

THE EFFECTS OF REASONING ON COMPLIANCE
IN NOVEL VS. FAMILIAR TASKS

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Parents have a wide variety of techniques from which to select when attempting to influence their child's behavior. Therefore, it is crucial that the recommendations made to parents regarding which techniques to use be based on reliable and valid research. One technique that has been recommended in the developmental literature is the use of reasoning (Hoffman, 1975). However, there has been virtually no published research that has examined in a controlled fashion the effectiveness of reasoning. This paper addresses the use of reasoning as a parenting technique, and its effect on child compliance. First, literature addressing parenting techniques and child compliance is presented. Included in this portion of the paper are definitions that have been used to describe compliance, the importance of the development compliance, various parenting variables and their influences on compliance, and descriptions of certain methods used to examine these factors. Next, a summary of the research finding of studies that have, at some level, addressed the use of reasoning is presented. Also included is a critique of the studies and the need for more controlled studies examining the effects of reasoning on compliance is discussed. The remainder of the paper focuses on the current investigation and the way in which it addressed issues raised by previous research on the use of reasoning. The results of the study are presented and followed by a discussion of their implications for the use of reasoning with young children. Finally, the need for future research is discussed and possible directions are provided.

The development of autonomy and selfhood usually begins in the second year of a child's life. Parents are often faced for the first time with problem behaviors as with this increase in autonomy often is accompanied by noncompliance. Their perceptions of

these new behaviors and the methods they select for dealing with them may have long lasting effects on their children (Fagot, 1984). Although noncompliance can serve a positive function as a means for expression in social development (Kuczynski, Kochanska, Radke-Yarrow, & Girmius-Brown, 1990) if not dealt with effectively it can interfere with the child's successful socialization (Hoffman, 1970).

Severe noncompliance has been implicated as being the most common reason for child referrals to mental health professionals (Forehand & McMahon, 1981).

Furthermore, noncompliance has been shown to be related to an increased risk for abuse and conduct problems later in life (Forehand & McMahon, 1981). The way in which parents attempt to gain compliance can either help or hinder the rate and degree to which children actually comply. Fagot (1984) reported that the stability of problem behaviors in children ages 1-1/2 and 2 years were consistent with patterns of reactions received from their caregivers. Furthermore, Kuczynski et. al. (1987) report that certain parenting techniques actually exacerbate the problem. Therefore, parents need to be aware of the most effective ways to respond to noncompliance in their children. Just as important is intervening while the child is young and before inappropriate parenting styles become embedded preventing an undesirable relationship from being established. Studies of parent-child interactions have reported that noncompliance is a common problem in families that receive services for their children from psychological clinics and in well-functioning families (Arnold, O'Leary, Wolff, & Acker 1993; Forehand, 1977; Forehand, Gardner, & Roberts, 1978; Green, Forehand, & McMahon, 1979; Kuczynski & Kochanska, 1990). Whatever the severity, noncompliance is aversive to parents. Therefore, research investigating which techniques are effective in reducing

noncompliance will have implications for most parents with young children.

Arnold et. al. (1993) reported that certain parenting techniques can be implicated in both the development and maintenance of externalizing disorders in children. Furthermore, when parents were taught to replace maladaptive discipline practices with clear, firm, consistent, and appropriate consequences, there was a decrease in the amount of noncompliant and aggressive behavior displayed by their children. The authors suggest that prevention and early intervention are key in addressing maladaptive childhood behaviors.

Green et. al. (1979) conducted a study examining to what extent parents were able to manipulate child compliance in both deviant or normal children. Ten mothers of clinic-referred children and ten mothers of nonclinic children were seen in a laboratory situation. In one phase they were told to make their child look compliant and in another, noncompliant. The results indicated that mothers were successful in manipulating compliance. Furthermore, mothers of deviant and normal children did not differ in their ability to achieve compliance. During the noncompliance phase mothers increased their use of vague commands and criticisms. During the compliance phase mothers used more suggestions, questions, rewards, and contingent rewards. During the compliance phase mothers would often play with their children using the toys whereas during the noncompliance phase mothers would often tell their children to pick up the toys.

