THE EFFECTS OF REASONING AND NURTURANCE ON CHILD COMPLIANCE

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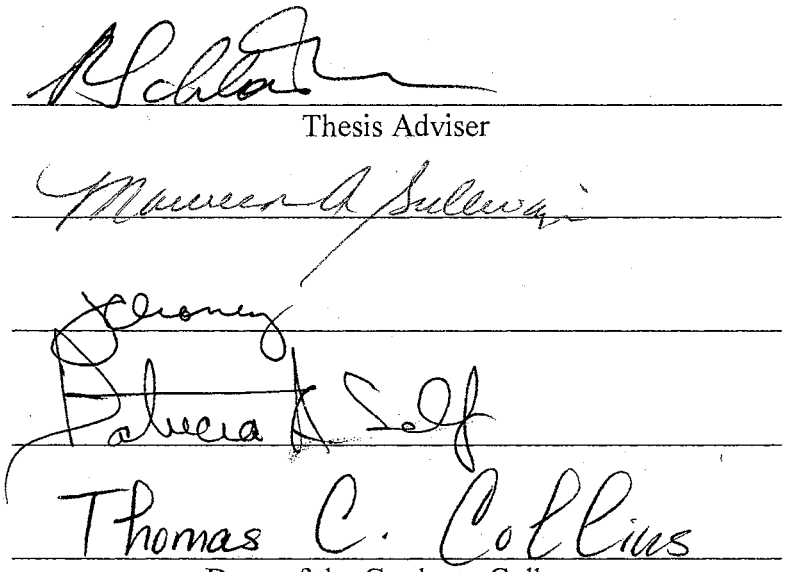

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INTRODUCTION

Child compliance to parental discipline techniques is a relatively new area of research. Noncompliance is the largest single reason young children are referred for psychological services. The Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM IV, American Psychiatric Association, 1994), classifies three disorders as disruptive behavior disorders: Attention Deficit Hyperactivity Disorder, Oppositional Defiant Disorder, and Conduct Disorder. Noncompliance is a characteristic of all three disruptive behavior disorders. It is well- documented that children who are noncompliant (i.e., children who argue with adults, ignore or actively defy parental commands, etc.) suffer serious negative consequences. These consequences can include poor peer relations, dropping out of school, and juvenile delinquency (Quay, 1986; Wells & Forehand, 1985). These difficulties in school and interpersonal functioning are likely to interfere with the socialization process.

Early intervention is crucial to prevent or minimize the negative consequences of noncompliance. For this reason, child compliance studies typically focus on parents with young children. The rate of disciplinary encounters between parents and children is highest at younger ages (i.e., around 2-years-old), making this population of particular value to study. One estimate of the frequency of parent-child discipline interactions during toddler

years places the rate at 10 to 14 times per hour (Minton, Kagan, & Levine, 1971). Noncompliance rates of approximately 30% to 50% have been reported (Chapman & Zahn-Waxler, 1982; Londerville & Main, 1981). The high frequency of disciplinary encounters and the relatively low compliance rates create a need for more effective parenting strategies with toddlers. Since the rate of discipline encounters is so high during this period of toddlerhood, it is an advantageous time to investigate the efficacy of different parenting strategies. While this population of young children is important to investigate, few studies have been performed with young children. Only six reasonably well-controlled studies have been conducted in this area with young children.

Studies in the area of child compliance have used two different methodologies: (a) home observations and (b) laboratory observations and manipulations. Early studies in this area were primarily naturalistic observations of parent-child interactions which were videotaped in the subjects' homes. Later studies of compliance to parental discipline strategies used laboratory settings resembling home environments. This type of controlled setting creates greater experimental control over the types of discipline techniques and child tasks employed.

Compliance has been defined in several different ways. In some studies, compliance refers to whether the child either engages in a desired behavior or stops engaging in an undesired behavior following a parental command. Other studies have defined compliance as the percentage of time the child engages in a particular task. Much of the child compliance research has been conducted with normal children since defining effective parenting strategies with normal children is the first step toward developing better methods of helping children with behavior problems.

Child compliance has been examined at two levels: a) immediate compliance in the mother's presence and b) delayed compliance in the mother's absence. Compliance in the mother's absence has been thought to be indicative of children's internalization of moral standards or socialization (Kuczynski, 1984; Minton, Kagan,& Levine, 1971). Toddlerhood is the beginning of the socialization process. Children this age are more competent and active than before and thus it becomes necessary for parents to set limits on their behavior and to teach children to function within society's standards.

Many different positive and negative parental discipline techniques have been observed and investigated. These techniques include character attributions, verbal reinforcement, nurturance, reasoning, commands, love withdrawal, reprimands, and aversive consequences (Chapman & Zahn-Waxler, 1982; Kuczynski, 1984). Verbal reprimands are the most commonly studied discipline strategies with young children. The effects of both verbal reprimands and nurturance have been studied in abusive and nonabusive families. The studies of abusive parents have investigated older children, while the studies with young children have focused on the normal population.

Two factors (the use of reasoning and nurturance) are of particular interest due to the contradictory findings regarding their effect on child compliance. The following literature review focuses on these two major factors and is restricted to studies with children under the age of six years.

Verbal Discipline Strategies

Naturalistic home observation studies generally did not control or limit the parents' behaviors. These studies demonstrate that parents use a wide variety of discipline

strategies. Some of these strategies were more effective than others. The results of naturalistic studies indicate that the use of suggestions and questions is associated with greater compliance to parental commands (Lytton, 1979; McLaughlin, 1983).

Experiments conducted in laboratory settings controlled the number and type of parental discipline strategies employed as well as the type of tasks the children performed. Some studies had children perform a monotonous task, while others required the children to play with certain toys instead of others. One laboratory study had children play with a set of toys while enticing objects were present, but off-limits (Pfiffner & O'Leary, 1989). These types of experimental studies demonstrate that "prudent" reprimands (reprimands that are immediate, brief, and delivered in a firm tone) are more effective than "imprudent" reprimands (reprimands that are delayed, long, and delivered in a gentle tone).

Naturalistic Studies

Smetana 1989) observed 2- and 3-year-old children at home for two 45-minute periods, once alone with their mothers and once with their mothers and a familiar peer. Two categories of transgressions were defined: (1) Moral (disputes over objects and physical aggression), and (2) Conventional (playing in an off-limits area, making a mess, and not saying please). These moral and conventional transgressions and mothers' responses to them were observed and coded. Maternal responses included the use of rationales, perspective-taking, statements of rights, statements of rules, sanctions (punishment), statements of disorder, and commands. Results demonstrated that mothers responded to moral transgressions with more statements of rights and perspective-taking. Mothers responded to conventional transgressions with more statements of rules and

statements of disorder. Child compliance to the different discipline strategies was not examined. The results of this study demonstrate that mothers use a wide variety of discipline strategies, and usually use them in combination.

Kuczynski and Kochansha (1990) observed children and their mothers in a naturalistic, apartment-like setting. Mother-child dyads were videotaped first when the children were between 1 ½ and 3 ½ years old and then again at 5 years old. Maternal discipline strategies observed and coded included direct commands, indirect commands, unclear commands, reprimands, explanations, positives, and physical enforcement. Results revealed that mothers' use of reprimands when children were toddlers predicted children's compliance at age 5. Kuczynski and Kochansha (1990) interpret this result as demonstrating that exposure to appropriate parental power in early childhood possibly lays the foundation for internalization of rules in later childhood.

The use of reasoning in addition to verbal reprimands has been examined in several studies. The results of these investigations are mixed. Chapman and Zahn-Waxler (1982), had mothers of one-year-old children keep diaries of discipline encounters. The mothers reported discipline situations such as children not obeying parental commands and prohibitions, (for example, not picking up toys or refusing to cooperate with grooming tasks). The diary entries were later coded as to what types of discipline strategies were used and with what outcome. The results indicated that love withdrawal was the most effective technique when used with any other technique. The results also demonstrated that reasoning and verbal reprimands were not effective except when combined with physical coercion (Chapman & Zahn-Waxler, 1982).

Lytton and Zwirner (1975), videotaped home observations of two-year-old children and their mothers. These home situations included discipline encounters where children violated maternal standards by engaging in destructive or aggressive behavior, or by ignoring parental commands. The videotapes were coded for type of parental technique and outcome (compliance vs. noncompliance). Reasoning was one of many different techniques employed by the parents. The results of this study indicated that the probability of compliance decreased with the use of parental commands and reasoning (Lytton & Zwirner, 1975).

In another study that examined the effects of reasoning on compliance, Minton, Kagan, and Levine (1971), observed two-year-old children interacting with their mothers in a home setting. Discipline interactions involved children violating maternal rules for appropriate play with toys, aggression, and following parental commands. Distraction and suggestion were somewhat effective in gaining child compliance with parental standards. Reasoning in combination with verbal prohibitions was not related to compliance or noncompliance. Thus the results did not support the effectiveness of reasoning as a parenting technique with young children.

Experimental Studies

However, in a laboratory study, the use of reasoning was found to increase compliance. Kuczynski (1984), had four-year-old children perform a monotonous utensil-sorting task, first in the mother's presence and then in her absence. Attractive toys were placed in the room as a distraction for the children. Mothers were given a long- term or short-term instructional set. Mothers in the long-term condition were initially told that

their children would be observed both in the mother's presence and absence. Mothers in the short-term condition were not told that their children would be observed in the mother's absence until just prior to this observation. Kuczynski (1984), found that mothers in the long-term condition used reasoning as a parenting technique significantly more than did mothers in the short-term condition. Furthermore, the children in the long-term condition were significantly more compliant than the children in the short-term condition. Mothers modified their use of different discipline techniques based on the short-term or long-term goals for compliance. The effect of reasoning may be due to the type of compliance (i.e., engaging in a boring task), since this study was the only one to employ such a compliance task. The other studies examined compliance to prohibitions. Another difference in this study which might account for the different results, is that compliance was measured both in an immediate and a delayed situation. This is the only study that looked at compliance in this manner.

Summary of Findings

The results are mixed as to the effect reasoning has on child compliance. Reasoning has been shown to have no effect on compliance or to increase compliance, depending on the type of study (naturalistic vs. experimental) and the type of task (engaging in boring task vs. inhibiting behaviors following parental commands). The experiments that found no effect for reasoning were all natural observations, while the study that showed reasoning to be effective in increasing compliance used the laboratory methodology. It may be that, for the naturalistic studies, there was not sufficient experimental control over parent and child behaviors to demonstrate an effect for

reasoning on compliance. Alternatively, the laboratory study used four-year-old children in contrast to the naturalistic studies which used two and three-year-old children. Perhaps younger children do not have the cognitive abilities necessary for reasoning to be an effective discipline strategy.

Nurturance

The effects of parental nurturance on child compliance have also been investigated. The results of the studies in this area are also mixed. Naturalistic studies have observed parental nurturance and the effect this has on children's compliance. It has been demonstrated that abusive parents of 4- to 10-year -old children are less nurturant than nonabusive parents and that children of abusive parents are more noncompliant than children of nonabusive parents (Trickett & Kuczynski, 1986). The abusive parents' behavior represents an extremely low level of nurturance in addition to actively hostile behavior toward the children. The results of studies of less extreme levels of nurturance again indicate that higher levels of nurturance increase child compliance to parental commands (Lytton, 1979; McLaughlin, 1983).

Experimental studies in laboratory settings have also investigated the effects of parental nurturance on children's behaviors. Within the normal population, high levels of nurturance have been shown to increase compliance with parental commands in some situations, while in others, nurturance did not affect compliance, but did increase children's negative affect.

Naturalistic Studies

There is only one available naturalistic study of the effect of nurturance on child compliance. Lytton (1979), examined the effects of parental nurturance on child compliance. Two-year-old children and their mothers were observed at home in discipline situations involving parental commands and prohibitions. The observations were coded for type of parental technique and for outcome (compliance or noncompliance). Results demonstrate that nurturance or positive action controls (expressions of love, playing with the child, etc.) significantly increased compliance when the nurturant interaction preceded the disciplinary encounter (Lytton, 1979).

Experimental Studies

Kuczynski (1984), had mothers and their four-year-old children come to the laboratory. The mother-child dyads were observed first in a 4-minute free play situation, then in a 5-minute monotonous utensil-sorting task with mother present, and lastly in the same monotonous utensil-sorting task for 7 minutes in the mother's absence. Mothers in the long-term goal condition were initially informed that their children would be observed in the mother's presence and absence. Mothers in the short-term goal condition were told their children would be observed in their absence just prior to this observation. The results of this study demonstrate that mothers in the long-term condition were more nurturant (interacted more, made more character attributions, gave more verbal reinforcement, etc.) than were the mothers in the short-term condition. Mothers in the long-term condition were more nurturant than the mothers in the short-term condition both during the free play

situation and the monotonous task situation (Kuczynski, 1984). Nurturance may have facilitated compliance by creating a more positive atmosphere. While these results are consistent with other studies, this experiment added the dimension of immediate versus delayed compliance. Mothers adjusted their discipline strategies according to which instructional set they were given (short-term vs. long-term). This additional dimension may have been where the strongest effect of nurturance on compliance would occur.

Pfiffner and O'Leary (1989), obtained quite different results. This investigation exerted the greatest amount of control over the mothers' behaviors. Mothers and their children aged 18 to 30 months were observed in a laboratory setting. Mother-child pairs were observed in a free play situation and in a transgression situation. During the transgression situation, there were forbidden objects the children were reprimanded for touching. Nurturance (high vs. low) and type of reprimand (prudent vs. imprudent) were manipulated. "Prudent" (effective) reprimands are immediate, short and delivered in a firm tone, whereas "imprudent" (ineffective) reprimands are delayed, long and delivered in a gentle tone. Children in the high-nurturant conditions were no more compliant than the children in the low-nurturant conditions. However, children in the high-nurturant/prudent reprimands condition displayed more negative affect (cried more) than children in the high-nurturant/imprudent reprimands condition as well as children in the low-nurturant/prudent reprimands and low-nurturant/imprudent reprimands conditions (Pfiffner & O'Leary, 1989). In this study, the mothers' behaviors were tightly controlled by the experimenters. The "prudent" reprimands proved to be very effective in gaining compliance. It is possible that there was not sufficient opportunity to observe a nurturance effect on compliance due to the efficacy of the "prudent" reprimands. Also, the type of

task in this study was very different from previous studies. Compliance was defined as both engaging in appropriate play and inhibiting behaviors (not touching forbidden objects or leaving the area.

Summary of Findings

Nurturance appears to influence parent-child discipline interactions, although it is uncertain exactly how compliance and child negative affect are affected. Nurturance may increase compliance when the task is to engage in an activity, but not when compliance involves inhibiting a behavior (touching forbidden objects). Also, the study by Pfiffner and O'Leary (1989), was the most rigidly controlled experiment. Perhaps the effectiveness of the maternal "prudent" reprimands was so high that a nurturance effect was not observed. The type of compliance (immediate vs. delayed) might play a role as well. The nurturance effect may only be demonstrated in the delayed or long-term condition.

Current Investigation

The present study investigated the effects of reasoning and nurturance on child compliance both in the mother's presence and absence. This allowed for an analysis of the effect of reasoning in the context of verbal reprimands. Also, an analysis of two different definitions of compliance (the amount of time the child engaged in appropriate play and the number of transgressions) was possible. Two levels of nurturance were examined (high vs. low). In addition, the immediate versus delayed context was investigated. The independent variables were verbal discipline strategy (no reasoning-reprimands only vs. reasoning-reprimands with reasons), nurturance (high vs. low), and phase

(immediate--mother present vs. delayed--mother absent). The dependent variables were child compliance (rates of play and transgressions), negative affect, and soliciting for mothers' attention (a common child behavior that has not previously been studied).

It was hypothesized that children exposed to the reasoning strategy following misbehavior (i.e., touching a forbidden object), would differ in compliance from children exposed to the no-reasoning strategy. It was also hypothesized that children in the high nurturance conditions would not differ in compliance from children in the low nurturance conditions. Further, it was hypothesized that children in the high nurturance conditions would display more negative affect than children in the low nurturance conditions. Higher rates of appropriate play were predicted for children in the high nurturance conditions as compared to the low nurturance conditions. No differences in compliance or negative affect were expected for the immediate versus delayed phases. It was hypothesized that rates of solicitations for mothers' attention would differ by nurturance, strategy and phase. However, there was insufficient data to predict the direction of differences.

METHOD

Subjects

Thirty-three mother-child dyads served as subjects. Mothers with children aged 18 to 30 months were recruited through local preschools, newspaper advertisements, and through telephone solicitations from a potential child subjects file kept by faculty in the Department of Psychology at Oklahoma State University. Seven subjects (mother-child dyads) were dropped from the analysis because they met exclusionary criteria. Five of these subjects were dropped due to unreliable interobserver agreement for coded behaviors. One of these subject was dropped from the analysis because the mother could not follow the cued instructions, and one of these subject was dropped because the child touched too few forbidden objects during the transgression phases. This resulted in four experimental groups, with 8, 8, 8, and 9 subjects respectively.

The children had a mean age of 24 months, with a range of 18 to 30 months. There were 15 female and 18 male children in the study and they were distributed as evenly as possible across the experimental groups. Thirty-one of the children were Caucasian, one was Asian/Pacific Islander, and one was Hispanic. Children's Externalizing T-scores on the Child Behavior Checklist/2-3 (CBCL/2-3), ranged from 38 to 65, with a mean of 52.03. The mothers had a mean age of 30.57 years, with a range of 20 to 41 years. Family socioeconomic status (using the Hollingshead Index) ranged from 15.5 to 66, with a mean of 48.44. These index scores reflect a variety of occupations,

from unskilled labor to major business and professional levels. The mean score for the sample represents technical and medium levels. See Table 1 for a summary of demographic characteristics.

One-Way Analysis of Variance (ANOVAs), with group as the between-groups factor, were conducted for SES, age of child, age of mother, and child CBCL/2-3 Externalizing T-Scores. The four experimental groups did not differ on these measures. Chi Square tests were conducted for gender of child and ethnicity of child by experimental group. There were no group differences for chid or ethnicity. These results demonstrate that all four experimental groups were comparable in demographic characteristics and thus were no confounds resulting from these variables.

Design

A 2 (verbal discipline strategy) X 2 (nurturance) x 3 (phase or situation) mixed design was used. Verbal discipline strategy and nurturance were between-subjects factors and phase (situation) was the within-subjects factor (see Table 2).

The independent variables were verbal discipline strategy (no reasoning vs. reasoning), level of nurturance (high vs. low), and phase of experiment (free play vs. transgression with mother present vs. transgression with mother absent). The dependent variables were observed child behaviors including: touching forbidden objects, leaving the area, negative affect, solicitations for mothers' attention, and appropriate play.

Child compliance/noncompliance was indexed by three behaviors: (1) the amount of time the child engaged in appropriate play, (2) the amount of time the child spent touching forbidden objects, and (3) the number of times the child left the designated area.

Appropriate play was a measure of compliance while touching forbidden objects and leaving the designated area were actually measures of noncompliance.

Materials

Child Behavior Checklist/2-3 Version. (Achenbach and Edelbrock, 1986) (See Appendix A). This is a 100-item instrument completed by the parent which measures behavioral and emotional problems of 2- and 3-year-old children. Externalizing and internalizing problems are assessed. The CBCL/2-3 has adequate reliability and validity (Achenbach, Edelbrock, & Howell, 1987). Externalizing T-scores were used as inclusion/exclusion criteria for participation in the study. Children with clinically elevated externalizing T-scores (i.e., T-scores above 65) were excluded from the study.

Demographics Questionnaire. A demographic questionnaire was administered to the mothers to obtain information about family income, age of family members, ethnicity, and occupation of parents. This information was used to match subjects for age, sex, and socioeconomic status as well as to describe the sample (See Appendix B).

Forbidden Objects. These were objects that are not considered to be appropriate for young children's play, such as a typewriter, a pencil caddy with pens and pencils, a plate of pretzels, a hanging mobile, and decorative knick-knacks. The forbidden objects were present during the transgression phases of the study only.

