be used to improve this study's effectiveness. Please read the following comments and circle the answer that best describes your feelings about each statement. Be as honest as possible, as your responses will not affect your involvement in this study or interactions with the principal investigator. A space has been provided for you to add additional comments. Thank you for your time and cooperation.

1. Watching the parent-child interactions video intervention has improved my relationship with my child(ren).

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	2	3	4	5

2. The video demonstrations were useful.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	2	3	4	5

3. The video helped my child and I have more fun together.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	2	3	4	5

4. The video gave me ideas about how to play with my child.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	2	3	4	5

5. The video gave me ideas about how to encourage my child during play.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	2	3	4	5

6. I would recommend this video to other parents.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	2	3	4	5

7. The video has *not* changed the way I interact with my child(ren).

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	2	3	4	5

8. What (if anything) would you change about the video and its presentation?

Comments:

APPENDIX E
VIDEO OBSERVATION CHECKLIST

Observer's Checklist for Video-Trained Parent's Behavior
(adapted from Project SafeCare)

Participant Code: _____ Date: _____ Observer: _____

Does the parent:

- | | | |
|---|---|---|
| • attend to the video (distraction = three sec)? | Y | N |
| • get distracted by a child (ten sec)? | Y | N |
| • replay a portion of the video while observing? | Y | N |
| • write down any notes from the content of the video? | Y | N |
| • make comments regarding the content of the video? | Y | N |
| ○ if yes, describe briefly | | |
| • ask questions regarding content of video? | Y | N |

Operational Definitions

- attending: looking toward the computer monitor, and not paying attention to other stimuli or activities for longer than three seconds
- parent distracted: parent-child interaction that lasts at least ten seconds and was initiated by the child
- replay video: parent stops, then rewinds videotape in order to view a portion of (or entire) videotape over again. Must be initiated solely by the parent.

APPENDIX F
RECRUITMENT FLYER

As a parent, you can influence your child's behavior in wonderful ways!



Would you like to learn more about this?

If so, you may be interested in participating in a study on improving parent-child interactions. Participants in this study will get to watch a series of videos that show a variety of positive ways that families can spend time together.

The purpose of this study is to see if the videos really make a difference in the parent and the child's life. If you are interested and your child is between the ages of 3-6, please contact your school's guidance counselor, _____, for more information. Participants must be English speakers.

APPENDIX G
INFORMED CONSENT FORM

University of North Texas Institutional Review Board Informed Consent Form

Before agreeing to participate 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: Using video modeling to teach parent-child interactions and planned activities

Principal Investigator: Anna Whaley Carr, a graduate student in the University of North Texas (UNT) Department of Behavior Analysis.

Purpose of the Study:

You and your child/children are being asked to participate in a research study on improving parent-child interactions. You will get to watch a series of videos that show several positive ways that families can spend time together. The purpose of the study is to understand the helpfulness of the video on improving parent-child interactions.

Study Procedures:

You and your child/children will be observed in your home during play times. Three-to-six observations will occur. The investigator will prearrange times with you that fit your schedule. Each observation will last for 10 minutes.

Then, you will watch a video that shows several positive ways that families can spend time together. The principal investigator will make arrangements for the video viewing to take place while you are at home. The video will last no longer than 15 minutes. Immediately following the video viewing, you and your child/children will be observed in your home during play times. Three-to-six observations will occur. The investigator will prearrange times with you that fit your schedule. Each observation will last for 10 minutes.

One month after you finish the video training, you will be observed again in your home interacting with your child. This observation will be scheduled around your availability.

Each home observation will be a maximum of 10 minutes during which you will be videotaped interacting with your child. Only the research team will have access to these videos and they will be destroyed once data collection is complete.

Foreseeable Risks:

The potential risks involved in this study are that you or your child may experience anxiety based on having observers in your home. The investigator will attempt to minimize any disruptive influence of the observation procedures on the family. If you or

your child/children continue to experience anxiety you may withdraw from the study without penalty or loss of benefits (this means that you will still be able to watch any remaining videos). It may be inconvenient to have an observer in your home for an extended time. If so, the investigator will attempt to schedule observations at your convenience or you may withdraw from the study without penalty or loss of benefits. In addition, if the investigator observes evidence of child mistreatment or abuse, that will be reported to the appropriate law enforcement agency.

Benefits to the Subjects or Others:

Parents who participate in this study may benefit by improving their ability to use effective behavior management strategies and build rapport with their children.