These reports suggest that 1) inappropriate parenting techniques adversely affect children, 2) parents are able to manipulate compliance by changing both antecedents and consequences of their children's behaviors, and 3) these changes in behaviors are achieved in both clinic and nonclinic children. Therefore, research addressing which

techniques are most effective in gaining compliance can be applied toward the development of models for systematic parent training. The following literature review includes some of the research addressing parenting techniques, with a special emphasis on the role reasoning plays in parent-child interactions.

Compliance

Much of the research that has been conducted involving young children has addressed the role parenting plays in the development and maintenance of compliance. Behavior has been considered compliant when it follows and is congruent with a parent's directive or request (Crockenburg & Litman, 1990), or when it immediately follows the parenting technique employed by the mother (Nelson & Stockdale, 1984). Compliance has been referred to as an immediate and appropriate response by the child to a parent's request (Honig, 1985), as well as termination of an undesirable behavior within a period of time from the initial directive (Holden, 1983). Compliance has been said to begin with orientation to a directive and end when the desired behavior is complete (Kuczynski, Kochanska, Radke-Yarrow, & Girnius-Brown, 1987). Kochanska and Aksan (1995) categorized compliance according to the child's motivation to accept or reject the caretaker's agenda. Compliance in their study was viewed as wholehearted or situational (i.e. lacking sincere commitment). Forehand (1977) reported that across studies most investigators use one of three definitions for compliance 1) completion of compliance within a specific time period (i.e. 20-30 seconds) 2) initiation of compliance within a specific time period (i.e. within 5 seconds) or 3) initiation and maintenance of compliance within consecutive 10-second intervals. Within these definitions compliance can occur in response to both prohibitive (Don't touch that!) and proactive (Pick up these toys.)

directives.

Young children are given many opportunities to comply or inversely, not comply. Mothers have been observed as delivering instructions every 1.5 minutes to children ages 2 to 12 who are characterized as having severe interaction problems (Dumas & Lechowicz, 1989). Others have found instructions occurring every 3-4 minutes to children age 2 who are not characterized as severe (Minton, Kagan, and Levine, 1971). Reports of how often compliance occurs include 51% of the time (Forehand, Gardner, & Roberts, 1978) to 53% of the time (Lytton & Zwirner, 1975). Thus, researchers have attempted to determine under which conditions and with which techniques parents achieve compliance in their children.

At times, parents are able to gain compliance in their children merely by asking for it. However, requests are not always granted and parents may need to utilize strategies to increase the likelihood their children will be cooperative (Dix, 1991). Selecting the appropriate strategy takes skill; using techniques that ignore a child's wants, needs, and abilities will often result in undesirable interactions. Situations involving noncompliance often result in such interactions if not handled with appropriate techniques.

Power assertive techniques

Parents' initial response to noncompliant behavior may be considered a power assertive technique. However, research has indicated such techniques often result in increased noncompliant behaviors (Crockenberg & Litman, 1990; Dix, 1991; Dumas & Lechowicz, 1989; Kochanska & Aksan, 1995; Lytton, 1979; Lytton & Zwirner, 1975;). Crockenberg and Litman (1990) found when mothers responded to their 2 year old

children with power assertive methods of control (such as negative control threats, criticism, physical intervention, and anger), defiance was more frequent both in the laboratory and at home. Dumas and Lechowicz (1989) also reported that instructions accompanied by physical contact were associated with reduced compliance and increased noncompliance. Lytton (1979) explained that such responses to power assertive techniques occur because physical control has an opposite effect than the one intended by parents as it lessens the influence of command prohibition on compliance.