Appropriate Toys. These were objects considered appropriate for young children's play and included plastic snap beads, puzzles, toy cars, plastic building blocks, and shape boxes. Two comparable sets of appropriate toys were used. Set One was available for the

children to play with during the free play phases and Set Two was available for the children to play with during the transgression phases of the study.

Apparatus. A Panasonic VHS video camera, model #AG-l250-P, was used to record mother and child behaviors during the free play and transgression situations. A Bug-in-the-Ear TM device (model B-312, Farrall Instruments, Inc.) consisting of a microphone and hearing aid set-up and was used to allow the experimenter to give on-going instructions to the mothers regarding their behavior. This prompting enabled the experimenter to manipulate the experimental conditions.

Observational Code. An observational code was used to score maternal and child behaviors from the videotapes in continuous l0- second intervals throughout the study. Maternal behaviors coded during all phases included the frequency and type of reprimands (including timing, length, and tone of voice), physical prompt, interaction, and praise. Child behaviors coded included appropriate play, leaving the area, touching forbidden objects, solicitations for mother's attention, and negative affect. During the free play phases, coded child behaviors included leaving the area, appropriate play, solicitations for mother's attention, and negative affect. Touching forbidden objects was not coded because no forbidden objects were present during this phase. During the transgression phases, touching forbidden objects, leaving the area, appropriate play, solicitations for mother's attention, and negative affect were coded. For detailed observational coding definitions see Appendix D. The following is a brief description of the observational code.

Maternal Behaviors A Reprimand-Only (R) is a statement of disapproval informing the child of what not to do or what to do. For example, "No, don't touch," "Put that back," or "Come here." A reprimand-with-reason (RS) is a statement of disapproval

informing the child of what not to do or what to do and why. The reason is a justification or explanation or a behavior. For example, "No, don't touch, those pencils aren't yours." Physical Prompt (PP), is any physical contact between the mother and child in the context of a reprimand situation. For example, carrying child back into the area or pulling the child away from a forbidden object is a physical prompt. These behaviors are coded each time they occur. Interaction (I), is coded as present or absent during an interval. Interaction includes verbal and nonverbal behaviors. Verbal interaction involves any statement that is not a reprimand, reprimand with accompanying reason or praise. For example, "The toys are mine" or "look at this" would be scored as interaction. Nonverbal interaction involves physical affection (e.g., patting the child on the head) and handing the child a toy. Praise (P) is a statement of approval regarding the child's behavior (e.g., "good job" or "You did it"). Praise is coded as present or absent during an interval.

Child Behaviors. Touching forbidden objects (FO), is coded each time the child touches or attempts to touch (within 6 inches) any of the forbidden objects located on the small tables in the room. Leaving the area (LA), is coded each time the child attempts to leave or leaves the designated (roped off) area. Appropriate play (AP), is coded as present or absent during an interval. Appropriate play includes all behaviors in which the child is engaged in a play activity with the toys provided in the room. Solicitations for mothers' attention (SA), is coded as present or absent during an interval when the child attempts to gain the mother's attention by asking questions about the mother's behavior, climbing on the mother and her chair and tapping or pulling on the mother's arms or legs. Negative affect (NA), is coded as present or absent during an interval. Negative affect includes whining, crying and tantrum behaviors.

Interobserver Agreement. Two observers independently coded the videotaped free play and transgression phases for maternal and child behaviors. Coding was done in continuous 10-second intervals. The observers were blind to the experimental conditions to which the subjects were assigned and to the hypotheses of the study.

Seven undergraduate students enrolled in psychology research credits served as observers and were trained in the observational codes used in this study. The observers were trained until they reached a criterion of 75 percent agreement on all coded behaviors. Observers viewed each tape twice, once to code the maternal behaviors and again to code the child behaviors. Intervals with disagreements were then circled on the coding sheets by the experimenter and the observers independently reviewed the intervals with disagreement. If the observer determined that his/her original coding was incorrect, he/she changed the coding to be consistent with the coding definitions. If the observer determined that his/her original coding was accurate, he/she left the coding as it was. Percent agreement (between observers) with Kappa corrections were calculated for each of the measured maternal and child behaviors for 100% of the observations. These calculations are reliability measures to assess the accuracy of the coded behaviors.

Average Kappa values for the coded maternal and child behaviors were calculated. Average Kappa values for the maternal behaviors ranged from .67 for voice tone of reprimands-only and reprimands-with-reasons to .98 for praise. While .67 is at the low end of acceptable Kappa values, tone of voice is typically a very difficult variable on which to obtain high reliability and Kappa values. Average Kappa values for the coded behaviors ranged from .89 for negative affect to .97 for appropriate play. On the whole, these Kappa values indicate that the maternal and child behaviors studied were accurately and

reliably coded by the observers. Data tabulation occurred after Kappa-corrected reliability values were calculated. For each subject, one observer's coding sheets were randomly selected to be used in data tabulation. The coded maternal and child behaviors were then tabulated by phase. For each behavior, the total number of intervals in which that behavior occurred was calculated. These totals were used in the analysis.

Procedure

Children were matched for sex, age, and socioeconomic status. Subjects were nonsystematically assigned to one of four experimental conditions: high nurturance/ reasoning strategy; high nurturance/no reasoning strategy; low nurturance/reasoning strategy; and low nurturance/no reasoning strategy. Each mother-child pair came to the laboratory for a single visit of about one hour.

A research assistant played with the child while the purpose of the study and experimental procedures were explained to the mother. Informed consent was then obtained. The mother and child were first videotaped during an initial warm-up period (8 minutes) to allow them to get used to the setting and video camera. The mother and child were then videotaped in three different phases: free play, transgression with mother present (visible), and transgression with mother absent (behind a curtain). All three phases took place in the same 17 foot room, which was furnished to resemble a waiting room. The room was furnished with a chair for the mother, a small chair for the child, and several small tables. Babygates and masking tape were placed across the floor to identify the area where the mother and child were to stay during the experimental phases. The toys and other objects present in the room varied according to the phases. The video camera was

located on top of a tall storage cabinet against a wall. A Bug-in-the-Ear device allowed the experimenter to give instructions to the mother during the phases. The experimenter watched the mother-child interactions via a monitor in an adjacent room.

Free Play Phases

During this 5-minute period, the room contained Set One of the appropriate toys. There were no forbidden objects in the room during the free play phase as this phase was a nurturance manipulation only. Mothers responded to child attempts to leave the area by suggesting that the child play with the toys. If the child left the area, the mother physically retrieved the child. Mothers were instructed to avoid using reprimands and negative statements. The nurturance manipulation began during this period (See Table 3).

Nurturance Factor. Mothers in the high-nurturance condition actively played with their children and the toys on the floor. The mothers engaged in continuous verbal and nonverbal interaction with their children. Mothers also were cued to give praise statements at the rate of one per minute, contingent upon the child's appropriate play.

In the low nurturance conditions, mothers sat in the chair and completed questionnaires about family demographics while the children played independently with the toys on the floor. The mothers were told to give praise statements at the rate of once every 2 minutes, contingent upon the child's appropriate play. In addition, mothers were instructed not to respond to their children unless the children showed signs of distress (crying or whining), at which time the mothers were instructed to encourage the children to play with the toys.

Verbal Discipline Factor. This factor was not manipulated during this free play phase of the study. During this phase, mothers were instructed not to give reprimands-only or reprimands-with-reasons.

Break

There was a 5-minute break between the free play phase and the subsequent transgression phases. During this break, the mothers were given directions for the transgression phases while the child played with a research assistant. During this break, the room was also set up for the transgression phases (the forbidden objects in set one were placed on the tables and the appropriate toys in Set Two were placed on the floor).

Transgression-Mother Present Phase

This phase was 8-minutes long. The room contained Set Two of appropriate toys. The forbidden objects in Set One were located on the small tables in the room and were within the children's reach.

In all conditions (high vs. low nurturance and no reasoning vs. reasoning strategy), the mother was instructed to sit in the chair and complete questionnaires while the child played independently with the toys on the floor. Mothers told the children to stay in the area and that they were not to touch certain objects. Each mother was directed to explain that she was busy and to encourage the child to play with the toys.

There were two factors manipulated during this phase: nurturance and verbal discipline strategy. Each factor had two levels, creating four conditions:

a. high nurturance/no reasoning strategy;

b. high nurturance/reasoning strategy;

c. low nurturance /no reasoning strategy;

d. low nurturance/reasoning strategy.

Verbal Discipline Factor. Mothers in the reasoning conditions delivered reprimands with accompanying reasons to child transgressions. The experimenter cued the mothers to give the reprimands-with-reasons, controlling for the length of verbalization.

Mothers in the no reasoning conditions delivered reprimands-only (without accompanying reasons) to child transgressions. The experimenter cued mothers to give the reprimands-only. The reprimands only were equal in length to the reprimands with reasons to avoid the potential confound of length of verbalizations.

Nurturance Factor. Mothers in the high nurturance conditions followed each reprimand-only, or reprimand-with-reason, with detailed instructions for the child to play with the toys. These mothers also briefly modeled toy play. Praise was provided, contingent upon the child's appropriate play behavior, at the rate of once per minute.

Mothers in the low nurturance condition followed each reprimand only, or reprimand-with-reason, with a short, unelaborated instruction for the child to play with the toys. Praise was provided, contingent upon the child's appropriate play, at the rate of once every two minutes.

Transgression-Mother Absent Phase

(Mother Behind the Curtain)

This phase was five minutes long. During this period, the mothers sat behind a curtain (suspended from the ceiling) which simulated her absence. Mothers told the children to continue playing with the toys, while they went behind the curtain to fill out some papers. The nurturance and verbal discipline manipulations were discontinued for this phase. Mothers in all conditions were instructed to refrain from making any statements or reprimands of any kind during this five minute period, except for giving a very brief response to a child's first solicitation for attention. Mothers were directed to respond to the first child solicitations for attention with a short instruction for the child to play with the toys. Mothers were told to ignore all further child solicitations for attention. Mothers were also instructed not to respond to child transgressions. They were instructed to refrain from giving reprimands of any kind and from retrieving the child if he/she left the area. Although the children were physically able to cross out of the designated area, for their safety the doorknob was child-proof so they were not able to leave the room. Also, the children were visible to the experimenter on the remote monitor at all times.

Inclusion/Exclusion Criteria

Children with physical or mental disabilities that would interfere with their ability to engage in the behaviors to be observed were excluded from the study. In order to be included in the data analysis, the children must have misbehaved at least twice (either

touched a forbidden object or left the area) during the transgression-mother present phase. This was to insure that the children were actually exposed to the reasoning versus no reasoning experimental manipulation. Also, maternal behaviors (rate of praise statements and use of reprimands-only and reprimands-with-reasons) were measured as manipulation checks. Mothers who did not comply with condition instructions were excluded from the study (as were their children). Mothers who gave more than two reprimands during the free play phase were excluded. Mothers in the low nurturance condition who interacted two times more than instructed or who gave more than one praise statement every two minutes were also excluded from the study.

Debriefing

After the last transgression phase, a research assistant played with the child while the mother was debriefed and any questions she had were answered. All children were given a prize (a small toy) for their participation in the study.

RESULTS

Manipulation Checks

A series of 2 x 2 x 2 mixed design ANOVAs were conducted for each of the observed maternal behaviors to insure that the experimental manipulations were implemented correctly. Nurturance (high vs. low) and verbal discipline strategy (no reasoning vs. reasoning) were between-groups factors and phase (free play vs. transgression-mother present) was the within-subjects factor. (For condition means and standard deviations for these maternal behaviors, see Table 4).

Nurturance Factor

The nurturance factor involved rates of maternal interaction and praise. Mothers in the high nurturance conditions were instructed to interact with and praise their children more than mothers in the low nurturance conditions. Thus higher rates of maternal interaction and praise were expected for the high nurturance conditions than for the low nurturance conditions. Differences in interaction or praise were expected between the verbal discipline strategy conditions. A nurturance x phase interaction was expected for praise. Praise statements should have decreased during the transgression-mother present phase because there was greater opportunity for misbehavior (forbidden objects were

present) and praise was contingent on the child's appropriate play. No other effects were expected for maternal interaction and praise.

In order to document that the maternal interaction portion of the nurturance manipulation was implemented correctly, the following analysis was conducted. A 2 (nurturance) x 2 (verbal discipline strategy) x 2 (phase) mixed design ANOVA was conducted with the observed maternal behavior of interaction as the dependent variable. A main effect of nurturance on interaction was obtained ($F(1,29) = 28.15$, $p < .0001$), with mothers in the high nurturance conditions interacting with their children more than mothers in the low nurturance conditions. No main effect of strategy on maternal interaction was obtained. Also, no main effect of phase on maternal interaction was obtained. A main effect of phase on maternal interaction was not expected because unlike praise, maternal interaction was not contingent on appropriate play. A nurturance x phase interaction was obtained for maternal interaction ($F(1,29) = 23.26$, $p < .0001$). The change in the number of maternal interactions across phase depended on nurturance level. While not predicted, this interaction is consistent with the designed nurturance manipulation. There were no other interactions.

In order to document that the praise portion of the nurturance manipulation was implemented correctly, the following analysis was conducted. A 2 (nurturance) x 2 (verbal discipline strategy) x 2 (phase) mixed design ANOVA was conducted with the observed maternal behavior of praise as the dependent variable. As expected, a main effect of nurturance on praise was obtained ($F(1, 29) = 60.51$, $p < .0001$), with mothers in the high nurturance conditions giving more praise than mothers in the low nurturance conditions (See Figure 2). There was no main effect of strategy on praise. As expected, a

main effect of phase on praise was also obtained ($F(1,29) = 38.94$, $p < .0001$), with more praise statements given during the free play phase than during the transgression-mother present phase. Rates of praise dropped significantly during the transgression-mother present phase because praise was contingent upon appropriate play and the presence of forbidden objects resulted in less appropriate play during this phase as compared to the free play phase in which there were no forbidden objects present. A nurturance x phase interaction was obtained for praise as well ($F(1,29) = 54.83$, $p < .0001$). The change in the number of praise statements depended on nurturance level and phase. While not predicted, this interaction is consistent with the nurturance manipulation. No other interactions were obtained.

The maternal interaction and praise results demonstrate that the nurturance manipulation worked as planned, with a powerful induction during the free play phase and a continuing (although weaker) manipulation during the transgression-mother present phase. Thus the nurturance manipulation (including maternal interaction and praise) was implemented correctly.

Verbal Discipline Strategy Factor

This factor was not manipulated during the free play phase, since this phase was only an induction for the nurturance manipulation. The verbal discipline strategy manipulation was implemented only during the transgression-mother present phase and involved mothers giving children either reprimands-only or reprimands-with-reasons following misbehavior (i.e., touching forbidden objects or leaving the area). Thus higher rates of reprimands-only were expected for the no reasoning conditions, while higher rates

of reprimands-with-reasons were expected for the reasoning conditions. Lower rates of reprimands-only and reprimands-with-reasons were expected during the free play phase since there were fewer opportunities for misbehavior (i.e., no forbidden objects were present). No differences were expected between nurturance conditions for reprimands-only and reprimands-with-reasons. Strategy x phase interactions were expected, since both verbal discipline strategy conditions should have had virtually no reprimands of any kind during the free play phase, but during the transgression-mother present phase, these conditions should have had differential rates of reprimands-only and reprimands-with-reasons.

To verify that the no reasoning portion of the verbal discipline strategy manipulation was implemented correctly, the following analysis was conducted. A 2 (nurturance) x 2 (verbal discipline strategy) x 2 (phase) mixed design ANOVA was conducted with the observed maternal behavior of reprimands-only as the dependent variable. As expected, a main effect of strategy on the number of reprimands-only was obtained ($F(1,29) = 10.81$, $p < .003$), with mothers in the no reasoning conditions giving more reprimands-only than mothers in the reasoning conditions. There was no main effect of nurturance on reprimands-only. As predicted, a main effect of phase on reprimands-only was also obtained ($F(1,29) = 48.20$, $p < .0001$). Mothers gave more reprimands-only in the transgression-mother present phase than in the free play phase. As expected, a strategy x phase interaction was obtained for reprimands-only as well ($F(1,29) = 13.39$, $p < .001$). The change in number of reprimands-only depended on strategy and phase. There were no other interactions.

To verify that the reasoning portion of the verbal discipline strategy manipulation was implemented correctly, the following analysis was conducted. A 2 (nurturance) x 2 (verbal discipline strategy) x 2 (phase) mixed design ANOVA was conducted with the observed maternal behavior of reprimands-with-reasons as the dependent variable. As expected, a main effect of strategy on the number of reprimands-with-reasons was obtained ($F(1,29) = 45.16$, $p < .0001$). Mothers in the reasoning conditions gave more reprimands-with-reasons than did mothers in the no reasoning conditions. There was no main effect of nurturance on reprimands-with-reasons. Also as expected, a main effect of phase on reprimands-with-reasons was obtained ($F(1,29) = 95.17$, $p < .0001$), with more reprimands-with-reasons being given during the transgression-mother present phase than during the free play phase. This was expected as there were more opportunities for misbehavior in the transgression-mother present phase (forbidden objects were present). As expected, a strategy x phase interaction for reprimands-with-reasons was obtained as well ($F(1,29) = 48.31$, $p < .0001$). The change in number of reprimands-with-reasons depended on strategy and phase. No other interactions were obtained. These results, in combination with the reprimands-only results demonstrate that the verbal discipline strategy manipulation was employed appropriately.

A prudence rating is a measure of reprimand delivery. The timing, length, and voice tone of the reprimand are evaluated and scores range from 1 to 4. Prudence ratings were calculated for every reprimand-only and every reprimand-with-reason. (See Appendix F for instructions for calculating prudence). The prudence ratings for the reprimands-only and reprimands-with-reasons were combined and averages were obtained for each experimental condition. In order to document that there were no differences

between strategy conditions in prudence ratings, the following analysis was conducted. A 2 (nurturance) x 2 (verbal discipline strategy) between-groups ANOVA with combined average reprimands-only and reprimands-with-reasons prudence ratings as the dependent variable was conducted for the transgression-mother present phase. (There were too few reprimands-only and reprimands-with-reasons in the free play and transgression-mother absent phases to conduct such analyses for these phases.) No differences in prudence ratings were expected between the strategy conditions. No main effects of nurturance or strategy on prudence ratings were obtained and no strategy x nurturance interaction was obtained. These results indicate that prudence ratings did not vary according to strategy or nurturance conditions. These results further indicate that the verbal discipline strategy manipulation was implemented appropriately and that there were no confounds due to group differences in the prudence of reprimand delivery.

Since physical prompt is a maternal behavior that sometimes occurs in combination with reprimands in discipline encounters, it was included in the observational code for this study. No differences in rate of physical prompts were expected between the nurturance conditions or the strategy conditions. If differences were found, this could be a potential confounding variable. Rates of physical prompt were expected to be low during the free play phase since few discipline encounters were possible. However, higher rates of physical prompt were expected during the transgression-mother present phase since forbidden objects were present and therefore more discipline encounters were possible. A 2 (nurturance) x 2 (verbal discipline strategy) x 2 (phase) mixed design ANOVA was conducted with the observed maternal behavior of physical prompt as the dependent variable. As expected, no main effects of nurturance or strategy on physical prompt were

obtained. Also as expected, a main effect of phase on physical prompt was obtained ($F(1,29) = 10.15$, $p < .003$), with mothers using more physical prompts in the transgression-mother present phase than in the free play phase. There were no interactions. These results demonstrate that the nurturance and strategy conditions did not differ in number of physical prompts children received, thus not posing a confound to any of the experimental factors.

Experimental Analyses

Preliminary Analyses

Preliminary analyses of the free play and transgression-mother absent phases were conducted. Child behaviors were examined for the free play phase to determine if there were any group differences. Group differences in child behaviors during this phase (while implementing the nurturance independent variable) would be confounding factors when examining nurturance and strategy effects. If there were unexpected differences, the use of analysis of covariance (ANOVA) to control for a possible confounding variable would need to be evaluated.