Procedures for Maintaining Confidentiality of Research Records:

All signed consent forms, paper work and video will be kept in a locked file cabinet in Dr. Shahla Ala'i-Rosales' office at the University of North Texas. Only individuals who are a part of the research team will have access to the locked file cabinet. Participants will be assigned a unique participant number at the beginning of the study and at no time during the study will any information appear on any research record that would allow anyone without access to the code to link the documents to the participant. The code will be kept in a password protected computer file, available only to Anna Whaley Carr and Dr. Shahla Ala'i-Rosales and will be destroyed when all data collection is complete. All data sheets, checklists, and video will be labeled using the participant code.

Video images of role plays will stored on a password protected computer file and will be destroyed after the role plays have been scored. No names or other personally identifiable information will be used in any publications or presentations resulting from this study.

Questions about the Study

If you have any questions about the study, you may contact Anna Whaley-Carr or Dr. Shahla Ala'i-Rosales, UNT Department of Behavior Analysis.

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:

- Anna Whaley Carr 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 and your child/children 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 and your child/children's rights as a research participant and you voluntarily consent to you and your child's/children's participation in this study.
- You have been told you will receive a copy of this form.

Printed Name of Parent or Guardian

Printed name of Child/Children

Signature of Parent or Guardian

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 parent or guardian understood the explanation.

Signature of Principal Investigator or Designee

Date

REFERENCES

- Alpert, C.L., & Kaiser, A.P. (1992). Training parents as milieu language teachers. *Journal of Early Intervention, 16*, 31-52.
- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1986). *Social foundations of thought and action*. Englewood Cliffs, NJ: Prentice Hall.
- Bandura, A., & Kupers, C.J. (1964). Transmission of patterns of self-reinforcement through modeling. *Journal of Abnormal and Social Psychology, 69*, 1-9.
- Bandura, A., Ross, R., & Ross, S.A. (1963a). Imitation of film-mediated aggressive models. *Journal of Abnormal and Social Psychology, 66*, 3-11.
- Bandura, A., Ross, R., & Ross, S.A. (1963b). Vicarious reinforcement and imitative learning. *Journal of Abnormal and Social Psychology, 67*, 601-607.
- Barnard, J.D., Christophersen, E.R., & Wolf, M.M. (1977). Teaching children appropriate shopping behavior through parent training in the supermarket setting. *Journal of Applied Behavior Analysis, 10*, 49-59.
- Bernal, M.E., Klinnert, M.D., & Schultz, L.A. (1980). Outcome evaluation of behavioral parent training and client-centered parent counseling for children with conduct problems. *Journal of Applied Behavior Analysis, 13*, 677-691.
- Bigelow, K.M. & Lutzker, J.R. (1998). Using video to teach planned activities to parents reported for child abuse. *Child and Family Behavior Therapy, 20*, 1-14.
- Brookman-Fraze, L. (2004). Using parent/clinician partnerships in parent education programs for children with autism. *Journal of Positive Behavior Interventions, 6*, 195-213.
- Campbell, R.V., O'Brien, S., Bickett, A.D., & Lutzker, J.R. (1983). In-home parent training, treatment of migraine headaches, and marital counseling as an ecobehavioral approach to prevent child abuse. *Journal of Behavior Therapy and Experimental Psychiatry, 14*, 147-154.
- Christensen, C. (2007). YouTube: the evolution of media? *Screen Education, 45*, 36-40.
- Clark, H.B., Greene, B.F., Macrae, J.W., McNees, M.P., Davis, J.L., & Risley, T.R. (1977). A parent advice package for family shopping trips: Development and evaluation. *Journal of Applied Behavior Analysis, 10*, 605-624.

- Doherty, W.J., Erickson, M.F., & LaRossa, R. An intervention to increase father involvement and skills with infants during the transition to parenthood. *Journal of Family Psychology, 20*, 438-447.
- Dowrick, P. W. (1991). *Practical guide to using video in the behavioral sciences*. New York: John Wiley & Sons, INC.
- Eyberg, S.M., & Matarazzo, R.G. (1980). Training parents as therapists: A comparison between individual parent-child interaction training and parent group didactic training. *Journal of Clinical Psychology, 36*, 492-499.
- Eyberg, S.M., & Robinson, E.A. (1982). Parent-child interaction training: Effects on family functioning. *Journal of Clinical Child Psychology, 11*, 130-137.
- Fabiano, G.A. (2007). Father participation in behavioral parent training for ADHD: Review and recommendations for increasing inclusion and engagement. *Journal of Family Psychology, 21*, 683-693.
- Flanders, J.P. (1968). A review of research on imitative behavior. *Psychological Bulletin, 69*, 316-337.
- Forehand, R.L., & McMahon, R.J. (1981). *Helping the noncompliant child: a clinician's guide to parent training* (pp. 189-217). New York: Guilford Press.
- Foster, B.T., & Roberts, M.W. (2007). Training parents with videotapes: Recognizing limitations. *Child & Family Behavior Therapy, 29*, 21-35.
- Gardner, F., Burton, J., & Klimes, I. (2006). Randomized controlled trial of parenting intervention in the voluntary sector for reducing child conduct problems: outcomes and mechanisms of change. *Journal of Child Psychology and Psychiatry, 47*, 1123-1133.
- Gershater-Molko, R.M., Lutzker, J.R., & Wesch, D. (2003). Project Safecare: Improving health, safety, and parenting skills in families reported for, and at-risk for child maltreatment. *Journal of Family Violence, 18*, 377-386.
- Girolametto, L., Verbey, M., & Tannock, R. (1994). Improving joint engagement in parent-child interaction: An intervention study. *Journal of Early Intervention, 18*, 155-167.
- Graves, S.B. (1999). Television and prejudice reduction: When does television as a vicarious experience make a difference? *Journal of Social Issues, 55*, 707-725.
- Green, C.W., Gardner, S.M., & Reid, D.H. (1997). Increasing indices of happiness among people with profound multiple disabilities: A program replication and component analysis. *Journal of Applied Behavior Analysis, 30*, 217-228.