Nurturance

In contrast to power-assertive techniques, research has indicated that when parent-child interactions are highly nurturant, the likelihood of gaining young children's compliance is increased (Kuczynski, 1984; Lytton, 1979, Maccoby & Martin, 1983). Kuczynski (1984) had mothers and their 4-year-old children interact during a period in which the child was to engage in both proactive and prohibitive tasks. Mothers described as interacting more nurturantly with their children were more successful in gaining compliance. Maccoby and Martin (1983) reported that parental behaviors that are characterized as playful, affectively positive, and sensitive are shown to be associated with compliance. In a study of second- and third-grade children, results showed that when nurturant acts such as praising, smiling, and hugging were given following a negative interaction involving child misbehavior, the children were likely to engage in high levels of on-task behavior (Rosen, O'Leary, Joyce, Conway, & Piffner, 1984).

The effects of nurturance on compliance were also observed in a naturalistic study conducted by Lytton (1979). The subjects were two-year-old children and their mothers who were observed in the home. Results indicated that nurturant behaviors such as

verbal and physical affection and engaging in play with the child increased compliance when they occurred prior to discipline.

The effects of nurturance on compliance have been explained by some as a means to increase the likelihood of complying in the future (Kuczynski, 1984; Lytton, 1979). Others have suggested it results in internalization which leads to a more enduring control over behavior, especially when coupled with inductive techniques such as reasoning (Hoffman, 1975).

Reasoning

Hoffman (1975) has advocated the use of inductive discipline in which parents use techniques such as explanations and reasons when parenting young children. Techniques may be appropriate, given that noncompliance in young children may be the result of their inability to discern the meaning and intent of the parental request. Kaler & Kopp, (1990) found that high rates of noncompliance occurred in combination with noncomprehension. Parents engaging in disciplinary techniques that confuse children fail to teach them social skills, which is not conducive to their development (Dix, 1991). However, parents who use reasoning and induction should expect to have children with more internalized moral values (Hoffman, 1975). Davies, McMahon, Flessatli, and Tiedemann (1984) found that children who received rationales for disciplinary contingencies (e.g. when maternal ignoring would occur) initiated and completed compliance to their mother's requests more frequently than children not receiving rationales. Furthermore, children who received rationales also better understood the contingencies than children not receiving rationales. Thus, reasoning may serve the purpose of making understandable situations that may be complicated or unfamiliar to the

child.

In addition to using reasoning for clarification purposes it may also be advocated as effective given the period of socialization in which young children may be. Kopp (1982) explains that during their second year children will begin to demonstrate more autonomy as well as an increase in their ability to recall parental dictates. Crockenburg and Litman (1990) found that combining control strategies (e.g. directives, prohibitions) with guidance strategies (e.g. suggestions, reasons) was more likely to elicit compliance than any other parenting strategy across both home and lab settings. They stated "When a mother requests that a child do something or attempts to persuade through reasoning there is an implicit recognition that the child is a person who is separate from the parent and who has needs and wishes of his own" (p.970). They further suggest that guidance which includes reasons and suggestions encourages compliance because it limits the threat to the child's autonomy. Results indicate that the type of guidance (reasons vs. suggestions) does not make a difference but it is the balance of power in the mother-child relationship that results in greater compliance. Therefore, the effect of reasoning was not examined separately and the authors stated, "whether reasoning is an especially effective method of gaining compliance remains to be determined" (p. 970).

Kochanska, Kuczynski, and Radke-Yarrow (1989) endorsed reasoning as adaptive when warranted by a child's need for cognitive structuring and internal motivation but unwarranted and inappropriate when giving reasons would be superfluous. During the second and third year of life there is an increase in the desire for autonomy as well as an increase in the ability to comply with a request, to initiate, and cease behavior according to situational demands (Kopp, 1981). Thus, it follows that reasoning may be both an

appropriate and effective parenting strategy in certain situations and when used appropriately.

There have been few studies addressing the use of reasoning as a parenting strategy and even fewer measuring its effectiveness. Those that have been conducted have been very dissimilar in design, making it difficult to discover trends or patterns that occur when reasoning is used. Studies have been conducted in the home while others were conducted in the lab. Some studies utilized naturalistic observation or relied on self-report while others manipulated variables.