Maternal behaviors were examined for the transgression-mother absent phase to verify that the experimental protocol was implemented correctly. During this delayed compliance phase, the nurturance and verbal discipline strategy independent variables were discontinued and mothers were instructed not to interact with or praise their children in any way, except for a brief redirect to play with the toys in response to the child's first solicitation for mothers' attention. Differences in maternal behaviors between

experimental groups would indicate that the experimental protocol was improperly implemented.

The free play phase was an induction for the nurturance manipulation only. No differences between experimental groups were expected for any of the observed child behaviors. Observed child behaviors were examined for the free play phase to determine whether there were differences between experimental groups. A series of 2 (nurturance) x 2 (strategy) between-groups ANOVAs were conducted for the free play phase, with child behaviors as the dependent variables. Table 5 presents condition means and standard deviations for the child behaviors during the free play phase.

A 2 x 2 between-groups ANOVA with nurturance and strategy as between-groups factors and the observed child behavior of appropriate play as the dependent variable was conducted for the free play phase. A main effect of nurturance on appropriate play was obtained ($\underline{F}(1,29) = 8.134$, $\underline{p} < .088$). Children in the high nurturance conditions engaged in more appropriate play than children in the low nurturance conditions. While not predicted, this effect is likely due to the nature of the nurturance manipulation. Mothers in the high nurturance conditions played with their children on the floor, while mothers in the low nurturance condition sat in a chair and filled out forms as their children played on the floor. Thus children in the high nurturance conditions were encouraged to engage in appropriate play more than were children in the low nurturance conditions. No main effect of strategy on appropriate play was obtained. There was also no nurturance x strategy interaction for appropriate play. These results demonstrate that rates of appropriate play differed by level of nurturance, but not by type of verbal discipline strategy.

A 2 x 2 between-groups ANOVA with nurturance and strategy as between-groups factors and the observed child behavior of touching forbidden objects as the dependent variable was not conducted for the free play phase, because this child behavior was not possible during this phase (no forbidden objects were present in the room).

A 2 x 2 between-groups ANOVA with nurturance and strategy as the between-groups factors and with the observed child behavior of negative affect as the dependent variable was conducted for the free play phase. There was no main effect of nurturance on negative affect, no main effect of strategy on negative affect, and no nurturance x strategy interaction for negative affect. These results demonstrate that rates of negative affect were similar for all nurturance and strategy conditions and did not depend on level of nurturance and/or type of verbal discipline strategy.

A 2 x 2 between-groups ANOVA with nurturance and strategy as the between-groups factors and with the observed child behavior of leaving the area as the dependent variable was conducted for the free play phase. There was no main effect of nurturance on leaving the area, no main effect of strategy on leaving the area, and no nurturance x strategy interaction for leaving the area. These results indicate that the rates of leaving the area were similar for all nurturance and strategy conditions and did not depend on level of nurturance and/or type of verbal discipline strategy.

A 2 x 2 between-groups ANOVA with nurturance and strategy as the between-groups factors and with the observed child behavior of solicitation for mothers' attention as the dependent variable was conducted for the free play phase. A main effect of nurturance on solicitations for mothers' attention was obtained ($F(1,29)= 15.54$, $p< .0001$). Children in the low nurturance conditions engaged in more solicitations for mothers'

attention than children in the high nurturance conditions. While unexpected, this difference makes sense because, by virtue of the nurturance manipulation, children in the low nurturance conditions received minimal interaction and praise from mothers, while children in the high nurturance conditions did not need to solicit mothers' attention because they had mothers' attention through almost constant interaction in playing on the floor. Solicitations for mothers' attention was a newly defined child behavior examined in this study, and therefore no predictions were made regarding this behavior. No main effect of strategy on solicitations for mothers' attention was obtained. There was no nurturance x strategy interaction for solicitations for mothers' attention. These results demonstrate that children in the low nurturance conditions engaged in more solicitations for mothers' attention than children in the high nurturance conditions. These results also demonstrate that the verbal discipline strategy conditions had similar rates of solicitations for mothers' attention. Thus, the rate of solicitations for mothers' attention did not depend on verbal discipline strategy employed. The nurturance effect on solicitations for mothers' attention is explained by the reactions of children in the low nurturance conditions to minimal interaction with their mothers who were sitting in a chair completing questionnaires. Children in the high nurturance conditions were playing with their mothers on the floor and had no need to solicit mothers' attention.

The transgression-mother absent phase consisted of the mother sitting behind a curtain to simulate her absence while the child continued to play in the room. Observed maternal behaviors were examined for the transgression-mother absent phase to insure that the experimental groups did not differ on these behaviors. Differences in maternal behaviors during this phase could contaminate experimental manipulations and could

potentially confound the results regarding children's delayed compliance. A series of 2 x 2 between-groups ANOVAs were conducted for the transgression-mother absent phase, with nurturance and strategy as between-groups factors and with maternal behaviors as the dependent variables. Table 6 presents condition means and standard deviations for the maternal behaviors during the transgression-mother absent phase.

A 2 x 2 between-groups ANOVA with nurturance and strategy as between-groups factors and with the observed maternal behavior of interaction as the dependent variable was conducted for the transgression-mother absent phase. No main effect of nurturance on interaction was obtained. No main effect of strategy on interaction was obtained and no nurturance x strategy interaction for mother-child interaction was obtained. These results demonstrate that the nurturance and strategy conditions did not differ in amount of mother-child interaction during the transgression-mother absent phase. Maternal interaction rates were consistently low as expected due to subject instructions during this phase of the study. The rate of maternal interaction did not depend on level of nurturance or type of verbal discipline strategy. Thus there was no confound due to differences between groups in maternal interaction.

A 2 x 2 between-groups ANOVA with nurturance and strategy as between-groups factors and with the observed maternal behavior of praise as the dependent variable was conducted for the transgression-mother absent situation. As expected, there was no main effect of nurturance on praise, no main effect of strategy on praise, and no nurturance x strategy interaction for praise. These results demonstrate that all nurturance and strategy conditions were similar in rates of praise for the transgression-mother absent phase. The number of praise statements given during this phase was low, which is consistent with

subject instructions during this phase of the study. Thus there was no experimental confound due to group differences in rates of praise.

A 2 x 2 between-groups ANOVA with nurturance and strategy as between-groups factors and with the observed maternal behavior of physical prompt as the dependent variable was not conducted for the transgression-mother absent phase since no physical prompts were given during this phase. This is consistent with subject instructions for this phase. Therefore the nurturance and strategy conditions did not differ in rates of physical prompts given by mothers. Thus there was no experimental confound due to group differences in rates of physical prompt.

A 2 x 2 between-groups ANOVA with nurturance and strategy as between-groups factors and with the observed maternal behavior of reprimands-only as the dependent variable was not conducted for the transgression-mother absent phase because there were too few reprimands-only given to warrant an analysis.

A 2 x 2 between-groups ANOVA with nurturance and strategy as between-groups factors and with the observed maternal behavior of reprimands-with-reasons was not conducted for the transgression-mother absent phase since there were no reprimands-with-reasons given during this phase. This is consistent with subject instructions for this phase and demonstrates that the nurturance and strategy conditions did not differ in rates of reprimands-with-reasons given by mothers. Thus there was no experimental confound due to group differences in rates of reprimands-with-reasons.

The results obtained from the between-groups ANOVAs for the transgression-mother absent phase demonstrate that the experimental conditions did not differ on observed maternal behaviors, except for the reprimands-only category, in which the

difference is due to one mother inappropriately giving two reprimands-only. Thus, these results demonstrate that maternal behaviors during this phase were within acceptable limits and presented no confounding influence over the study.

Main Analyses

Correlational analysis were conducted using Pearson's r to determine if the dependent variables (child behaviors, appropriate play, touching forbidden objects, leaving the area, negative affect, and solicitations for mothers' attention) were related. Table 7 presents the correlation matrix.

Appropriate play was negatively correlated with touching forbidden objects, negative affect, and solicitations for mothers' attention. Leaving the area and solicitations for mothers' attention were both positively correlated with negative affect.

Although there were significant correlations between several of the dependent variables, ANOVAs were used in the analysis instead of a multiple analysis of variance (MANOVA) so that different types of compliance could be examined in greater detail.

A series of 2 (nurturance) x 2 (strategy) x 2 (phase) mixed design ANOVAs were conducted to test the experimental hypotheses. The phase variable levels used in these analyses were transgression-mother present and transgression-mother absent. Observed child behaviors were the dependent variables. Table 8 presents the condition means and standard deviations for these child behaviors during the transgression-mother present and transgression-mother absent phases.

There were three hypotheses regarding the dependent variable, appropriate play. First, it was hypothesized that nurturance would affect appropriate play. Specifically,

higher rates of appropriate play were expected for the high nurturance conditions as compared to the low nurturance conditions. It was also hypothesized that verbal discipline strategy would affect child compliance, though the direction was not predicted. Finally, it was hypothesized that child compliance would differ by phase, though again no direction was predicted. To test these hypotheses, the following analysis was conducted. A 2 x 2 x 2 mixed design ANOVA with nurturance and verbal discipline strategy as between-groups factors and phase as the within-subjects factor was conducted with the observed child behavior of appropriate play as the dependent variable. There was no main effect of nurturance on appropriate play. Thus, the expected difference in rates of appropriate play between the high nurturance and low nurturance conditions was not obtained.* As expected, there was no main effect of strategy on appropriate play. An unpredicted main effect of phase on appropriate play was obtained ($F(1, 29) = 98.95$, $p < .0001$) (See Figure 1). Children in all conditions engaged in more appropriate play during the transgression-mother present phase as compared to the transgression-mother absent phase. It appears that mother's presence/absence affected children's rates of appropriate play, with children playing more in mothers' presence. Children may have been distracted from appropriate play by the mothers being behind the curtain in the transgression-mother absent phase.

Though not predicted, a nurturance x strategy interaction for appropriate play was obtained ($F(1, 29) = 6.19$, $p < .019$). Rates of appropriate play depended upon nurturance

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There was a main effect of nurturance on appropriate play during the free play phase. Therefore, rate of appropriate play during the free play phase was covaried in subsequent analyses. The results of the ANCOVA were the same as those obtained from the ANOVA and are therefore not reported.

level and type of verbal discipline strategy (See Figure 2). No other interactions were obtained. These results demonstrate that more appropriate play occurred in the transgression-mother present phase and that the change in rate of appropriate play depended on nurturance and strategy conditions.

There were three hypotheses regarding touching forbidden objects (child compliance). First, it was hypothesized that nurturance would not affect the inhibition measures of child compliance. Thus no main effect of nurturance on touching forbidden objects was expected. It was also hypothesized that verbal discipline strategy would affect child compliance. Thus a main effect of strategy on touching forbidden objects was expected. Finally, it was hypothesized that child compliance would differ by phase. Thus a main effect of phase on touching forbidden objects was expected. To test these hypotheses, the following analysis was conducted. A 2 x 2 x 2 mixed design ANOVA with nurturance and strategy as between-groups factors and with phase as the within-subjects factor was conducted with the observed child behavior of touching forbidden objects as the dependent variable. As expected, there was no main effect of nurturance on touching forbidden objects. There was also no main effect of strategy on touching forbidden objects. Therefore, children's rates of compliance did not differ by nurturance level or by type of verbal discipline strategy employed. A main effect of phase on touching forbidden objects was obtained ($F(1, 29) = 6.76$, $p < .014$). Children touched more forbidden objects in the transgression-mother present phase than in the transgression-mother absent phase (See Figure 3). This may be due to children being distracted by mothers being "absent" behind the curtain during the transgression-mother absent phase.

A nurturance x strategy interaction for touching forbidden objects was obtained ($F(1, 29) = 5.69$, $p < .024$). The rate of touching forbidden objects depended upon level of nurturance and type of verbal discipline strategy employed (See Figure 3). Thus it appears that while nurturance alone and verbal discipline strategy alone did not directly affect child compliance, in combination, nurturance level and type of verbal discipline strategy did influence rates of child compliance (touching forbidden objects).

A strategy x phase interaction for touching forbidden objects was also obtained ($F(1, 29) = 5.98$, $p < .021$). The change in rate of touching forbidden objects depended upon strategy and phase. No other interactions were obtained.

There were three hypotheses regarding the dependent variable, leaving the area (another measure of child compliance). First, it was hypothesized that nurturance would not affect the inhibition measures of child compliance. Thus no main effect of nurturance on leaving the area was expected. Second, it was hypothesized that verbal discipline strategy would affect child compliance. Thus a main effect of strategy on leaving the area was expected. Thirdly, it was hypothesized that child compliance would differ by phase. Thus a main effect of phase on leaving the area was expected. To test these hypotheses, the following analysis was conducted. A 2 x 2 x 2 mixed design ANOVA with nurturance and strategy as between-groups factors and phase as the within-subjects factor was conducted with the observed child behavior of leaving the area as the dependent variable. As expected, there was no main effect of nurturance on leaving the area. Also there was no main effect of strategy on leaving the area. A main effect of phase on leaving the area was obtained ($F(1, 29) = 7.44$, $p < .011$), with a higher rate of leaving the area occurring during the transgression-mother present phase than during the transgression-mother absent

phase. This may be due to children being distracted from leaving the area by mothers being "absent" behind the curtain during the transgression-mother absent phase. No interactions were obtained.

There were three hypotheses regarding the dependent variable, negative affect. First, it was hypothesized that nurturance would affect children's negative affect. Specifically, higher rates of negative affect were predicted for children in the high nurturance conditions as compared to children in the low nurturance conditions. Thus a main effect of nurturance on negative affect was expected. Second, it was hypothesized that verbal discipline strategy would not affect children's negative affect. Thus no main effect of strategy on negative affect was expected. Thirdly, it was hypothesized that rates of negative affect would not differ by phase. Thus no main effect of phase on negative affect was expected. To test these hypotheses, the following analysis was conducted. A 2 x 2 x 2 mixed design ANOVA with nurturance and strategy as between-groups factors and phase as the within-subjects factor was conducted with the observed child behavior of negative affect as the dependent variable. As predicted, a main effect of nurturance on negative affect was obtained ($F(1, 29) = 4.93$, $p < .034$). Children in the high nurturance conditions engaged in more negative affect than children in the low nurturance conditions. (See Figure 4). Thus the first hypothesis regarding negative affect was confirmed. Also as predicted, there was no main effect of strategy on negative affect and no main effect of phase on negative affect. No interactions were obtained. Therefore, all hypotheses regarding negative affect were confirmed.

There were no directional hypotheses made regarding the dependent variable, solicitations for mothers' attention. Three questions were of interest: 1) would nurturance

affect solicitation for mothers' attention?, 2) would verbal discipline strategy affect solicitation for mothers' attention, and 3) would solicitation for mothers' attention differ by phase? To answer these questions, the following analysis was conducted. A 2 x 2 x 2 mixed design ANOVA with nurturance and strategy as between-groups factors and phase as the within-subjects factor was conducted with the observed child behavior of solicitations for mothers' attention as the dependent variable. A main effect of nurturance on solicitations for mothers' attention was obtained ($F(1, 29) = 4.5$, $p < .043$), with children in the high nurturance conditions engaging in more solicitations for mothers' attention than children in the low nurturance conditions (See Figure 5). There was no main effect of strategy on solicitations for mothers' attention. A main effect of phase on solicitations for mothers' attention was obtained ($F(1, 29) = 43.88$, $p < .0001$). Children in all conditions engaged in more solicitations for mothers' attention during the transgression-mother absent phase as compared to the transgression-mother present phase (See Figures 5 and 6).

A nurturance x phase interaction for solicitations for mothers' attention was obtained as well ($F(1, 29) = 15.95$, $p < .0001$). The rates of solicitations for mothers' attention depended upon nurturance level and phase (See Figure 5).

There was no nurturance x strategy interaction. Also, no strategy x phase interaction was obtained. However, a nurturance x strategy x phase interaction for solicitations for mothers' attention was obtained ($F(1, 29) = 6.44$, $p < .017$) (See Figure 7). This indicates that the rate of solicitations for mothers' attention depended upon the phase, level of nurturance and the type of verbal discipline strategy employed.

DISCUSSION

The manipulation checks analyses demonstrate that the experimental conditions were carried out appropriately. The nurturance manipulation was implemented in the free play phase and continued through the transgression-mother present phase. The verbal discipline strategy manipulation was implemented only during the transgression-mother present phase. Thus the results of this study can be examined with respect to the hypotheses proposed.

Three measures of child compliance were examined: 1) children's rate of appropriate play, 2) children's rate of touching forbidden objects, and 3) the number of times children left the designated area. Children in the high nurturance conditions did not differ from children in the low nurturance conditions in their rates of appropriate play, in their rates of touching forbidden objects, or in the number of times they left the area. Thus the hypothesis that the inhibition measures of child compliance would not differ as a result of nurturance level was confirmed. However, the hypothesis that children in the high nurturance conditions would play more than children in the low nurturance conditions was nor confirmed. Nurturance x strategy interactions were obtained for both appropriate play and touching forbidden objects, but not for leaving the area. The lack of a nurturance x strategy interaction for leaving the area may be explained by the relatively infrequent occurrence of this misbehavior. There may have been too few incidents of leaving the area

for any results to be obtained in the analysis. The nurturance x strategy interactions obtained for appropriate play and touching forbidden objects indicate that nurturance level in combination with type of verbal discipline strategy does influence child compliance. The nature of this relationship between nurturance and verbal discipline strategy and its influence on child compliance remains unclear and should be focused on in future studies in this area.

The same three measures of child compliance (appropriate play, touching forbidden objects, and leaving the area) were also examined in relation to the hypothesis that children in the reasoning conditions would differ in compliance from children in the no reasoning conditions. In other words, child compliance would differ as a result of type of verbal discipline strategy employed. Children in the reasoning conditions did not differ from children in the no reasoning conditions in their rates of appropriate play, in their rates of touching forbidden objects or in the number of times they left the area. This means that the use of reasoning as part of a verbal discipline strategy does not have a direct effect on child compliance, either to increase it or to decrease it. Thus the hypothesis that child compliance would differ by type of verbal discipline strategy was not upheld. However, nurturance x strategy interactions were obtained for appropriate play and for touching forbidden objects, but not for leaving the area. Again, the lack of a nurturance x strategy interaction for leaving the area may be explained by the relatively infrequent occurrence of this misbehavior. There may have been too few incidents of leaving the area for any results to be obtained in the analysis. The nurturance x strategy interactions obtained for appropriate play and touching forbidden objects demonstrate that type of

verbal discipline strategy, when paired with different levels of nurturance, did affect child compliance.

The results regarding appropriate play and touching forbidden objects suggest a unique relationship between nurturance and discipline strategy. One possible interpretation is that high nurturance conditions set the stage for children to be influenced by the use of reasons as part of a discipline strategy, while low nurturance conditions do not. However, it is not known why children in the low nurturance conditions would be less influenced by reasons as part of a discipline strategy. It is possible that the decreased rates of maternal interaction and praise in the low nurturance conditions decreased children's attention to or understanding of reasons. It may be that the low nurturance conditions lead to a less positive environment or emotional atmosphere which then renders the use of reasons ineffectual.

The strategy x phase interaction obtained for touching forbidden objects demonstrates that verbal discipline strategy is related to phase or type of situation. Rates of touching forbidden objects depended upon type of verbal discipline strategy and phase. There were two phases in this study in which child compliance was measured: 1) transgression-mother present which represented an immediate situation and 2) transgression-mother absent which represented a delayed situation. This is consistent with the previous finding by Kuczynski (1984) in which the use of reasoning resulted in increased compliance for children in the long-term (delayed) situation as compared to children in the short-term (immediate) situation. Compliance was defined as engaging in a boring task while distracting toys were present. Kuczynski (1984) also found that mothers in the long-term (delayed) situation were more nurturant (interacted more and gave more

verbal reinforcement, i.e., praise) than mothers in the short-term (immediate) situation. This strategy x phase relationship apparently holds for different compliance tasks (boring task and inhibiting touching forbidden objects).