- Green, C.W., & Reid, D.H. (1996). Defining, validating, and increasing indices of happiness among people with profound multiple disabilities. *Journal of Applied Behavior Analysis, 29*, 67-78.
- Greene, L., Kamps, D., Wyble, J., & Ellis, C. (1999). Home-based consultation for parents of young children with behavioral problems. *Child & Family Behavior Therapy, 21*, 19-45.
- Harrold, M., Lutzker, J.R., Campbell, R.V., & Touchete, P.E. (1992). Improving parent-child interactions for families of children with developmental disabilities. *Journal of Behavior Therapy and Experimental Psychiatry, 23*, 89-100.
- Hart, B. & Risely, T.R. (1995) *Meaningful differences in the everyday experience of young American children*. Baltimore, MD: Brookes Publishing Co.
- Herbert, E.W., & Baer, D.M. (1972). Training parents as behavior modifiers: Self-recording of contingent attention. *Journal of Applied Behavior Analysis, 5*, 139-149.
- Huebner, C.E., & Meltzoff, A.N. (2005). Intervention to change parent-child reading style: A comparison of instructional methods. *Applied Developmental Psychology, 26*, 296-313.
- Hughes, J.R., & Gottlieb, L.N. (2004). The effects of the Webster-Stratton parenting program on maltreating families: fostering strengths. *Child Abuse & Neglect, 28*, 1081-1097.
- Hutchings, J., Bywater, T., Daley, D., Gardner, F., Whitaker, C., Jones, K., et al. (2007, March 9). Parenting intervention in Sure Start services for children at risk of developing conduct disorder: pragmatic randomized controlled trial. *British Medical Journal, 334*, 678-. Retrieved September 10, 2007, from <http://www.bmj.com>.
- Koegel, R.L., Bimbela, A., & Schreibman, L. (1996). Collateral effects of parent training on family interactions. *Journal of Autism and Developmental Disorders, 26*, 347-359.
- Koegel, R.L., Glahn, T.J., & Nieminen, G.S. (1978). Generalization of parent-training results. *Journal of Applied Behavior Analysis, 11*, 95-109.
- Koegel, R.L., Symon, J.B., & Koegel, L.K. (2002). Parent education for families of children with autism living in geographically distant areas. *Journal of Positive Behavior Interventions, 4*, 88-103.