Self-Report Designs

Zahn-Waxler and Chapman (1982) trained mothers of one- to two-year-old children to report parent-child interactions involving negative emotions via a narrative account of the episode dictated to a tape recorder. The accounts were limited to those in which someone in their child's presence expressed positive or negative emotions, and in which the child was the cause of the difficulty in which the parent intervened. Their results indicated that reasoning was used when the child's transgressions were against other persons as opposed to transgressions related to lapses in self-control or property.

In another study conducted by Chapman and Zahn-Waxler (1982) mothers were trained to observe and record emotional incidents in which their 10- to 20-month-old children were involved. They were to record the type of discipline used and the children's responses to that discipline. Results indicated that love withdrawal (withdrawing affection or attention, including enforced separations) combined with other techniques was most effective and reasoning was not at all effective unless combined with physical coercion.

In a study conducted by Grusec and Kuczynski (1980) mothers of 4- to 5-, and 7- to 8-year old children described the type of discipline they would use in response to 12 recorded misbehavior situations. They were free to respond with any technique or combination of techniques they wished. Results indicated that situations involving psychological harm to others, stealing, and potential danger were the situations in which reasoning was endorsed. Situations usually resulted in the endorsement of power assertion when the parents' objectives were more short-term (e.g., throwing a ball inside, being too noisy). These results suggest that when parents want to influence behavior beyond the immediate situation, inductive techniques are employed. Though neither this study nor the one conducted by Zahn-Waxler and Chapman (1982) addressed the effectiveness of reasoning, they are relevant to the issue in that they confirm that reasoning is implemented by parents. More importantly, reasoning is used in the most serious of situations according to the above listed reports. However, the self-report study that did address the effectiveness of reasoning suggested that reasoning, as used by the mothers in the study, was not effective in gaining compliance (Chapman & Zahn-Waxler, 1982).

Naturalistic Designs

Lytton and Zwirner (1975) observed unstructured interaction in the homes of their participants, who were parents and their 2-1/2-year-old children. A trained observer visited the home 3 hours before the child's bedtime on two occasions. The only restriction given was that the child and at least one parent had to remain in the living room area. Interactions in which a misbehavior occurred were coded in terms of discipline strategy employed by the parent(s) as well as whether the child complied.

Reasoning was one of the many techniques employed in response to misbehavior.

Results indicated that the probability of compliance decreased when reasoning was used.

Experimental Designs

Research addressing the use of reasoning in an experimental setting has been even more limited than that conducted in a natural setting. Studies that have been conducted have generated results very different from those found in studies using a natural setting. Kuczynski (1984) was interested in the parenting techniques selected when the goal for child compliance is long-term versus short-term. Short-term compliance was defined as compliance with a request or prohibition in the immediate situation and usually in the parents' presence; long-term compliance was defined as compliance that persists beyond the immediate situation. Mothers of four-year-old children were asked to have their children participate in a task that required the child to sort a box of plastic spoons and forks. All mothers received the same instructions. However, mothers in the long-term condition were told their children would be observed in their absence as well as in their presence.

The results indicated mothers in both groups used the same amount of verbalizations but mothers in the long-term condition used more reasoning with more elaborate explanations. They were also more likely to use reasoning as their initial strategy. Mothers in the short-term condition used fewer and less complex reasons. The time in which reasoning and explanation began also differed, with mothers in the long-term condition initiating these techniques earlier than mothers in the short-term condition. The results suggest that when mothers knew their child's behavior would carryover to situations when they would not be available, they increased their use of reasoning.

Analyses regarding child behaviors indicated that children in the long-term condition worked more and deviated less than did children in the short-term condition. Children in the long-term condition also displayed more positive assertive behaviors while children in the short-term condition displayed more negative behaviors. Children in the long-term condition also worked more and were distracted less in their mother's absence. However, as mentioned earlier, children in the long-term condition received more nurturance than children in the short-term condition.