As predicted, children in the high nurturance conditions displayed more negative affect than children in the low nurturance conditions. This replicates the Pfiffner and O'Leary (1989) results. It appears that prudent , or effective, (immediate, short and firm tone) reprimands, whether or not they are accompanied by reasons, are more aversive to children when in a highly nurturant environment as opposed to a relatively less nurturant one.

This main effect of nurturance on negative affect has interesting implications for clinicians working on behavior management /parenting programs with parents of noncompliant children. These programs typically involve at least two modules. In most programs, the first module focuses on helping parents increase praise and interaction to create a more positive relationship with the child. The second module usually involves teaching parents to implement effective discipline strategies, including prudent reprimands and time out procedures. The nurturance effect on children's negative affect seems to indicate that children will react with greater negative affect (crying, tantrumming, etc.) to the use of the effective discipline strategies employed in the second module of typical behavior modification programs, especially since these strategies are employed after an increased nurturance module. Parents may be unprepared for this likely increase in negative affect of the children. The may indeed find the increased crying and tantrumming behavior aversive and then be less able to follow the treatment program. Clinicians need to be aware of the likelihood of increased child negative affect during the implementation

of effective discipline strategies and explain this effect to parents. This knowledge, along with therapeutic support can help parents prepare for and follow these extremely effective treatment programs. Further research is needed on the effects of the order of modules in such treatment programs. Outcome studies comparing the efficacy of different ordering of modules and of employing both modules simultaneously would be interesting and worthwhile additions to the knowledge in these areas. Measures of children's (and possibly even parents') affect should be included in studies of these programs.

Higher rates of appropriate play were predicted for children in the high nurturance conditions as compared to children in the low nurturance conditions because it was believed that children in the low nurturance conditions, with less praise and encouragement, would wander off task more than children in the high nurturance conditions. Other studies (Lytton, 1979; Kuczynski, 1984) have found higher rates of compliance to tasks in high nurturance conditions as compared to low nurturance conditions. However, this hypothesis was not upheld in the current study as rates of appropriate play did not differ by nurturance level. Children in the high and low nurturance conditions engaged in very similar rates of appropriate play. Pfiffner and O'Leary (1989), similarly found no differences in compliance for high versus low nurturance conditions. Both the Pfiffner and O'Leary study and the present study were more controlled experiments as compared to the previous studies and this may account for the discrepant results.

Solicitation for mothers' attention is a child behavior examined in the current study that has not previously been investigated. No directional predictions were made regarding rates of solicitation for mothers' attention. Significant results were obtained which seems

to indicate that this behavior is an important one to continue studying. The main effect of nurturance on solicitation for mothers' attention demonstrates that children in the high nurturance conditions engaged in more solicitations for mothers' attention than children in the low nurturance conditions. The main effect of phase on solicitation for mothers' attention is also an interesting result. For all conditions except the low nurturance/no reasoning condition, rates of solicitation for mothers' attention increased from the immediate to the delayed phase. In the transgression-mother absent phase the rate of maternal interaction dropped to almost none for all conditions and children in the high nurturance conditions were exposed to a more discriminable change than were children in the low nurturance conditions. This may explain the obtained interactions.

Finally, no differences in negative affect were predicted for the immediate (transgression-mother present) versus the delayed (transgression-mother absent) phases As expected, there were no differences in negative affect between the immediate and delayed phases. Differences in child compliance were expected for the transgression-mother present (immediate) versus the transgression-mother absent (delayed) phases. For all conditions, the rate of appropriate play (one measure of compliance) decreased from the immediate to the delayed phase, indicating a drop in compliance due to phase. The rate of touching forbidden objects and the number of times children left the area (the second and third measures of child compliance) decreased from the immediate to the delayed phase. Contrary to the appropriate play results, these results indicate an increase in compliance (children were touching fewer forbidden objects and were leaving the area less) during the delayed phase as compared to the immediate phase. Thus the hypothesis that there would be a difference in child compliance between the immediate and the

delayed context (phase) was confirmed. During the delayed phase, the children were engaging in less appropriate play, but they were also touching fewer forbidden objects and leaving the area less. These contradictory findings for the different measures of child compliance can be understood by distinguishing between types of child compliance. The appropriate play measure requires the child to engage in a specific set of behaviors to be compliant, while the forbidden object and leaving the area measures require the child to inhibit a behavior (not touch forbidden objects or not leave the area) to be compliant. Also, however, in the delayed phase, the children in three of the four conditions were engaging in more solicitation for mothers' attention. Children in the low nurturance/no reasoning condition did not increase their rate of solicitation for mothers' attention from the immediate to the delayed phase. Children in the other three conditions were likely reacting to the mothers being "absent" behind the curtain.

In general, it appears that when using an inhibition measure of compliance (such as touching forbidden objects or leaving the area), children are more compliant in a delayed context than in an immediate context. To briefly summarize, rates of appropriate play decreased in the delayed phase, indicating a decrease in rate of child compliance. However, rates of touching forbidden objects and leaving the area also decreased, indicating an increase in child compliance. These conflicting child compliance results may have been obtained because the measures of compliance required the children to engage in different behaviors. As described earlier in this section, the appropriate play measure of compliance requires the children to engage in specific behaviors, whereas the forbidden objects and leaving the area measures of compliance require children to inhibit specific

behaviors. Perhaps children's reactions to immediate versus delayed contexts differ based on the type of compliance task.

There are a number of limitations to the current study. First, the study had a relatively small sample size of 33 mother-child dyads. This means that there may not have been sufficient numbers to detect some of the effects of interest. For example, the failure to obtain higher rates of appropriate play for the high nurturance conditions as compared to the low nurturance conditions might be explained by a small sample, especially if this effect were not a particularly strong one. Secondly, this study was conducted in a controlled laboratory setting which limited mothers' possible responses to child misbehaviors. While the laboratory setting was made to resemble a waiting room which mothers and children actually encounter regularly, mothers are not usually as confined in their responses to child behaviors. The laboratory setting was chosen to provide greater experimental control for manipulation of the independent variables. However, by limiting mothers' responses to their children's behaviors, it is possible that important factors and strategies parents normally employ were excluded and thus not studied. A third limitation is that the sample was restricted. There were no children with psychiatric diagnoses and no children who scored in the clinical range on the CBCL/2-3. This is important because children with clinical diagnoses would display a greater variety of behaviors than the normal children who participated in the study. Also, the parenting strategies used in this study may be less effective with children with clinical diagnoses and/or behavior problems. Demographic variables (gender, age, and SES) were controlled for and all but two participants were Caucasian. Therefore, the results of this study cannot be generalized to clinical populations or to minority populations. Since these factors were experimentally

controlled, it is not clear whether gender, age, ethnicity, and/or SES would influence the effects of nurturance and verbal discipline strategy on child compliance. The results of this investigation can be generalized only to circumstances which closely resemble the environment and conditions employed in this study. More studies (both naturalistic and experimental) of the effects of nurturance and parental discipline strategies are needed to expand the knowledge base.

The results of this study suggest several topics of future research in the areas of child compliance and parenting strategies. The relationship between nurturance and the use of reasoning as part of a verbal discipline strategy needs to be investigated further. Future studies could employ more discrepant levels of nurturance and/or longer experimental sessions which would provide greater exposure to the different nurturance and strategy conditions. This would more closely resemble the cumulative effects of nurturance which occur in the children's natural home environment. The effects of different orders of modules in treatment programs for noncompliant children is also an interesting and practical area for future research, particularly as related to children's negative affect. For example, an outcome study in which two groups of parents and children are treated with the same program, but with reverse orders of the positive interaction and effective discipline modules would be interesting and valuable. In addition, it would be interesting to compare parents who receive information and support for dealing with children's expected negative affect to parents who do not receive this preparation and support. Dependent variables could include clinical outcome measures (i.e., child compliance) as well as parents' affect, ability to follow the treatment program, and attrition. Also, compliance in different contextual situations and settings seem to be

promising variables to examine in future studies. Child compliance studies could include a variety of situations, such as mother present versus mother absent and even with other children in the same room. Studies are needed that compare different age groups, ethnicities, genders, and different levels of SES on the bases of child and parent affect, as well as on measures of child compliance. Controlled studies in these areas are challenging to design and implement, but the results and conclusions possible from such studies are clearly valuable in discovering new variables to study and in broadening the understanding of variables already suspected or known to affect parenting strategies and child compliance.

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APPENDIXES

CHILD BEHAVIOR CHECKLIST FOR AGES 2-3

For office use only
ID #

CHILD'S NAME

SEX ☐ Boy ☐ Girl | AGE | ETHNIC GROUP OR RACE

TODAY'S DATE Mo.____ Date____ Yr.____

CHILD'S BIRTHDATE Mo.____ Date____ Yr.____

Please fill out this form to reflect *your* view of the child's behavior even if other people might not agree. Feel free to write additional comments beside each item and in the space provided on page 2.

PARENTS' USUAL TYPE OF WORK, even if not working now *(Please be specific—for example, auto mechanic, high school teacher, homemaker, laborer, lathe operator, shoe salesman, army sergeant.)*

FATHER'S TYPE OF WORK: _____

MOTHER'S TYPE OF WORK: _____

THIS FORM FILLED OUT BY:

☐ Mother (name): _____

☐ Father (name): _____

☐ Other—name & relationship to child: _____

Below is a list of items that describe children. For each item that describes the child **now or within the past 2 months**, please circle the **2** if the item is **very true or often true** of the child. Circle the **1** if the item is **somewhat or sometimes true** of the child. If the item is **not true** of the child, circle the **0**. Please answer all items as well as you can, even if some do not seem to apply to the child.

0 = Not True (as far as you know) 1 = Somewhat or Sometimes True 2 = Very True or Often True

0	1	2	1.	Aches or pains (without medical cause)	0	1	2	33.	Feelings are easily hurt
0	1	2	2.	Acts too young for age	0	1	2	34.	Gets hurt a lot, accident-prone
0	1	2	3.	Afraid to try new things	0	1	2	35.	Gets in many fights
0	1	2	4.	Avoids looking others in the eye	0	1	2	36.	Gets into everything
0	1	2	5.	Can't concentrate, can't pay attention for long	0	1	2	37.	Gets too upset when separated from parents
0	1	2	6.	Can't sit still or restless	0	1	2	38.	Has trouble getting to sleep
0	1	2	7.	Can't stand having things out of place	0	1	2	39.	Headaches (without medical cause)
0	1	2	8.	Can't stand waiting; wants everything now	0	1	2	40.	Hits others
0	1	2	9.	Chews on things that aren't edible	0	1	2	41.	Holds his/her breath
0	1	2	10.	Clings to adults or too dependent	0	1	2	42.	Hurts animals or people without meaning to
0	1	2	11.	Constantly seeks help	0	1	2	43.	Looks unhappy without good reason
0	1	2	12.	Constipated, doesn't move bowels	0	1	2	44.	Angry moods
0	1	2	13.	Cries a lot	0	1	2	45.	Nausea, feels sick (without medical cause)
0	1	2	14.	Cruel to animals	0	1	2	46.	Nervous movements or twitching (describe): _____
0	1	2	15.	Defiant					
0	1	2	16.	Demands must be met immediately					
0	1	2	17.	Destroys his/her own things	0	1	2	47.	Nervous, highstrung, or tense
0	1	2	18.	Destroys things belonging to his/her family or other children	0	1	2	48.	Nightmares
					0	1	2	49.	Overeating
0	1	2	19.	Diarrhea or loose bowels when not sick	0	1	2	50.	Overtired
0	1	2	20.	Disobedient	0	1	2	51.	Overweight
0	1	2	21.	Disturbed by any change in routine	0	1	2	52.	Painful bowel movements
0	1	2	22.	Doesn't want to sleep alone	0	1	2	53.	Physically attacks people
0	1	2	23.	Doesn't answer when people talk to him/her	0	1	2	54.	Picks nose, skin, or other parts of body (describe): _____
0	1	2	24.	Doesn't eat well (describe): _____					
0	1	2	25.	Doesn't get along with other children	0	1	2	55.	Plays with own sex parts too much
0	1	2	26.	Doesn't know how to have fun, acts like a little adult	0	1	2	56.	Poorly coordinated or clumsy
					0	1	2	57.	Problems with eyes without medical cause (describe): _____
0	1	2	27.	Doesn't seem to feel guilty after misbehaving					
0	1	2	28.	Doesn't want to go out of home					
0	1	2	29.	Easily frustrated	0	1	2	58.	Punishment doesn't change his/her behavior
0	1	2	30.	Easily jealous	0	1	2	59.	Quickly shifts from one activity to another
0	1	2	31.	Eats or drinks things that are not food—don't include sweets (describe): _____	0	1	2	60.	Rashes or other skin problems (without medical cause)
					0	1	2	61.	Refuses to eat
0	1	2	32.	Fears certain animals, situations, or places (describe): _____	0	1	2	62.	Refuses to play active games
					0	1	2	63.	Repeatedly rocks head or body
					0	1	2	64.	Resists going to bed at night

Please see other side

0 = Not True (as far as you know) 1 = Somewhat or Sometimes True 2 = Very True or Often True

0	1	2	65.	Resists toilet training (describe): _____	0	1	2	82.	Sudden changes in mood or feelings
					0	1	2	83.	Sulks a lot
0	1	2	66.	Screams a lot	0	1	2	84.	Talks or cries out in sleep
0	1	2	67.	Seems unresponsive to affection	0	1	2	85.	Temper tantrums or hot temper
0	1	2	68.	Self-conscious or easily embarrassed	0	1	2	86.	Too concerned with neatness or cleanliness
0	1	2	69.	Selfish or won't share	0	1	2	87.	Too fearful or anxious
0	1	2	70.	Shows little affection toward people	0	1	2	88.	Uncooperative
0	1	2	71.	Shows little interest in things around him/her	0	1	2	89.	Underactive, slow moving, or lacks energy
0	1	2	72.	Shows too little fear of getting hurt	0	1	2	90.	Unhappy, sad, or depressed
0	1	2	73.	Shy or timid	0	1	2	91.	Unusually loud
0	1	2	74.	Sleeps less than most children during day and/or night (describe): _____	0	1	2	92.	Upset by new people or situations (describe): _____
0	1	2	75.	Smears or plays with bowel movements	0	1	2	93.	Vomiting, throwing up (without medical cause)
0	1	2	76.	Speech problem (describe): _____	0	1	2	94.	Wakes up often at night
					0	1	2	95.	Wanders away from home
0	1	2	77.	Stares into space or seems preoccupied	0	1	2	96.	Wants a lot of attention
0	1	2	78.	Stomachaches or cramps (without medical cause)	0	1	2	97.	Whining
					0	1	2	98.	Withdrawn, doesn't get involved with others
0	1	2	79.	Stores up things he/she doesn't need (describe): _____	0	1	2	99.	Worrying
								100.	Please write in any problems your child has that were not listed above.
0	1	2	80.	Strange behavior (describe): _____	0	1	2		_____
					0	1	2		_____
0	1	2	81.	Stubborn, sullen, or irritable	0	1	2		_____

PLEASE BE SURE YOU HAVE ANSWERED ALL ITEMS. UNDERLINE ANY YOU ARE CONCERNED ABOUT.

Does your child have any illness, physical disability, or mental handicap? ☐ **No** ☐ **Yes—Please describe**

What concerns you most about your child?

Please describe the best things about your child:

APPENDIX B

DEMOGRAPHIC QUESTIONNAIRE

Please complete this confidential questionnaire. An answer to every questionis requested.

1. Your relationship to the child: Mother _____
   Father _____
   Other _____

2. Your sex: Male _____ Female _____

3. Your age: _____

4. Your race: _____

5. Highest level of education completed (circle year)

   1 2 3 4 5 6 7 8 (grade school)

   9 10 11 12 (high school)

   13 14 15 16 (college)

   17 and over (graduate school)

6. Your occupation: _____

7. Marital Status: Single _____ Married _____ Divorced _____
   Separated _____ Other _____

8. Total family income per month is:

   ( ) Less than $800 ( ) $1000 - $1500 ( ) $2000 - $2500
   ( ) $800 - $1000 ( ) $1500 - $2000 ( ) Over $2500

9. If married, please provide the following information about your spouse:

a) Relationship to the child _____
b) His/her age: _____
c) His/her race: _____
d) Highest level of education completed (circle year):

1	2	3	4	5	6	7	8	(grade school)
9	10	11	12	(high school)				
13	14	15	16	(college)				
17 and over				(graduate school)				

10. Please provide the following information about the child:

a) Date of birth _____ _____
b) Sex: Male _____ Female _____
c) Race: _____

11. Development:

At what age did your child:
a) Sit independently _____
b) Crawl _____
c) Walk independently _____
d) Child's primary means of getting around? _____
e) Any difficulty riding trike or bike? _____
f) Has this child ever been considered clumsy? _____
g) Does your child enjoyed playground equipment? _____
h) Does your child seem fearful of spaces (for example: going up and down stairs, riding a teeter-totter, etc? _____
I) Does your child seem weaker or stronger than normal? _____
j) Does your child have difficulty using tools (for example: spoon or fork, pencil, etc?) _____
k) Which hand does your child favor most often: Left _____ Right _____
l) Do you consider your child's attention span good? _____
m) Is your cold on any medication at this time? _____If yes, please list:
_____

APPENDIX C

OBSERVATIONAL CODES

Observational Coding Definitions
Toddler Studies--Maureen Sullivan, Ph.D.
Oklahoma State University

PARENT CODE

INTRODUCTION TO THE CODING SYSTEM

The Parent Coding Sheet includes 30 boxes per page. Each of these boxes represents a ten (10)-second interval. Within each of these boxes, there are a number of symbols which represent the various behaviors the parent will engage in. The symbols on the Parent Coding Sheet include the following:

*R- Reprimand Only
*R/S- Reprimand with reason
I/D- Timing of the Reprimand or Reprimand with reason,
I=Immediate D=Delayed
L/S- Length of the Reprimand or Reprimand with reason,
L=Long S=Short
F-SF
G-SG- Voice tone of Reprimand or Reprimand with reason,
F=Firm G=Gentle
SF=Mixed, but more firm than gentle
SG=Mixed, but more gentle than firm
*PP- Physical Prompt
I- Interaction
P- Praise

General Points in Coding

Code parent behavior in continuous 10-second intervals according to the definitions provided below. To code, circle the appropriate symbol to the corresponding parent behavior in the interval in which it occurred.

If behavior occurs on an interval change, code in both intervals (e.g., I & P). If behavior is a Reprimand Only, Reprimand with reason, of a Physical Prompt (the symbols marked with asterisks above), code the behavior in both intervals and draw a line to the next interval. If no codeable behavior occurs during an interval, draw a diagonal slash through the interval box.

IF YOU HAVE ANY QUESTIONS ABOUT THE CODE, ASK FOR CLARIFICATION!!!

REPRIMANDS

The first coding term to be defined is the Reprimand Only. There are two situations that constitute a Reprimand only. These include the following:

A. Statement of disapproval informing child WHAT NOT TO DO
   Examples: "No, don't touch."
   "Did you touch that mobile?"
   "Child's name" (in a disapproving tone)

B. Negative command informing the child WHAT TO DO following misbehavior.

   Examples: "Put that down."
   "Stop playing with the typewriter."

There are two situations in which Reprimand Only would be coded. These ONLY include when the mother responds to the child (1) touching a forbidden object (FO) or (2) leaving the area (LA). When a Reprimand Only follows the child touching a forbidden object or leaving the area, circle the R on the coding sheet. As a rule, the Reprimand MUST be comprised of words--making noises to inform the child that the behavior is not appropriate does not count (e.g., shhhhh! or Mmmmmm! are not considered reprimands).