- Laski, K.E., Charlop, M.H., & Schreibman, L. (1988). Training parents to use the natural language paradigm to increase their autistic children's speech. *Journal of Applied Behavior Analysis, 21*, 391-400.
- Lim, M., Stormshak, E.A., & Dishion, T.J. (2005). A one-session intervention for parents of young adolescents: Videotape modeling and motivation group discussion. *Journal of Emotional and Behavioral Disorders, 13*, 194-199.
- Lutzker, J.R., & Bigelow, K.M. (2002). *Reducing child maltreatment: A guidebook for parent services*. New York: Guilford Press.
- Lutzker, J.R., Megson, D.A., Webb, M.E., & Dachman, R.S. (1985). Validating and training adult-child interaction skills to professionals and to parents indicated for child abuse and neglect. *Journal of Childhood and Adolescent Psychotherapy, 2*, 91-104.
- Mash, E.J., & Terdal, L. (1973). Modification of mother-child interactions: playing with children. *Mental Retardation, 23*, 44-49.
- Moreland, J.R., Schwebel, A.I., Beck, S., & Wells, R. (1982). Parents as therapists: A review of the behavior therapy parent training literature 1975 to 1981. *Behavior Modification, 6*, 250-276.
- Neef, N.A., Trachtenberg, S., Loeb, J., & Sterner, K. (1991). Video-based training or respite care providers: An interactional analysis of presentation format. *Journal of Applied Behavior Analysis, 24*, 473-486.
- Nixon, R.D.V. (2002). Treatment of behavior problems in preschoolers: A review of parent training programs. *Clinical Psychology Review, 22*, 524-546.
- Nixon, R.D.V., Sweeney, L., Erickson, D.B., Touyz, S.W. (2003). Parent-child interaction therapy: A comparison of standard and abbreviated treatments for oppositional defiant preschoolers. *Journal of Consulting and Clinical Psychology, 71*, 251-260.
- O'Dell, S. (1974). Training parents in behavior modification: A review. *Psychological Bulletin, 81*, 418-433.
- Olds, D.L., Sadler, L., & Kitzman, H. (2007). Programs for parents of infants and toddlers: Recent evidence from randomized trials. *Journal of Child Psychology and Psychiatry, 48*, 355-391.
- Peterson, C.A., Luze, G.J., Eshbaugh, E.M. Jeon, H., & Kantz, K.R. (2007). Enhancing parent-child interactions through home visiting: Promising practice or unfulfilled promise? *Journal of Early Intervention, 29*, 119-140.

- Poling, A., Methot, L.L., & LeSage, M.G. (1995). *Fundamentals of behavior analytic research* (pp. 72-77). New York: Plenum Press.
- Pollard, S., Ward, E.M., & Barkley, R.A. (1984). The effects of parent training and Ritalin on the parent-child interactions of hyperactive boys. *Child and Family Behavior Therapy, 5*, 51-69.
- Sanders, M.R. (2001). Helping families change: From clinical interventions to population-based strategies. In A. Booth, A.C. Crouter, & M. Clements (Eds.), *Couples in conflict* (pp. 185-219). Mahwah, NJ: Erlbaum.
- Sanders, M.R., Mazzuchelli, T., & Studman, L. (2004). Stepping Stones Triple P: The theoretical basis and development of an evidence-based positive parenting program for families with a child who has a disability. *Journal of Intellectual and Developmental Disability, 29*, 265-283.
- Sanders, M.R., Montgomery, D.T., Brechman-Toussaint, M.L. (2000). The mass media and the prevention of child behavior problems: The evaluation of a television series to promote positive outcomes for parents and their children. *Journal of Child Psychology and Psychiatry, 7*, 939-948.
- Schreibman, L., Kaneko, W., & Koegel, R.L. (1991). Positive affect of parents of autistic children: A comparison across two teaching techniques. *Behavior Therapy, 22*, 479-490.
- Seung, H.K., Ashwell, S., Elder, J.H., & Valcante, G. (2006). Verbal communication outcomes in children with autism after in-home father training. *Journal of Intellectual Disability Research, 50*, 139-150.
- Shreve, C., Twardosz, S., & Weddle, K. (1983). Development and evaluation of procedures to encourage teacher affectionate behavior in day care centers. *Behavior Therapy, 14*, 706-713.
- Symon, J.B. (2005). Expanding interventions for children with autism: Parents as trainers. *Journal of Positive Behavior Interventions, 7*, 159-173.
- Thelen, M.H., Fry, R.A., Fehrenbach, P.A., & Frautschi, N.M. (1979). Therapeutic videotape and film modeling: A review. *Psychological Bulletin, 86*, 701-720.
- Wahler, R.G. (1980). The insular mother: her problems in parent-child treatment. *Journal of Applied Behavior Analysis, 13*, 207-219.
- Wahler, R.G., & Meginnis, K.L. (1997). Strengthening child compliance through positive parenting practices: What works? *Journal of Clinical Child Psychology, 26*, 433-440.

- Webster-Stratton, C. (1990). Enhancing the effectiveness of self-administered videotape parent training for families with conduct-problem children. *Journal of Abnormal Child Psychology*, 18, 479-492.
- Webster-Stratton, C. (1994). Advancing videotape parent training: A comparison study. *Journal of Consulting and Clinical Psychology*, 62, 583-593.
- Wells, K.C., Hinshaw, S.P., Pfiffner, L., Owens, E.B., Abikoff, H.B., Elliott, G.R., et al. (2006). Treatment-related changes in objectively measured parenting behaviors in the multimodal treatment study of children with attention-deficit/hyperactivity disorder. *Journal of Counseling and Clinical Psychology*, 74, 649-657.
- Zangwill, W.M. (1984). An evaluation of a parent training program. *Child & Family Behavior Therapy*, 5, 1-15.