Kuczynski concluded that the extent which reasoning is employed may be a function of whether the goal for compliance is immediate or long-term. In other words, when mothers wanted their child to be compliant in their absence they used inductive techniques. Furthermore, the fact that children receiving reasons were more compliant both in their mother's presence and absence supports the notion that inductive techniques lead to internalization of parental requests.

Clark (1996) conducted a study which found reasoning to be effective when paired with high nurturance from the mother. The study was conducted in a laboratory setting in a room designed to resemble a waiting room. Mothers of children ages 18 through 30 months were to engage their children in both proactive and prohibitive tasks while receiving instructions from the experimenter through a bug-in-the-ear device. Prohibitive tasks included not touching forbidden objects and not leaving the designated area. The proactive task involved the child playing independently. There were three phases in which compliance was measured: free play phase, transgression mother-present, and transgression mother-absent. Between groups variables were nurturance (high vs. low) and discipline strategy (reasons vs. no reasons).

During the free play phase mothers in the high nurturance condition played with their child on the floor and engaged in continuous verbal and nonverbal interaction. During the transgression mother-present phase, mothers in the high nurturance condition gave detailed instructions following reprimands, delivered praise, and briefly modeled appropriate play. During the free play phase, mothers in the low nurturance condition sat in a chair and completed questionnaires while their child played independently. During the transgression mother-present phase, mothers in the low nurturance condition gave short instructions following reprimands, and praise was given but at half the rate of praise given in the high nurturance condition. Following the transgression mother-present phase mothers in both groups were placed in an area of the same room curtained off from their child for the transgression mother-absent phase.

Results indicated that children in the reasoning condition did not differ from children in the no reasoning conditions in their rates of appropriate play or in their rates of touching forbidden objects. However, when paired with high nurturance, the use of reasoning resulted in higher rates of child compliance (i.e. appropriate play and not touching forbidden objects) than the no reasoning strategy. During the mother-absent (behind the curtain) phase rates of touching forbidden objects decreased for children in the reasoning/high nurturance condition but remained the same for those in the no reasoning/high nurturance condition.

Summary and Critique

The results of the self-report studies indicate that reasoning is used in response to relatively serious misbehavior (e.g. stealing from a purse, making fun of an elderly man, and running into the street without looking) (Grusec & Kuczynski, 1980; Zahn-Waxler &

Chapman, 1982). These results make sense in light of Kuczynski's (1984) statement that when the goal for compliance is long-term, reasoning is likely to be implemented.

The results of the naturalistic observations (Lytton & Zwirner, 1975) and the self-report study in which effectiveness was measured (Chapman & Zahn-Waxler, 1982) do not support the use of reasoning in a parenting repertoire. The results contradict those found in the studies implementing experimental designs (Clark, 1996; Kuczynski, 1984). However, the difference could be attributable to the setting. The familiarity of the home stands in contrast to the novelty of the laboratory. In the naturalistic observations the subjects were engaging in their normal evening routines. However, in the experimental studies they were in an unfamiliar setting, and at times engaging in unfamiliar tasks such as utensil sorting.

Due to the variations in tasks and settings used to measure the construct of reasoning in these studies, it is not surprising that results differed with respect to the effectiveness of reasoning. Future studies should be designed to include aspects of both types of investigations such as novel and familiar tasks, prohibitive and proactive tasks, as well as opportunities for free play.

Both experimental studies (Clark, 1996; Kuczynski, 1984) reported that when reasoning and high nurturance were paired the rate of compliance increased. However, in Kuczynski's study (1984) nurturance was not controlled for and participants in the long-term condition received higher nurturance compared to the short-term condition participants. Therefore, it is difficult to determine whether the subjects in the long-term condition complied more due to reasoning or increased nurturance or both. Future studies will be more informative with regard to the effectiveness of reasoning if the effects of

other factors are better controlled.