SIX-INCH RULE FOR FORBIDDEN OBJECTS

Occasionally, it may be difficult to detect whether the child is actually touching the forbidden object. For this reason, there is a six-inch zone around the forbidden object that the child is not allowed to violate. That is, the child does not actually have to touch a forbidden object for FO to be coded; the child only needs to be oriented towards the object and have his/her hand within six (6) inches to violate the FO zone. For more information about the details of this rule, refer to the Child Code--Forbidden Object category.

SPECIAL NOTE: "COME HERE"

Phrases such as "come here" or "come back" are coded as reprimands ONLY when the child has LEFT THE AREA. It is coded as an Interaction (I) at any other time, even if the child is touching a forbidden object. If "COME HERE' is paired with an instruction to play with the toys (e.g., the child has left the area and the mother says "come here and play with the toys", it is coded as an Interaction (I). If "COME HERE" and the instructions to play with the toys are not part of one sentence or are separated by a pause, then the "come here" would be coded as a Reprimand (R).

SPECIAL NOTE: "LOOK AT ME"

Phrases such as "Look at me" are often combined with reprimands. If the mother says "Look at me" during a reprimand, code it as part of the reprimand. That is, "no, no. Look at me. I said no." counts as one reprimand only.

REPEATED REPRIMANDS

Sometimes the mother may have to repeat her reprimand to get the child to stop engaging in a misbehavior. These are called REPEATED REPRIMANDS. One reprimand is considered to be a statement not separated by (1) 2 SECONDS OR MORE or (2) a statement coded as an Interaction (I). If two (2) or more seconds, or an Interaction occurs between two (2) reprimands, code as two separate reprimands. Examples: "no, don't touch (R). Put the piece in the puzzle (I). Don't touch (R)." = Two reprimands with an interspersed interaction.

"No, put that down (R). (2.5 seconds pause) No, stop that (R)." This is another example of two reprimands separated this time by over 2 seconds.

REPRIMANDS ON THE INTERVAL CHANGE

If a reprimand begins in one interval and continues into the next, circle the R in the first box and draw a line connecting the R in the first box to the R in the second box.

TWO REPRIMANDS IN ONE INTERVAL

For multiple reprimands in an interval, code the first reprimand as usual (e.g., circle R on the coding sheet, timing length, and voice tone). For the second reprimand, make an "X" over the appropriate symbol (usually the R). DO NOT CODE timing, length, or voice tone. Like any reprimand, the second reprimand may carry over to the next interval, which is indicated by a line drawn from the reprimand with an "X" over to the R in the next interval. If there are three reprimands in an interval we ignore the third--even if it carries over into the next interval.

ADDITIONAL COMPONENTS CODED WITH A REPRIMAND

When a reprimand occurs, 3 components are coded:

A. Timing--Immediate or Delayed (I/D)

A reprimand is coded as immediate if it occurs less than three (3) seconds after the child misbehaves (from the time the child engages in a misbehavior to the mother's reprimand. Reprimands following the child pointing to the forbidden object with his/her hand within six (6) inches of the OF are always coded as immediate.

If a child misbehaves more than one time prior to a reprimand, and you cannot tell which of the two misbehaviors the reprimand is for, code the reprimand as if it were for the first misbehavior. (E.g., in determining timing, count the time between the first misbehavior and the reprimand.)

Sometimes timing is not coded and the I/D is crossed out on the coding sheet. These situations include the following:

1. Repeated reprimands--when the mother is repeating a reprimand for the SAME misbehavior
2. Other reprimands (See discussion to follow)

B. Length--Long or Short (L/S)
A reprimand is coded as long if it is comprised of eight (8) words or more. Short reprimands are 7 words or less. A child's name is part of the reprimand.
Examples: "No, Richard Mil house Nikon, don't touch" (6 words=S)
"Come back, Rush. Do not leave this area" (8 words=L)
"Come back Rush. Don't leave this area" (7 words=S)

NOTE: In scoring length of reprimands, be careful not to include any Interactions as part of the reprimand.

C. Tone of Voice-- Firm (F) Gentle (G)
Somewhat Firm (SF) Somewhat Gentle (SG)
When coding a reprimand, the tone of voice with which the reprimand is stated is also coded. It is coded in one of the following four categories.

Firm (F) -- In a neutral (monotone, without inflection), or a firm tone of voice (sharp or deep, as if the parent really means it). It can still be considered firm even if it is delivered in a high pitch or in a soft-spoken tone, IF THAT IS THE PARENT'S NORMAL TONE OF VOICE. To be coded firm, it does not have to be emphatic. It only has to be neutral or firm (e.g., no change of inflection).

Gentle (G) -- In a sing-song coaxing tone. Inflection in parent's voice is present. May sound exaggerated or baby-talkish. Don't confuse with soft-spoken persons or funny accents.

Somewhat Firm (SF) -- Code if part of the reprimand is firm/neutral and part is gentle (i.e., mixed). Half or more of the words need to be firm/neutral to be coded as SF. If the # firm = the # gentle, code as SF.

Somewhat Gentle (SG) -- Code if part of the reprimand is firm/neutral and part is gentle (i.e., mixed). MORE THAN HALF of the words need to be gentle to be coded as SG. If the # of gentle = the # of firm/neutral, code as SF. NOTE: To determine whether the tone of any given reprimand is either SF or SG, count out the words and ascertain whether each word is gentle or firm/neutral.

REPRIMANDS WITH REASONS

Reprimands can be very terse and not explain why the mother is reprimanding the child. Many parents will often explain or justify why they are reprimanding the child. To account for these different kinds of reprimands, there is a special category to code these instances.

Examples:

"No, don't touch. Those pencils aren't yours."
"Those belong to the lady and she doesn't want you to play with them."
"Those cookies will spoil your dinner."
"No, not now. You can have a cookie later."
"Don't touch, just look"
"Don't do that. That is dangerous"
"Good girls just look." (implied disapproval)
"Just look, just to look at"

To code these Reprimands with reasons, circle the RS symbol on your coding sheet. ALL OTHER CODING FOR REPRIMANDS WITH REASONS IS CONSISTENT WITH REGULAR REPRIMANDS.

OTHER REPRIMANDS

There are instances when mothers reprimand their children in a different way or for misbehaviors that are not defined by our code. Mothers occasionally will warn the child to not engage in a misbehavior PRIOR TO THE CHILD ENGAGING IN THAT BEHAVIOR.

Examples:

"Just look at the typewriter. Don't touch." (when child is MORE than 6 inches from the typewriter).

"Come back here." (when child is oriented towards leaving the area and CLOSER THAN 1 FOOT TO THE TAPE, but not physically out of the area).

"Don't touch." (when child is NOT touching a forbidden object).

NOTE: If the child is next to the baby gate and not oriented towards leaving the area, "Come here" would be considered an Interaction (I).

Mothers will sometimes reprimand a child for a "misbehavior" that is not defined in our code.

Examples:

"Do not hang on the babygate."
"Don't put that toy in your mouth.:
"Don't play with that!" (when child reaches for magazines, mom's purse).

"Mommy needs to sit in the chair, sweetheart." (when child sits in mother's chair).

TO CODE THESE OTHER REPRIMANDS, circle the R (or RS if a reason is given), and draw a small triangle next to the R or RS just outside the interval box on the left side. REMEMBER THAT TIMING IS NOT CODED FOR OTHER REPRIMANDS. Just place a line through I/D.

Multiple reprimands in an interval with Other Reprimands

When coding, you may occasionally have a mother give multiple Reprimands, Reprimands with Reason, or Other Reprimands OR A COMBINATION OF THE ABOVE. In these cases, for the first reprimand, the appropriate symbol is placed on the left side, just outside the interval box (none for R, RS, but a triangle for Other Reprimand). For the second reprimand, the appropriate symbol is placed on top of the interval box, just above the R/RS (none for R or RS, but a triangle for an Other Reprimand).

PHYSICAL PROMPT (PP)

Sometimes in a reprimand situation, there will be physical contact between the mother and the child. In this context, this contact will be coded as Physical Prompt (PP).

Examples:

Pulling the child away from a forbidden object
carrying the child back into the designated area
taking the object away from the child/touching the object at the same time as the child

NOTE: If the mother touches her child in a non-reprimand situation, this would be coded as an Interaction(I). It is possible to code two (2) physical prompts within a single interval--either separated by two(2) seconds or for two (2) different misbehaviors. Also, physical prompts carry over intervals (e.g., circle the symbol in the first interval and draw a line to the next interval).

INTERACTION (I)

There are a variety of techniques other than reprimands used by parents to communicate with their children. Much of this would fall into the Interaction category. This category includes both verbal and nonverbal behaviors.

Verbal

Verbal interaction includes any parental comment or statement to the child that is NOT a reprimand or a praise.

Examples:

Chatting with their child
"No, that doesn't fit." (instructional, for puzzle-not a reprimand)
"Sit down and play with the toys" (when child is just wandering around)
"Come here." (If the child has NOT left the area)
"Look at this"

NOTE: When the child is attempting to gain mother's attention, code mother's response as a reprimand ONLY IF she includes a negative command (i.e., "no" or "not").

Example:

Child: "Mommy here?"
Mother:: "Mommy is busy Sigmund. You can do it."

This would be coded as Interaction (I). If the mother had said, "No, Sigmund. I am busy." this would be an Other Reprimand (for a misbehavior not defined in our code).

Nonverbal

Some of the behavior between individuals is nonverbal. Nonverbal interaction includes affectionate gestures initiated by the parent to the child (e.g., patting the child's head and holding the child on lap). Also includes handing the child a toy or playing with the same toy (e.g., holding the puzzle board while the child puts a piece in). This does NOT include bringing the child back into the area (which is a physical prompt) or holding a toy (unless there is other ongoing interaction between the parent and child). TO CODE INTERACTION, circle the I symbol on the coding sheet. When it occurs on an interval change, circle the I symbol in both intervals affected. There is no need to carry over Interactions from one interval to the next; simply circle the I in every interval in which Interaction occurs.

PRAISE

Occasionally the mother may praise the child for appropriate behavior (e.g., getting all the puzzle pieces in correctly, playing quietly while mother completes the forms, etc.).

Examples:

"Thank you!" (in a positive voice)
"Good job"
"I like the way you are playing so nicely."
"That's right!"
Clapping that is clearly intended as praise for child's behavior

NOTE: Do not code smiles, nods, looking at child, child leaning on parent, etc. They need to be verbal (except for clapping, see above). Praise does not carry over

intervals. If it occurs on the interval change, code it in both intervals (circle the P symbol). It is not necessary to carry over praise; just circle the P in all intervals in which praise occurs.

CHILD CODE

Score child behavior in continuous 10-second intervals according to the definitions provided below. To score, circle the appropriate symbol on the coding sheet corresponding to the child behavior.

FO - FORBIDDEN OBJECT

The child is allowed to play with the toys on the floor and is forbidden to play with any objects located on the tabletops. Forbidden objects include the candy jar, plate with pretzels, motion objects, typewriter, pencil caddy, paper caddy, thread mobile, and hanging bells mobile. NOT included with forbidden objects are tabletops, the undersides of tables, the mother's clipboard and pencil, the baby gates sectioning off the play area and all toys on the floor.

It may be useful to think of each forbidden object as having a six-inch "halo" around it which the child is not allowed to violate. The child does not need to actually touch a forbidden object for FO to be scored; the child only needs to be oriented towards the object and have his/her hand within six inches of it to "violate FO space".

Score FO when:

1. The child comes within six inches of a forbidden object for any length of time. Violation of FO space can occur with any part of the body as long as the child is either facing the object or his/her hand is within six inches. If the child's hand is within six inches of the FO, however, the child does not have to be facing the object.

2. The child comes within six inches of a forbidden object with another object (e.g., comes within six inches of the candy jar with a stuffed toy). This excludes accidental brushes or near brushes of objects with other objects. For example, if the child is swinging a toy around and around and it happens to come within six inches of the mobile do not score FO.

3. If a child picks up an FO (e.g., from floor to put it back on the table), even if told to by the mother, score the contact as FO.

***DO NOT score FO if a child accidentally brushes up against an object with some part of his/her body other than the hand (e.g., child used a table for balance while standing up and accidentally comes within six inches of an object on the table).

Carryovers

If FO begins in one interval and extends to another interval, score it in both intervals, regardless of the length of time FO occurred in either interval. To do this, circle FO in the first interval and draw a line connecting it to FO in the second interval. Only circle the symbol in the first interval in which it occurs. However, if the child was oriented towards a forbidden object or was asking permission to play with it in the first interval and did not actually come within six inches of it until the second interval, score FO only in the second interval. If FO occurs right on the interval change (e.g., between 0.9 and 1.0), score FO in both intervals.

Blocked View

If a child's body is blocking your view of the FO (i.e., the child is standing in front of the table); if you can BOTH see movement in the child's arm, shoulder, or back AND hear the child touch the FO, score FO.

If you cannot tell when the child first comes within six inches of the FO, do not score it until you can see that it has actually occurred (even if the mother reprimands the child before you see the child come within six inches of it).

Scoring Multiple Instances of FO

If a child comes within six inches of an FO, stops for more than two full seconds, then either comes within six inches of the same FO or a new FO in the same interval, you must score another instance of FO in the same interval. To do this, circle FO as usual for the first instance, and then draw a slash in the circle for the second instance. If a third instance occurs, make another slash, to form an X in the circle. Remember--a circle means it happened once, a slash within a circle means it happened twice, and an X within a circle means it happened three times.

If the second or third instance of FO carries over into the next interval, DO NOT AUTOMATICALLY CIRCLE FO IN THE NEXT INTERVAL. Draw a line connecting the slash or X from the first interval to the uncircled FO in the second interval. If more than three instances of FO occur in any one interval, ignore any FOs after the third one.

If two forbidden objects come to be within six inches of each other (say the plate of pretzels and the motion object), the child is not automatically scored for two FOs, but rather score FO only for the forbidden object to which the child is closest to touching. Only count multiple instances of FO if the child comes within six inches of one FO, then comes within six inches of another, or when two full seconds separate violations of FO space.

CONTINUE SCORING FO UNTIL THE CHILD'S HAND IS NO LONGER WITHIN SIX INCHES OF THE FORBIDDEN OBJECT.

LA - LEAVING THE AREA

Score LA when:

1. Any part of the child's body is over or past the baby gates.

2. The child is lying over the baby gate, with half of his/her body on the other side.

3. The child's foot is raised to the height of the baby gate within the enclosed area. The child must be oriented toward the baby gate and be within one foot of it.

4. If the baby gates have fallen on the floor, score LA if more than half of the child's foot is on the baby gate.

5. If a child wanders off screen, continue coding LA. If the child carried a forbidden object with him/her, continue coding FO also.

CONTINUE CODING LA UNTIL THE CHILD'S BODY IS ENTIRELY WITHIN THE PLAY AREA.

***DO NOT score LA when the child is touching or playing with the baby gate or leaning on the baby gate while still within the area (even if extending over the baby gate). If a child grabs the baby gate while trying to balance himself/herself to get up, but takes fewer than two seconds, do not score LA. LA is also not scored if a child is picking up a toy from outside the area while his/her feet are still within the area.

Leaving the area, like touching a forbidden object, is a discrete behavior and may occur more than once in an interval or carry over from one interval to the next. Like FO, multiple instances of LA in one interval are indicated by circling LA on the coding sheet for the first instance, putting a slash through the circle to indicate a second instance, and making an X to indicate a third instance. Carryovers are noted again by drawing a line from the circled (and possibly slashed or X-ed) LA in one interval to the LA in the next interval. Again, you need only circle the symbol in the first interval for a carryover behavior.

AP - APPROPRIATE PLAY

Score AP when the child is playing with appropriate toys from the floor. Holding a toy while standing or walking, showing a toy to his/her mother, putting a toy in his/her mouth, or playing with them with his/her feet are all scored as AP. The child must be actually touching the toys to be scored AP - a six-inch rule does not apply to AP. If a child pushes (as in a toy car)an item out of the area while staying within the area, AP is scored. Occasionally a child may have a blanket or some other personal toy with them; such items ARE considered to be appropriate toys.

Like FO, AP may occur when the child's back is to the camera. The same general rules apply. You must be able to hear the child playing with the toy and see some sort of movement in the child's back, shoulder, or arm to score AP. You will usually be able to hear them playing.

***DO NOT score AP when the child is sitting by the toys, but is not playing with them, or is simply making noise. Not all toy contact is AP. If the child picks up an AP item and throws it immediately in anger, NA, not AP is scored. If the mother hands the child a toy and the child simply pushes it away without handling it, AP is not scored. Also, if a child is yelling, tantrumming, or otherwise engaging in NA (see below) while playing with the toys, do NOT score AP.

NA - NEGATIVE AFFECT

The negative affect category includes all child behavior, both verbal and nonverbal, that is unpleasant or aversive. Whining, crying, sobbing, yelling, hitting, kicking, biting, throwing, tantrumming, screaming, and making negative commands are all negative affect behaviors.

SAYING "NO" - Code NA for all verbal defiance - when the child says "no" in response to a command, directive, or direct request from the mother. It is important here to be able to distinguish the mother's conversational questions from commands, as many mothers state their commands in the form of a question. For example, "Why don't you play with the rings?", followed by a "no" would be coded NA if immediate compliance were expected, and if it were not just a conversational suggestion. Often the mother's tone of voice will help distinguish a command from conversation, and you will be able to determine whether to code "no" as NA.

Examples of NA:

(In a nasal voice, more highly pitched than usual; has a siren-like quality) "Mommy, I want to play with the other toys!"

(Again whiny) "I don't wanna."

"You stop it mommy."

(While playing with toys), "No, no, no!" Outbursts are coded NA.

"Stop that, mommy." The child tells the mother to stop filling out her questionnaires. This is a negative command.

Examples of NON-NA:

Pushing the mother away without discernible force and unaccompanied by yelling, whining, or other NA behavior.

Tossing; throwing toys or other objects without discernible force. Any throwing at the mother is NA.

Shaking their head sideways (unless they verbalize "no").

Banging two or more toys or other objects together. This is virtually always appropriate play (the child is allowed to make noise while playing).

Talking loudly or shouting during play. This may be distinguished from screaming by the absence of a shrill quality.

Pulling at the mother's clipboard.

Squirming to get out of the mother's lap.

"No", as in "There are no blocks here mommy".

SA - SOLICITATION FOR MOTHER'S ATTENTION

Solicitation for mother's attention (SA) is scored when the child attempts to gain mother's attention by asking questions about the mother's behavior. For example, when the mother is filling out questionnaires and the child says to her, "Mommy, what are you doing?" or "Hey, mommy", or "Come here mommy". Nonverbal solicitations for mother's attention include child crawling on mother's lap, child leaning against mom and crying, child patting mother's arm or leg, grabbing mother's clipboard or pencil, throwing toys toward mother, and the child going behind the curtain during the last 5 minutes of the transgression situation.

SA is also coded when the child engages in the pick-me-up behavior (reaches arms out and grunts or says "up") and when the child points to a forbidden object, grunts, and looks at mother. If the child does not look in the mother's direction, but just points and names an object, then SA is NOT coded. SA is also NOT coded when the mother initiates the contact.

Stop scoring SA when the mother responds to the child's SA and picks up child or talks to the child. If the child initiates a new SA or continues the same SA even after mother responds, continue scoring SA.

LIKE AP, SA IS SCORED IF IT OCCURS IN THE INTERVAL, NOT HOW MANY TIMES. THERE ARE NO CARRYOVERS - JUST SCORE IT IN THE NEXT INTERVAL IF SA IS STILL OCCURRING.

Examples of SA:

"Mommy"
"Mommy, play with me."
"Look, look, look!"
Child goes over to the mother and taps mother's arm or leg.
During the last 5 minutes of the transgression situation, if half the child's body is behind the curtain, SA is scored.

***Note: Do not score SA if the child is just saying OK aloud.

NONE OF THE ABOVE

If none of the above behaviors occurs in an interval, cross out the interval by drawing a diagonal slash through the interval box. Examples of behaviors that may be going on when nothing is coded include the child sitting on the mother's lap, the child talking to the mother while not playing or touching forbidden objects, and the child sitting and doing nothing.

APPENDIX D

TABLES

TABLE 1

DEMOGRAPHIC CHARACTERISTICS BY GROUP

		Group 1 n = 8 Low Nurturance/No Reasons	Group 2 n = 8 Low Nurturance/Reasons	Group 3 n = 8 High Nurturance/No Reasons	Group 4 n = 9 High Nurturance/Reasons
Mother's Age	M	28.63	32.25	30.38	31.00
In Years	SD	4.57	4.40	5.99	4.92
Hollingshead	M	44.50	49.19	50.92	48.86
Index	SD	17.08	16.88	13.02	12.32
Child's Age	M	24.38	24.38	23.88	23.44
In Months	SD	4.50	3.62	4.22	3.68
Child's	Male	5.00	4.00	5.00	4.00
Gender	Female	3.00	4.00	3.00	5.00
Child's	Caucasion	6.00	8.00	8.00	9.00
Race	Other	2.00	0.00	0.00	0.00
Child Externalizing	M	47.88	55.00	52.88	52.33
T-Score on CBCL/2-3	SD	7.88	5.04	7.86	5.90

TABLE 2

2 X 2 X 3 EXPERIMENTAL DESIGN

	Nurturance					
	High			Low		
	FP	TR w/mo	TR w/o mo	FP	TR w/mo	TR w/o mo
Reps With Reasons						
Reps No Reasons						

NOTE.
FP = Free play phase (mother always present)
TR w/mo = Transgression phase with mother present
TR w/o mo = Transgression phase without mother (mother behind curtain)

TABLE 3

MANIPULATION OF INDEPENDENT VARIABLES

	High Nurturance			Low Nurturance		
	Free Play	Transgression with Mother	Transgression without Mother	Free Play	Transgression with Mother	Transgression without Mother
Reprimands With Reasons	Mother plays on floor w/child	Mother in chair, busy	Mother behind curtain	Mother sits in chair, fills out forms	Mother in chair, busy	Mother behind curtain
	Mother gives 1 praise/minute	Mother gives 1 praise/minute	No praise	Mother gives 1 praise/2 minutes	Mother gives 1 praise/2 minutes	No praise
	Elaborated redirection to toys	Elaborated redirection to toys	Brief redirect to toys	Brief redirect to toys	Brief redirect to toys	Brief redirect to toys
	No reprimands	Prudent reprimands	No reprimands	No reprimands	Prudent reprimands	No reprimands
	No reasons	Reasons given	No reasons	No reasons	Reasons given	No reasons
Reprimands Only	Mother plays on floor w/child	Mother in chair, busy	Mother behind curtain	Mother sits in chair, fills out forms	Mother in chair, busy	Mother behind curtain
	Mother gives 1 praise/minute	Mother gives 1 praise/minute	No praise	Mother gives 1 praise/2 minutes	Mother gives 1 praise/2 minutes	No praise
	Elaborated redi-rection to toys	Elaborated redi-rection to toys	Brief redirect to toys	Brief redirect to toys	Brief redirect to toys	Brief redirect to toys
	No reprimands	Prudent reprimands	No reprimands	No reprimands	Prudent reprimands	No reprimands
	No reasons	No reasons	No reasons	No reasons	No reasons	No reasons

TABLE 4

CONDITION MEANS AND STANDARD DEVIATIONS FOR MATERNAL BEHAVIORS DURING THE FREE PLAY AND TRANSGRESSION-MOTHER PRESENT PHASES

		Free Play				Transgression - Mother Present			
		No Reasons		Reasons		No Reasons		Reasons	
		Low Nurt	High Nurt	Low Nurt	High Nurt	Low Nurt	High Nurt	Low Nurt	High Nurt
Maternal Behaviors									
Interaction	M	7.13	29.63	9.75	28.89	11.38	20.75	17.88	18.11
	SD	7.70	0.52	9.56	1.36	4.81	11.46	12.56	10.25
Praise	M	3.88	13.00	3.00	12.89	4.75	5.13	3.38	6.11
	SD	2.64	2.93	1.51	2.52	2.61	2.59	2.56	2.80
Physical	M	0.13	0.38	0.25	0.22	0.75	6.25	2.75	2.78
Prompt	SD	0.35	0.52	0.46	0.67	1.39	8.91	4.62	3.03
Reprimands	M	0.13	0.13	0.88	0.22	7.50	11.00	3.75	3.00
Only	SD	0.35	0.35	1.13	0.67	6.28	6.44	2.87	2.34
Reprimands	M	0.00	0.00	0.13	0.00	0.38	2.50	9.25	8.00
with Reasons	SD	0.00	0.00	0.35	0.00	1.06	3.16	3.62	3.43

NOTE.
Nurt = Nurturance

TABLE 5

CONDITION MEANS AND STANDARD DEVIATIONS FOR CHILD BEHAVIORS DURING THE FREE PLAY PHASE

		No Reasons		Reasons	
		Low Nurturance	High Nurturance	Low Nurturance	High Nurturance
Child Behaviors					
Appropriate	M	23.75	27.75	24.88	29.11
Play	SD	6.36	3.11	4.29	1.54
Touching Forbidden	M	0.00	0.00	0.00	0.00
Object	SD	0.00	0.00	0.00	0.00
Leaving the	M	0.25	1.63	2.13	0.67
Area	SD	0.71	2.50	2.36	2.00
Negative	M	2.00	1.38	3.25	0.56
Affect	SD	3.67	1.60	4.95	1.33
Solicitation for	M	5.88	0.38	6.63	0.67
Mother's Attention	SD	4.98	1.06	6.16	1.41

NOTE.
No Forbidden Objects were present during this phase.

TABLE 6

CONDITION MEANS AND STANDARD DEVIATIONS FOR MATERNAL BEHAVIORS DURING THE TRANSGRESSION-MOTHER ABSENT PHASE

		No Reasons		Reasons	
		Low Nurturance	High Nurturance	Low Nurturance	High Nurturance
Maternal Behaviors					
Interaction	M	5.13	5.25	6.00	7.67
	SD	5.59	3.15	4.31	6.27
Praise	M	0.13	0.00	0.25	0.00
	SD	0.35	0.00	0.46	0.00
Physical Prompt	M	0.00	0.38	0.00	0.00
	SD	0.00	0.74	0.00	0.00
Reprimands Only	M	0.00	0.38	0.00	0.00
	SD	0.00	0.52	0.00	0.00
Reprimands with Reasons	M	0.00	0.00	0.00	0.00
	SD	0.00	0.00	0.00	0.00

TABLE 7

CORRELATION MATRIX FOR DEPENDENT VARIABLES

	Appropriate Play	Touching Forbidden Objects	Leaving the Area	Negative Affect	Solicitations for Mothers' Attention
Appropriate Play	1.00	-.299* p=.001	-.043 p=.338	-.249* p=.006	-.455* p=.0001
Touching Forbidden Objects		1.00	.042 p=.342	-.077 p=.225	-.092 p=.183
Leaving the Area			1.00	.357* p=.0001	-.059 p=.282
Negative Affect				1.00	.299* p=.001
Solicitations for Mothers' Attention					1.00

*Indicates statistical significance

TABLE 8

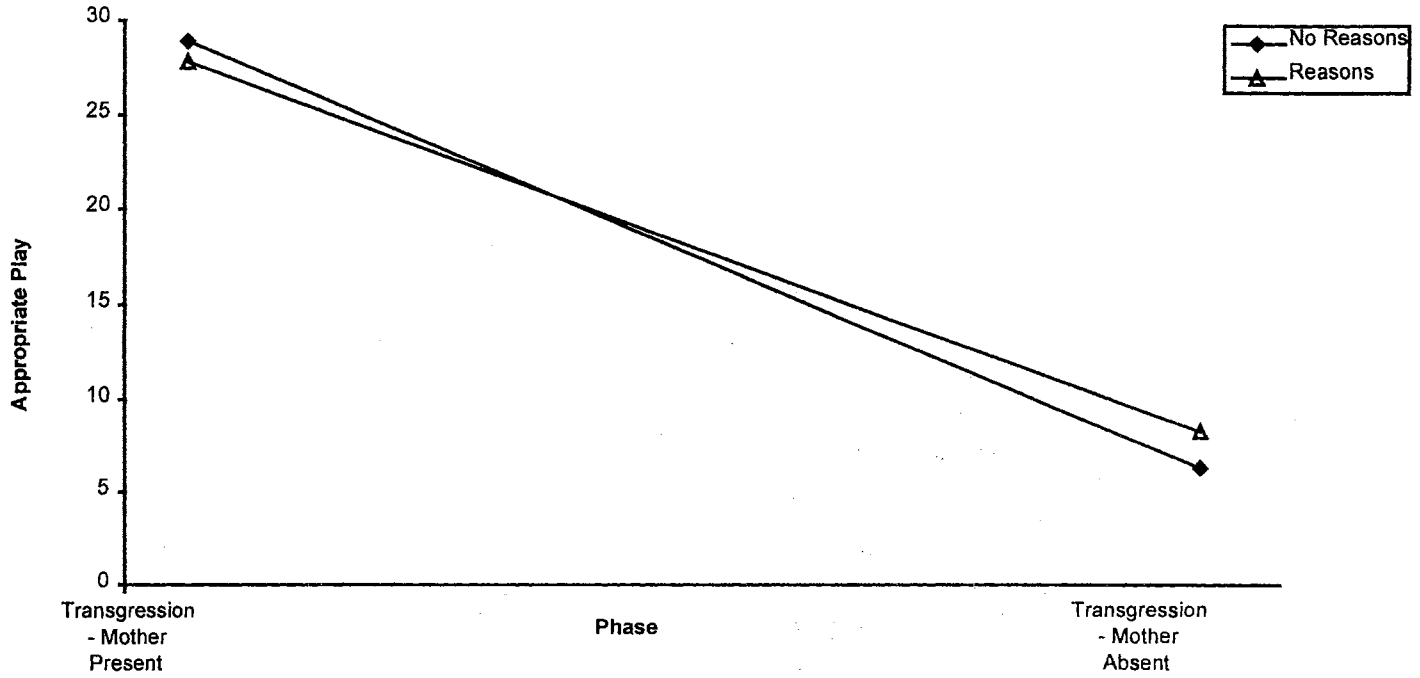
CONDITION MEANS AND STANDARD DEVIATIONS FOR CHILD BEHAVIORS DURING THE TRANSGRESSION-MOTHER PRESENT AND TRANSGRESSION-MOTHER ABSENT PHASES

		Transgression - Mother Present				Transgression - Mother Absent			
		No Reasons		Reasons		No Reasons		Reasons	
		Low Nurt	High Nurt	Low Nurt	High Nurt	Low Nurt	High Nurt	Low Nurt	High Nurt
Child Behaviors									
Appropriate	M	34.00	23.75	26.75	28.78	10.75	1.88	7.63	8.89
Play	SD	10.21	10.49	9.82	8.76	9.35	4.91	7.09	8.89
Touching Forbidden	M	10.00	14.63	19.63	12.00	11.00	13.13	14.00	1.44
Object	SD	10.31	8.98	11.07	4.53	11.87	11.17	10.23	3.64
Leaving the	M	1.16	1.88	3.00	3.22	0.63	0.63	0.88	2.11
Area	SD	2.48	2.42	4.28	3.83	1.19	1.19	1.64	3.37
Negative	M	2.50	10.63	7.38	8.00	3.50	7.00	2.25	10.44
Affect	SD	2.62	13.10	8.11	7.78	7.23	9.70	3.33	10.25
Solicitation for	M	8.63	4.38	2.25	4.67	6.50	19.63	11.38	17.67
Mother's Attention	SD	7.58	5.29	3.15	6.50	9.30	7.46	7.39	8.00

NOTE.
Nurt = Nurturance

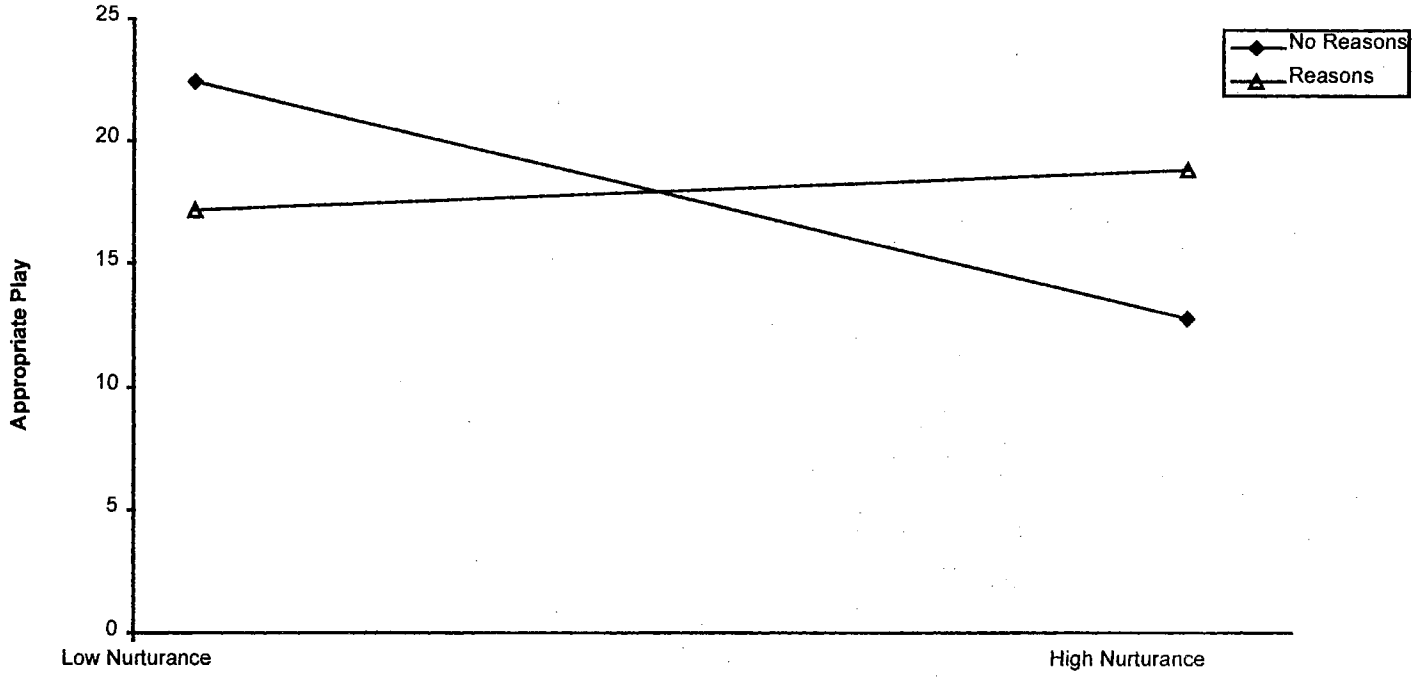
APPENDIX E

FIGURES



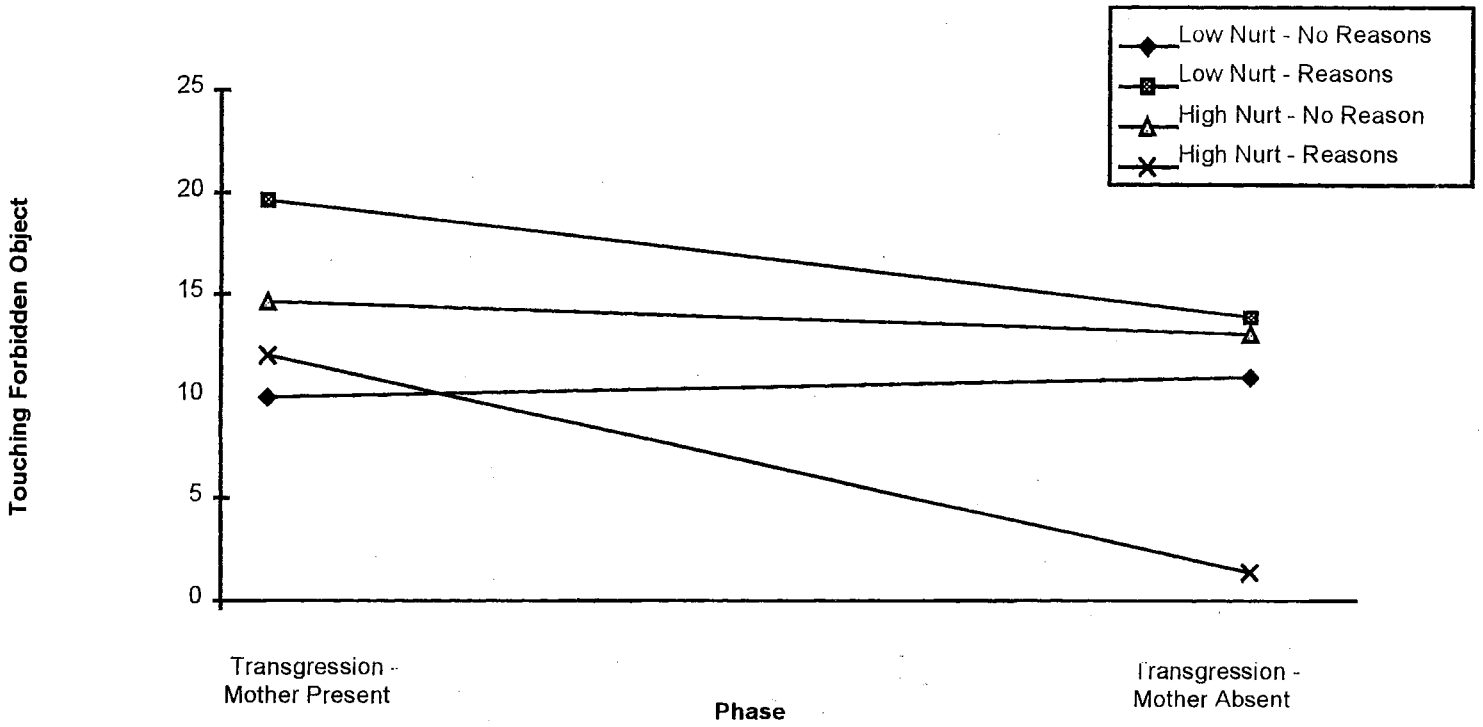
NOTE: Nurt=Nurturance

Figure 1. Experimental Analysis: Main Effect of Phase on Appropriate Play



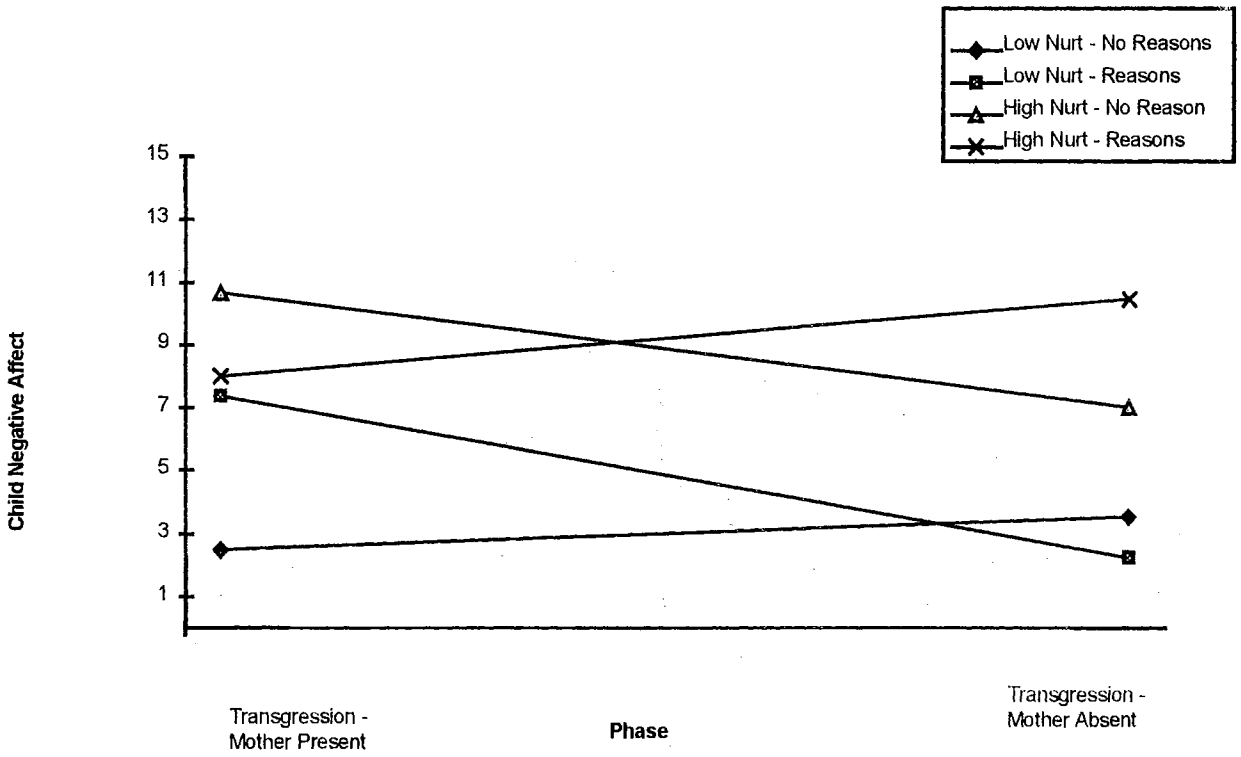
NOTE: This figure presents values collapsed across phase.