Both Clark (1996) and Kuczynski (1984) were interested in the effects of reasoning in long-term and short-term conditions. In Clark's study mothers went behind a curtain during the long-term phase. Results indicated that children who received reasoning in the mother-present phase touched fewer forbidden objects in the mother-absent phase than those in the no reasoning condition. However, rates of solicitation for attention increased significantly in children in the reasoning condition. This suggests that rates of touching forbidden objects most likely decreased because children were busy trying to get their mother's attention or were anxious or curious about what was behind the curtain. Therefore the decrease in rates of touching forbidden objects when the mother was absent cannot definitively be attributed to the effects of reasoning.

Kuczynski (1984) reported that children in the long-term condition were more compliant than children in the short-term condition when left alone. Again, children in the long-term condition received more reasons, but they also received more nurturance than children in the short-term condition. Therefore, the increase in compliance when the mother was absent cannot be attributed solely to the effects of reasoning. Future studies addressing reasoning and long-term compliance or delayed compliance should create a condition that is not distracting for the participants and also control for nurturance.

Despite their weaknesses, when the above described studies are considered together, they suggest that the conditions in which reasoning is appropriate and effective are those in which the goals for compliance are long-term and nurturance is high. Furthermore, it may also be the case that reasoning may be more effective when used in novel versus familiar situations.

Current Investigation

The present study attempted to gather information regarding the use and effectiveness of reasoning as a parenting technique with young children. The present study had its participants engage in both proactive (utensil sorting and toy clean-up) and prohibitive tasks (forbidden objects). This allowed for an analysis of whether type of task has an influence on the effectiveness of reasoning. The present study also had its participants engage in tasks that are familiar (toy clean-up) and novel, or unfamiliar (utensil sorting). This allowed for an analysis of whether previous experience with a situation (i.e. familiarity) has an influence on the effectiveness of reasoning. The present study also included an immediate and delayed compliance manipulation, which allowed for an analysis of possible delayed effects of reasoning on compliance. The present study allowed a period of free play to enable the child to become familiar with the surroundings and to ensure a highly nurturant interaction between mothers and their children. Nurturance was held constant and kept high across all conditions. Finally, this study included children between the ages of 32 and 45 months to determine if results are the same as those found with older and younger children.

A 2 (reasons vs. no reasons) x 2 (toy clean-up vs. utensil sorting) x 2 (immediate vs. delayed) mixed design was used in which reasoning was a between-groups factor, and task and phase were within-subjects factors. Task (toy clean up vs. utensil sorting) and phase (immediate vs. delayed) were within-subjects factors in which all participated. The present study examined the effects of reasoning on child compliance in a utensil sorting task and a toy clean-up task (proactive tasks) within a forbidden objects paradigm (prohibitive task). Compliance was measured during an immediate and delayed situation.

There were three main hypotheses. The first was that children in the reasoning condition would be more compliant during the utensil sorting task than those in the no reasoning condition. Kuczynski (1984) reported that children who received reasons worked more diligently at the utensil sorting task than did children who did not receive reasons. The second hypothesis was that children in the reasoning condition would have lower rates of touching forbidden objects than those in the no reasoning condition. Clark (1996) found that receiving reasons and high nurturance reduced childrens' rates of touching forbidden objects. Third, it was hypothesized that children receiving reasons would be more compliant in the delayed situation than those not receiving reasons. Kuczynski (1984) reported that children whose mothers used reasoning worked harder and were distracted less in their mothers' absence than those children whose mothers did not use reasoning.

Methods

Participants

The participants were 31 children, ages 32 to 45 months, and their mothers (16 boys and 15 girls $M= 39$ months; mothers $M=32$ years). The total family income of the dyads were as follows: four earning \$800.00 to \$1000.00 per month, two earning \$1001.00 to \$1500.00 per month, seven earning \$1501.00 to \$2000.00 per month, and four earning \$2001.00 to \$2500.00 per month. The mothers' mean years of education was 15.1 years. The ethnic backgrounds for the children were as follows: twenty-four were white, one was black, three were Native American, and two were Hispanic.