Figure 2. Experimental Analysis: Nurturance x Strategy Interaction for Appropriate Play



NOTE: Nurt=Nurturance

Figure 3. Experimental Analysis: Main Effect of Phase on Touching Forbidden Object; Nurturance x Strategy Interaction and Strategy x Phase Interaction for Touching Forbidden Object



NOTE: Nurt=Nurturance

Figure 4. Experimental Analysis: Main Effect of Nurturance on Negative Affect

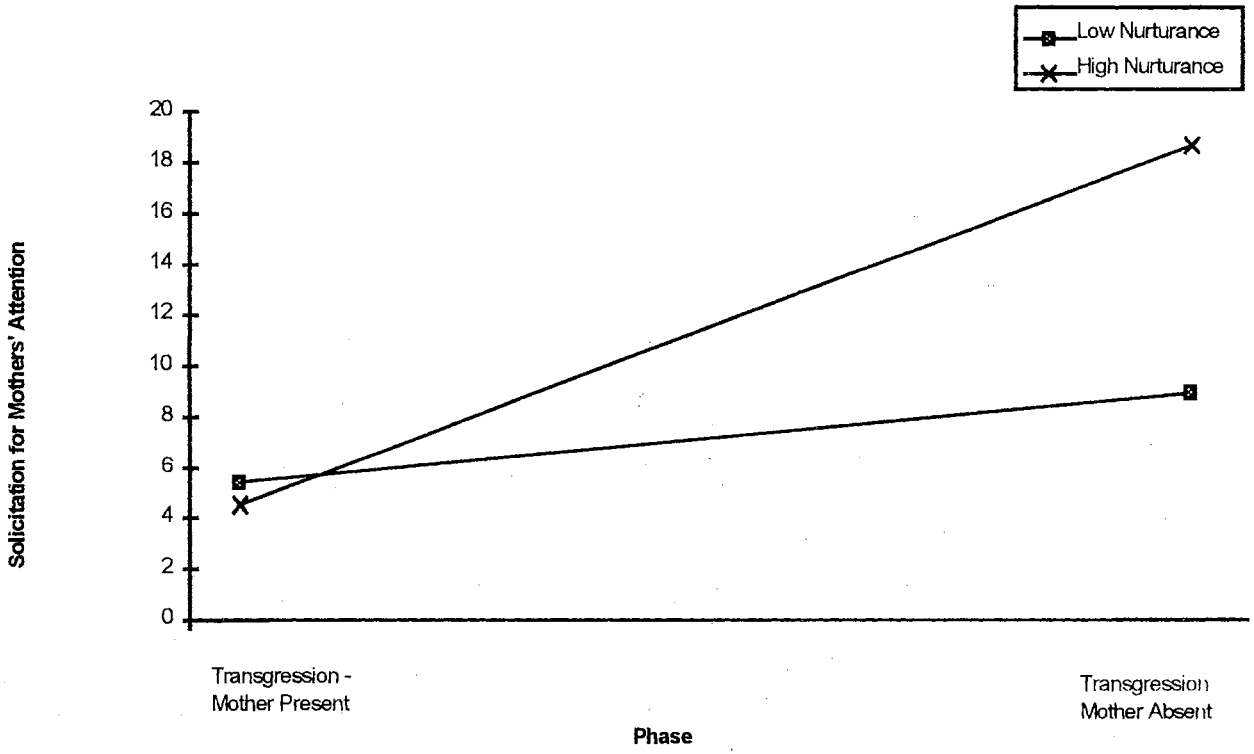


Figure 5. Experimental Analysis: Main Effect of Nurturance on Solicitation for Mothers' Attention; main effect of phase on solicitation for mothers' attention; nurturance x phase interaction for solicitation for mothers' attention

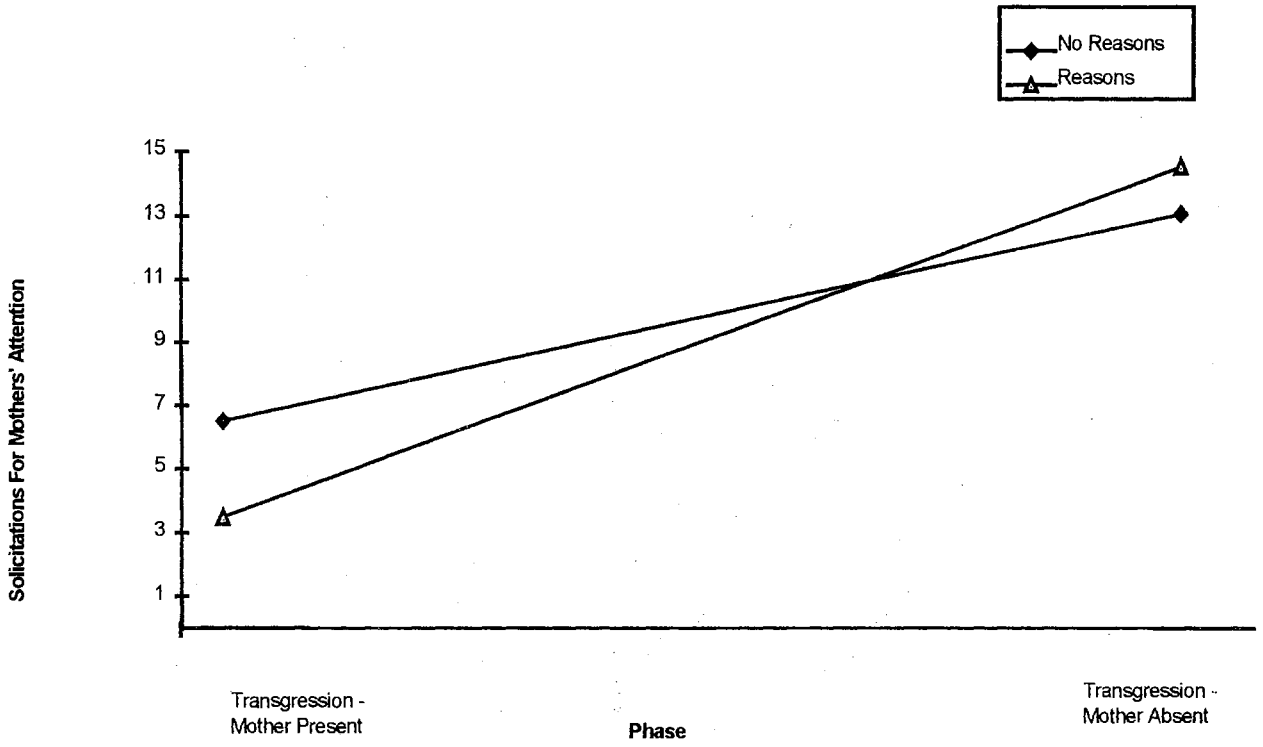


Figure 6. Experimental Analysis: Main Effect of Phase on Solicitation for Mothers' Attention

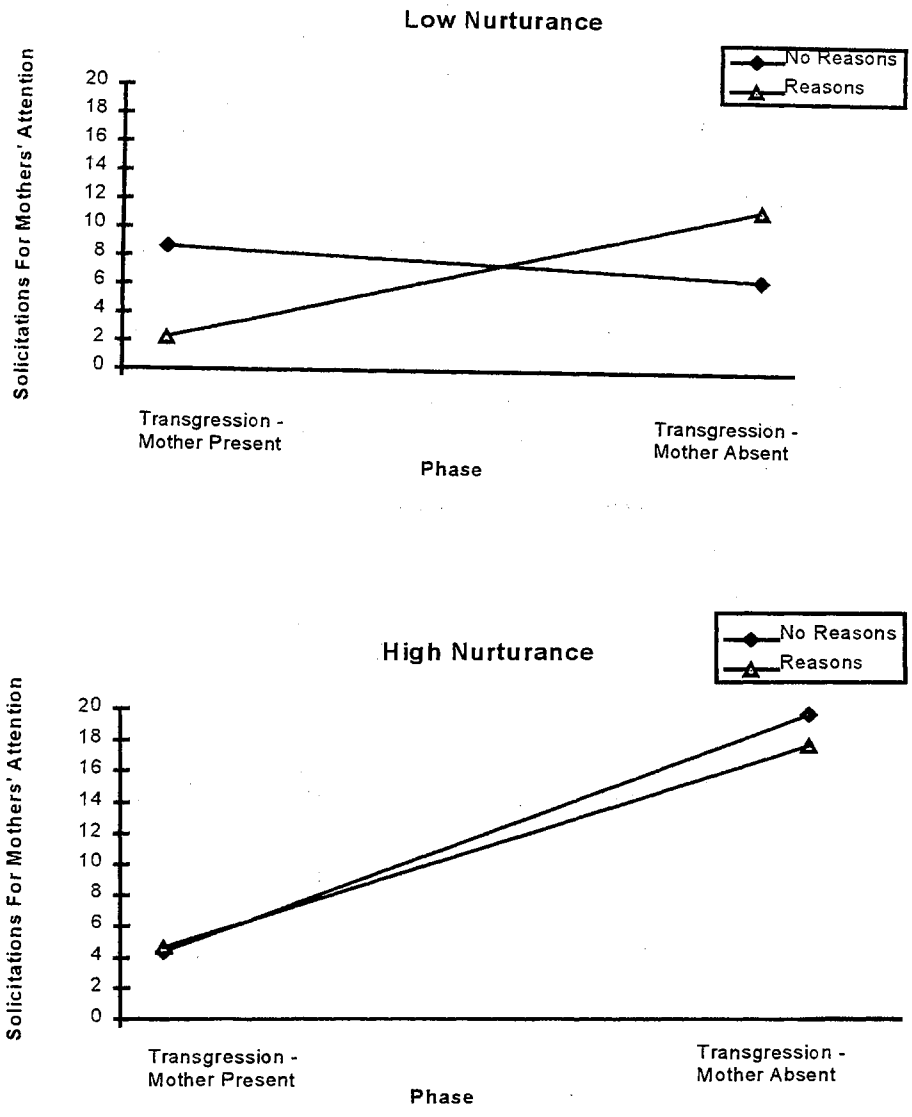


Figure 7. Experimental Analysis: Nurturance x Strategy x Phase Interaction for Solicitation for Mothers' Attention

APPENDIX F

FORMS

Informed Consent Statement

Project Title: The Effects of Reasoning and Nurturance on Child Compliance

Experimenters: Maureen A. Sullivan, Ph.D. and Johnette E. Clark, M.S.

A. Purpose: This study will examine the effects of different discipline strategies on children's behaviors and feelings. This study will also gather information on the frequency and severity of behavior problems in toddlers.

B. Procedures: I, (print name) _____ hereby authorize the above-named researchers or assistants of their choosing to direct my participation in the following procedures:

1. Completion of two questionnaires. The first questionnaire will ask about your child's typical behaviors and behavior problems. The second will ask for demographic information such as the number of household members, age of family members, monthly income, occupation, etc.

2. Participation in a 20-minute, videotaped procedure in which you and your child will engage in activities similar to those you would find in the waiting room of a doctor's office or styling salon. There will be some appropriate toys for your child to play with in the room. There will also be some tempting "forbidden objects" in the room which your child should not play with. You will be asked to use reprimands such as "No don't touch that. Put it back" in response to your child's touching the forbidden objects. You will also be asked to give praise statements to redirect your child periodically. For example, "You're playing so nicely!" when your child is playing appropriately. This situation is designed to elicit misbehavior from children (touching forbidden objects) so that we may observe discipline strategies.

C. Duration of participation: Your voluntary participation in this study will require approximately one hour of your time.

D. Confidentiality: All information about you and your child will be kept confidential and will not be released. Questionnaires and videotapes will have subject numbers, rather than names, on them. All information will be kept in a secure place that is open only to the researchers and their associates. This information will be saved as long as it is scientifically useful; typically, such information is kept for five years after publication of the study. Results from this study may be presented at professional meetings or in publications. You and your child will not be identified; your anonymity will be preserved.

E. Risks: The risks to you and your child are minimal. It is possible that some children may become upset during the procedure. If this happens, we will try to make your child more comfortable with the situation. Similarly, some mothers may become uncomfortable with the situation. If either you or your child become too upset or uncomfortable with the situation, you will be asked if you would like to stop the procedure at

that point, with no penalty. You may also elect to stop at any time, without penalty, even without our asking you. In completing the questionnaires, some mothers might become aware that their child's behavior is not typical for his/her age. You will be offered several names and phone numbers of agencies that work with parents and children in case you wish to obtain psychological services to assess or treat developmental or behavioral problems.

F. Benefits: You will be given general information about your child's behavior and your responses to the questionnaires by telephone within three weeks of your participation. At that time, an additional meeting can be scheduled if more discussion/information is needed. Also, if you are interested, we will send you a copy of the results of the study when it is finished. Also, your child will be given a small prize for his/her participation in the study.

I have been fully informed about the procedures listed here. I am aware of what my child and I will be asked to do and of the risks and benefits of this study. I also understand the following statements:

I affirm that I am 18 years of age or older.

I understand that my participation is voluntary, that there is no penalty for refusal to participate, and that I am free to withdraw my consent and participation in this project at any time, without penalty.

I understand that I may contact any of the researchers at the following addresses and phone numbers should I desire to discuss my child's or my participation in this study and/or to request information about the results of this study: Maureen A. Sullivan, Ph.D., 215 N Murray, Dept. of Psychology, Oklahoma State University, Stillwater, OK 74078-0250 , (405) 744-6027. I may also contact University Research Services, 005 Life Sciences East, Oklahoma State University, Stillwater, OK 74078, (405) 744-9992.

I have read and fully understand this consent form. I sign it freely and voluntarily. A copy of this form has been given to me. I hereby give permission for my child's and my participation in this study.

_____ _____

Signature of Parent/Legal Guardian Date

_____ _____

Signature of Witness Date

I certify that I have personally explained this document before requesting the participant to sign it.

_____ _____

Signature of Researcher Date

PARENT CODE

Subject No. ________

Observer ____________________ Situation ____________________

0-9.9		10.0-19.9		20.0-29.9		30.0-39.9		40.0-49.9		50.0-59.9	
R/RS	PP	R/RS	PP	R/RS	PP	R/RS	PP	R/RS	PP	R/RS	PP
I/D	I	I/D	I	I/D	I	I/D	I	I/D	I	I/D	I
L/S	P	L/S	P	L/S	P	L/S	P	L/S	P	L/S	P
F SF		F SF		F SF		F SF		F SF		F SF	
G SG		G SG		G SG		G SG		G SG		G SG	

0-9.9		10.0-19.9		20.0-29.9		30.0-39.9		40.0-49.9		50.0-59.9	
R/RS	PP	R/RS	PP	R/RS	PP	R/RS	PP	R/RS	PP	R/RS	PP
I/D	I	I/D	I	I/D	I	I/D	I	I/D	I	I/D	I
L/S	P	L/S	P	L/S	P	L/S	P	L/S	P	L/S	P
F SF		F SF		F SF		F SF		F SF		F SF	
G SG		G SG		G SG		G SG		G SG		G SG	

0-9.9		10.0-19.9		20.0-29.9		30.0-39.9		40.0-49.9		50.0-59.9	
R/RS	PP	R/RS	PP	R/RS	PP	R/RS	PP	R/RS	PP	R/RS	PP
I/D	I	I/D	I	I/D	I	I/D	I	I/D	I	I/D	I
L/S	P	L/S	P	L/S	P	L/S	P	L/S	P	L/S	P
F SF		F SF		F SF		F SF		F SF		F SF	
G SG		G SG		G SG		G SG		G SG		G SG	

0-9.9		10.0-19.9		20.0-29.9		30.0-39.9		40.0-49.9		50.0-59.9	
R/RS	PP	R/RS	PP	R/RS	PP	R/RS	PP	R/RS	PP	R/RS	PP
I/D	I	I/D	I	I/D	I	I/D	I	I/D	I	I/D	I
L/S	P	L/S	P	L/S	P	L/S	P	L/S	P	L/S	P
F SF		F SF		F SF		F / SF		F SF		F SF	
G SG		G SG		G SG		G SG		G SG		G SG	

0-9.9		10.0-19.9		20.0-29.9		30.0-39.9		40.0-49.9		50.0-59.9	
R/RS	PP	R/RS	PP	R/RS	PP	R/RS	PP	R/RS	PP	R/RS	PP
I/D	I	I/D	I	I/D	I	I/D	I	I/D	I	I/D	I
L/S	P	L/S	P	L/S	P	L/S	P	L/S	P	L/S	P
F SF		F SF		F SF		F SF		F SF		F SF	
G SG		G SG		G SG		G SG		G SG		G SG	

CHILD CODE

Name_____ Situation_____ Subject #_____

____ min.	0 - 9.9	10 - 19.9	20-29.9	30-39.9	40-49.9	50-59.9
	FO LA NA AP SA	FO LA NA AP SA	FO LA NA AP SA	FO LA NA AP SA	FO LA NA AP SA	FO LA NA AP SA

____ min.	0 - 9.9	10-19.9	20-29.9	30-39.9	40-49.9	50-59.9
	FO LA NA AP SA	FO LA NA AP SA	FO LA NA AP SA	FO LA NA AP SA	FO LA NA AP SA	FO LA NA AP SA

____ min.	0 - 9.9	10 - 19.9	20-29.9	30-39.9	40-49.9	50-59.9
	FO LA NA AP SA	FO LA NA AP SA	FO LA NA AP SA	FO LA NA AP SA	FO LA NA AP SA	FO LA NA AP SA

____ min.	0 - 9.9	10 - 19.9	20-29.9	30-39.9	40-49.9	50-59.9
	FO LA NA AP SA	FO LA NA AP SA	FO LA NA AP SA	FO LA NA AP SA	FO LA NA AP SA	FO LA NA AP SA

____ min.	0 - 9.9	10-19.9	20-29.9	30-39.9	40-49.9	50-59.9
	FO LA NA AP SA	FO LA NA AP SA	FO LA NA AP SA	FO LA NA AP SA	FO LA NA AP SA	FO LA NA AP SA

CALCULATING RELIABILITIES
Toddler Study

General Rules:

1. For each of the 3 situations (SA, FP, TR), check each codable interval (SA=48, FP=30, TR=78) for the presence of the behaviors of interest. Do this for the parent code (PP, I, P, R, TR, *R, R&>TRS, *RS; and I/D, L/S, F/G if applicable) and for the child code (FO, LA, NA, AP, SA).

2. Begin with the first 10-second interval and check for the behaviors IN THE ORDER OF APPEARANCE on the reliability sheet (it's easier to keep track of everything this way!). If Obs. 1 and Obs. 2 AGREE, place a tally mark in the Y/Y box if the agreement is for the PRESENCE of the behavior (the behavior is circled), and place a tally mark in the N/N box if they agree on the ABSENCE of the behavior (it is not circled). If Obs. 1 and Obs. 2 DISAGREE, place a tally mark in the Y/N box (bottom left corner) if Obs. 1 coded the behavior and Obs. 2 didn't. Place of tally mark in the N/Y box (upper right corner) if Obs. 1 did not code the behavior and Obs. 2 did.
Continue this process for each behavior in each interval.

3. Remember that the bottom row on side 1 of the parent sheet is ONLY used in the presence of the 6 types of reprimands. It is usually easier to mark the boxes for ALL behaviors (including those on the back of the sheet), and then come back to the front and fill in I/D, L/S, and F/G if applicable.

4. An easy check for accuracy is to see if the total number of coded intervals (e.g., 48 for SA) is equal to the total number of tally marks in each box for each behavior.

Special Rules for Tricky Situations:

CARRYOVERS:

1. In the first interval, mark for agreement or disagreement as usual. If an arrow is drawn to the next interval, mark a +1 outside of the box and place a tally mark in the appropriate square IN THE SAME BOX (in effect, counting the arrow as part of the first interval of the carryover). Remember, the observers may agree or disagree at any point of the carryover. Mark the squares according to the usual rules.

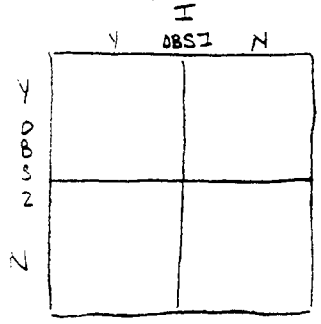
2. If the second interval of the carryover contains a circled behavior, then code agreement or disagreement as usual. Treat this occurrence as a new instance of a behavior. ONLY USE +1 TO ACCOUNT FOR THE PRESENCE OF AN ARROW BETWEEN INTERVALS.

Relationship - Parent-Child

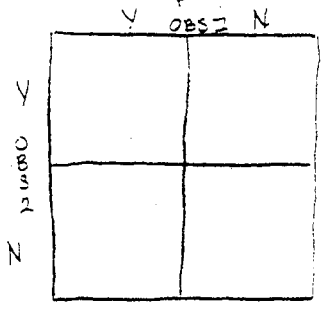
OBS 1 _____ Study: TODDLER Situation _____

OBS 2 _____ Subject _____ Coding Units _____

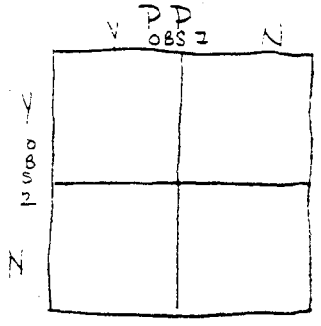
I



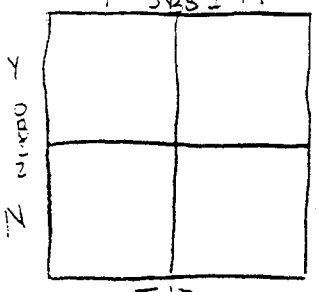
P



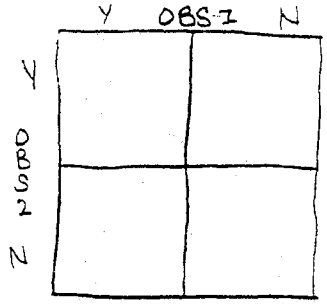
PP



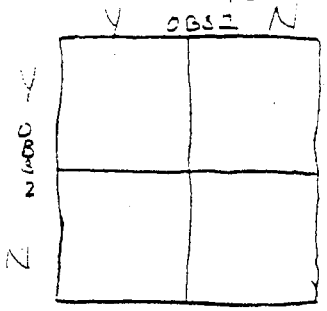
Rep



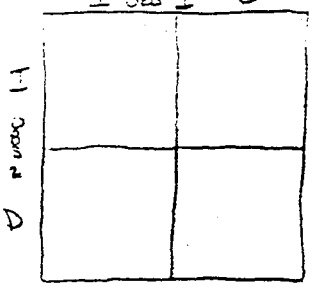
RS



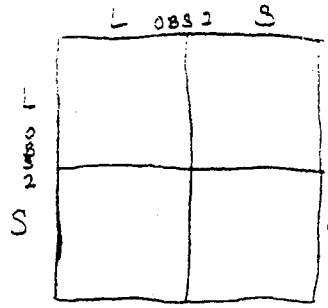
O-Reps



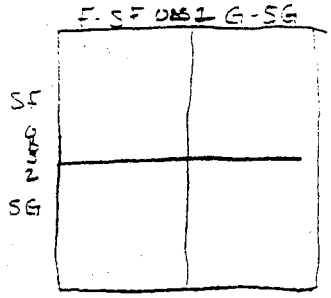
I/D



L/S



F-SF/G-SG



% I _____ K=

% P _____ K=

% PP _____ K=

% REP _____ K=

% RS _____ K=

% O-Rep _____ K=

% I/D _____ K=

% L/S _____ K=

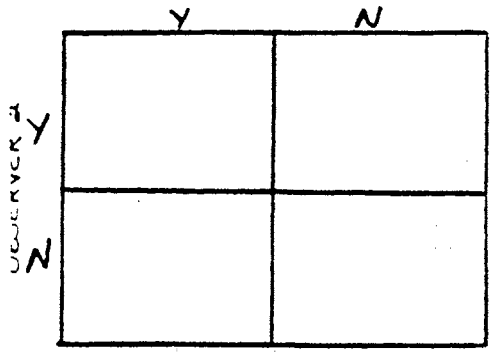
% F/G _____ K=

CHILD CODE RELIABILITY

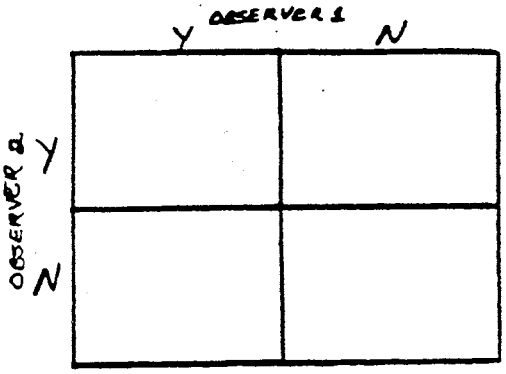
OBSERVER 1 _____ SUBJECT # _____ SITUATION _____

OBSERVER 2 _____ # CODABLE INTERVALS _____ STUDY _____

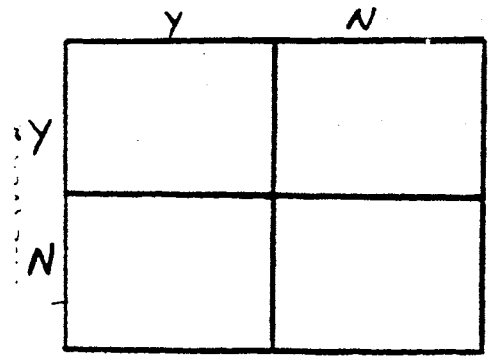
FO



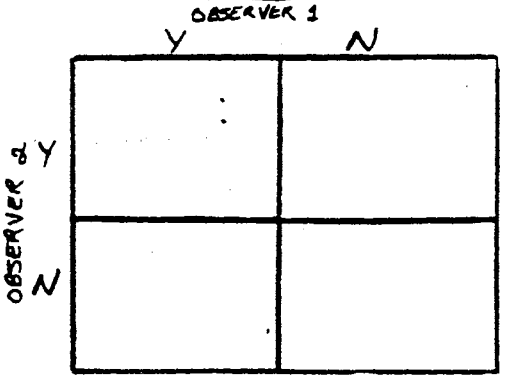
LA



NA



AP



% AGT FO _____ K = _____

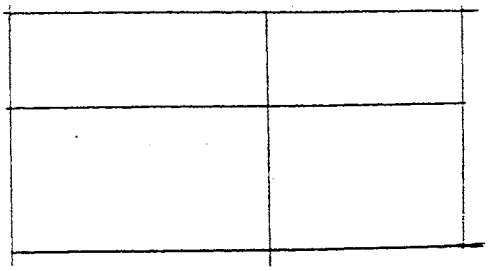
% AGT LA _____ K = _____

% AGT AP _____ K = _____

% AGT NA _____ K = _____

% AGT SA K = _____

SA



JECTODDLER
DATA SUMMARY

PARENT CODE

Subject # _____ Situation: STD FP TR 0-7.9 TR 8.0-12.9

Scorable Intervals: _____

==========

Intervals Interaction_____

Total int._____ % I = (Total int. I/Scorable Int.) X 100

% I = _____

==========

Intervals Praise_____

Total int. _____ % P = (Total int. P/Scorable Int.) X 100

% P = _____

==========

Intervals Physical Prompt_____

Total int. _____ % PP = (Total int. PP/Scorable Int.) X 100

% PP = _____

New Instances PP_____

Total new_____

Duration PP

0-1	2	3	4

(# 0-1) X 10 secs. _____
(# 2) X 20 secs. _____
(# 3) X 30 secs. _____
(# 4) X 40 secs. _____
Other secs. _____
Other secs. _____
Other secs. _____

Total: _____ secs.

Mean Duration PP = Total secs./# New PP

Mean Duration PP = _____

JECTODDLER
DATA SUMMARY

Intervals Reprimands Only_____

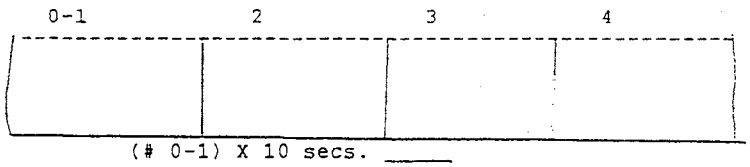
Total int._____ % R = (Total int. RO/Scorable Int.) X 100

% RO = _____

New Instances RO_____

Total new _____

Duration RO



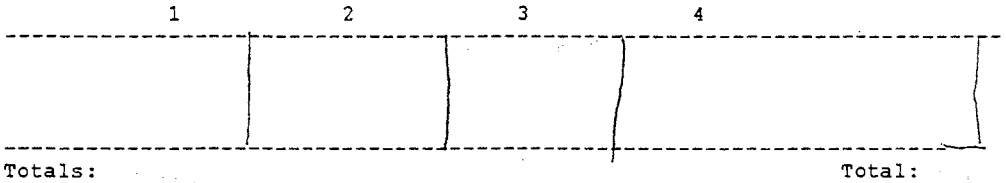
(# 0-1) X 10 secs. _____
(# 2) X 20 secs. _____
(# 3) X 30 secs. _____
(# 4) X 40 secs. _____
Other secs. _____
Other secs. _____
Other secs. _____

Total: _____ secs.

Mean Duration RO = Total secs./# New RO

Mean Duration RO = _____

Prudence RO



Totals: Total:

with Prudence Score of 1 X 1 = _____
with Prudence Score of 2 X 2 = _____
with Prudence Score of 3 X 3 = _____
with Prudence Score of 4 X 4 = _____

Total: _____

Mean Prudence Score RO = Total Multiplied Prudence/# Calc. Prud. RO

Mean Prudence RO = _____

JECTODDLER
DATA SUMMARY

Intervals Reprimands With Reasons_____

_____

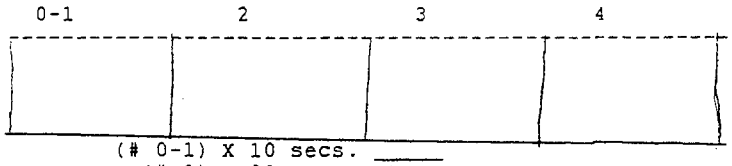
Total int._____ % RS = (Total int. RS/Scorable Int.) X 100

% RS = _____

New Instances RS_____

Total new _____

Duration RS



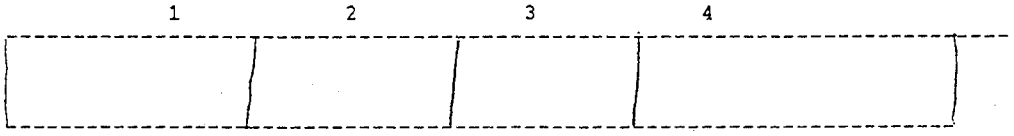
(# 0-1) X 10 secs. _____
(# 2) X 20 secs. _____
(# 3) X 30 secs. _____
(# 4) X 40 secs. _____
Other secs. _____
Other secs. _____
Other secs. _____

Total: secs.

Mean Duration RS = Total secs./# New RS

Mean Duration RS = _____

Prudence RS



Totals: Total:

with Prudence Score of 1 X 1 = _____
with Prudence Score of 2 X 2 = _____
with Prudence Score of 3 X 3 = _____
with Prudence Score of 4 X 4 = _____

Total:

Mean Prudence Score RS = Total Multiplied Prudence/# Calc. Prud. RS

Mean Prudence RS = _____

JECTODDLER
DATA SUMMARY

Intervals O-Reprimands_____

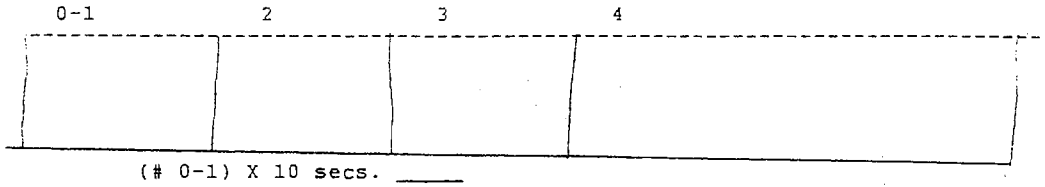
Total int._____ % O-Rep = (Total O-Rep/Scorable Int.) X 100

% O-Rep = _____

New Instances O-Rep_____

Total new_____

Duration O-Rep



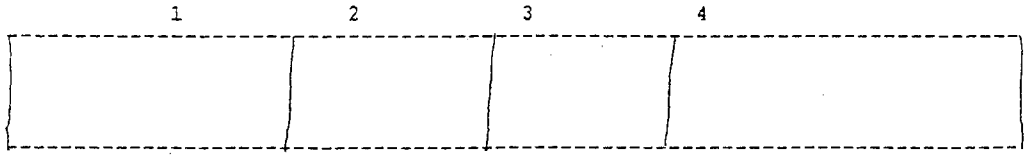
(# 0-1) X 10 secs. _____
(# 2) X 20 secs. _____
(# 3) X 30 secs. _____
(# 4) X 40 secs. _____
Other secs. _____
Other secs. _____
Other secs. _____

Total: _____ secs.

Mean Duration O-Rep = Total secs./# New O-Rep

Mean Duration O-Rep = _____

Prudence O-Rep



Totals: Total:

with Prudence Score of 1 X 1 = _____
with Prudence Score of 2 X 2 = _____
with Prudence Score of 3 X 3 = _____
with Prudence Score of 4 X 4 = _____

Total: _____

Mean Prudence Score O-Rep = Total Multiplied Prudence/# Calc. Prud. O-Rep

Mean Prudence Score O-Rep = _____

scoring prudence

Prudence scores range from 1 to 4. A 1 is automatically given, so 0s don't get in the way.

Start with score of 1, to avoid zeros

I/D	-	I = 1	D = 0
L/S	-	L = 0	S = 1
F-SF/G-SG	-	F-SF = 1	G-SG = 0

If Timing is crossed out, Score a 1 for timing

Thus, if a reprimand is immediate, short and firm, the scoring is as follows:

1 point
1 point (I)
1 point (S)
1 point (F)

Prudence = 4

If a reprimand is delayed, short and somewhat gentle, the scoring is as follows:

1 point
0 points (D)
1 point (S)
0 points (SG)

Prudence = 2

And, if a reprimand is timing crossed out, short and somewhat firm, the scoring is as follows:

1 point
1 point (timing crossed out)
1 point (short)
1 point (SF)

Prudence = 4

You will calculate a prudence rating for every Reprimand Only, T-reprimand Only *-reprimand Only, Reprimand With Reason, T-reprimand With Reason, and *-reprimand With Reason unless:

1) the reprimand is the second or third reprimand in that interval (no scoring of I/D, L/S, F-SF/G-SG)

2) if for some reason the coder neglected to score all the parts (I/D is not crossed or circled, L/S is not circled, or F-SF/G-SG is not circled)

JECTODDLER
DATA SUMMARY

CHILD CODE

Subject #_____ Situation: STD FP TR 0-7.9 TR 8.0-12.9

Scorable Intervals: _____

==========

Intervals AP_____

Total int. _____ % AP = (Total int. AP/Scorable Int.) X 100

% AP = _____

==========

Intervals FO_____

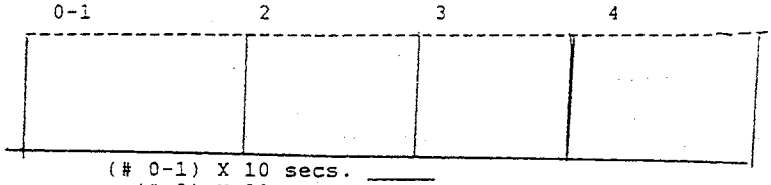
Total int. _____ % FO = (Total int. FO/Scorable Int.) X 100

% FO = _____

New Instances FO_____

Total new_____

Duration FO



(# 0-1) X 10 secs. _____
(# 2) X 20 secs. _____
(# 3) X 30 secs. _____
(# 4) X 40 secs. _____
Other secs. _____
Other secs. _____
Other secs. _____

Total: secs.

Mean Duration FO = Total secs./# New FO

Mean Duration FO = _____

==========

Intervals NA_____

Total int._____ % NA = (Total int. NA/Scorable Int.) X 100

% NA = _____

JECTODDLER
DATA SUMMARY

Intervals LA_____

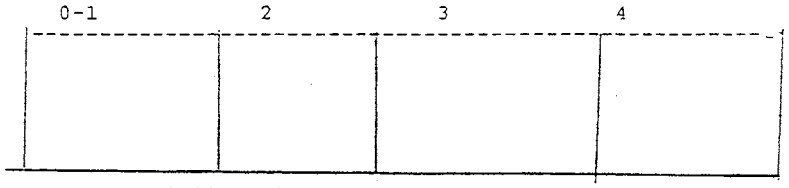
Total int._____ % LA = (Total int. LA/Scorable Int.) X 100

% LA = _____

New Instances LA_____

Total new_____

Duration LA



(# 0-1) X 10 secs. _____
(# 2) X 20 secs. _____
(# 3) X 30 secs. _____
(# 4) X 40 secs. _____
Other secs. _____
Other secs. _____
Other secs. _____

Total: secs.

Mean Duration LA = Total secs./# New LA

Mean Duration LA = _____

==========

Intervals SA_____

Total int._____ % SA = (Total int. SA/Scorable Int.) X 100

% SA = _____

APPENDIX G

INSTITUTIONAL REVIEW BOARD

APPROVAL FORM

Vita

Johnette E. Clark

Candidate for the Degree of

Doctor of Philosophy

Thesis: THE EFFECTS OF REASONING AND NURTURANCE ON CHILD COMPLIANCE

Major Field: Clinical Psychology

Personal Data: Born in Topeka, Kansas on May 16, 1965, the daughter of DeAnnette Code and Tim Harries.

Education: Received Bachelor of Arts degree in Psychology from Washburn University, Topeka, Kansas in December, 1987; received Master of Science degree in Psychology from Oklahoma State University, Stillwater, Oklahoma in December, 1989; completed requirements for the Doctor of Philosophy degree at Oklahoma State University, Stillwater, Oklahoma in December, 1996.

Professional Affiliations: American Psychological Association, Student Affiliate; Association for the Advancement of Behavior Therapy, Student Member