Participants were recruited from newspaper advertisements, posters on campus and in the community, psychology courses, day care centers, physicians' offices, and

birth announcements collected from the local newspaper. Mother received extra credit in their psychology course and/or received coupons from local businesses, a small cash award (\$10), and the children received a small prize.

Materials

Demographic Questionnaire

Mothers completed a demographics questionnaire which was used for descriptive purposes. Information about participants' age, ethnic background, maternal level of education, family income, and the gender of each family member was derived from the demographics questionnaire. The questionnaire also gathered information about the child's development.

Child Behavior Checklist/2-3 (CBCL/2-3)

The CBCL/2-3 (Achenbach, 1992) is a 100-item, three-point rating scale which is used to assess behavioral and emotional characteristics of two- and three-year-old children. A T-score is produced for Externalizing and Internalizing behaviors, as well as a Total Problem Score. A T-score of 67 or greater indicates functioning in the clinical range. The present study was limited to a non-clinic population and excluded participants scoring 67 or above on the Total Problem Score. The CBCL/2-3 has adequate reliability and validity (Achenbach, 1992).

Other Measures

The Eyberg Child Behavior Inventory (ECBI) (Burns & Patterson, 1990; Eyberg & Ross, 1978) is a 36-item scale which identifies specific behavior problems in 2- to 16-year-old-children as reported by their parents. The Parenting Scale (Arnold et al., 1993) is a seven-point rating scale which measures dysfunctional parenting strategies used with

children between the ages of eighteen months and four years. These measures were administered to collect data to be included in a larger study. These measures were also used to keep the mothers busy and unavailable to their children in the delayed situation.

Apparatus

A Panasonic VHS video camera, Model #AG-1250-P, was used to record mother and child behaviors during the free play and task situations. A Panasonic color monitor, Model #BTS1300N, was used by the experimenter to observe the ongoing interaction while in the adjacent room. A Bug-in-the-ear TM device (Model B-312, Farrall Instruments, Inc.), consisting of a microphone and hearing aid set-up was used to enable the experimenter to give on-going instructions to the mother regarding what to say and how to respond to their children. Such prompting allowed for experimental manipulation between conditions.

Experimental Area

The testing conditions occurred in a 17' by 8' room furnished with chairs, low tables, toys, a basket of utensils, a telephone, and forbidden objects (see below). Toys used included plastic blocks and male and female action figures and were placed in a plastic bin during the clean-up task. The basket of utensils contained plastic blue spoons and white forks which were to be sorted from one large basket into two smaller baskets matching the color of the utensils.

Forbidden Objects (FO)

Objects not considered appropriate for young children's play were placed around the room during the toy clean-up phase and utensil sorting phase. The objects included a typewriter, a caddy filled with colored paper and pencils, a plate of cookies, a globe, a

hanging mobile, a hanging chime, and a mini lava lamp.

Observational Code

An observational code was used to analyze the mother and child behaviors seen in videotaped interactions in continuous 10-second intervals. Maternal behaviors coded included directives without reasons (D), directives with reasons (DR), praise (P), verbal prompts (VP), interactions (I), and physical prompts (PP). The directives were coded as involving the toys (Dt, DRt), the utensils (Du, Dru), forbidden objects and leaving the area (Df, DRf), or other directives not fitting into the aforementioned categories (Do, DRo).

Child behaviors coded included picking up appropriately or sorting appropriately (PA or SO); toy contact for purposes other than picking up (TC), negative affect (NA) which included whining, crying, verbal defiance, and tantruming; and direct noncompliance which included touching forbidden objects and leaving the area (FO); and solicitation for attention (SA).

Four undergraduate observers who were blind to the hypotheses of the study independently coded the videotaped interactions for mother and child behaviors in 10-second intervals. The observers were trained until they reached a criterion of 90% agreement. Observers viewed each tape once to code maternal behaviors and again to code the child behaviors. Intervals in which one or more disagreements existed were then marked on the coding sheets by the experimenter and the observers independently reviewed all behaviors for the intervals with disagreements. If the observer determined his or her original coding was incorrect, the coding was changed to be consistent with coding definitions. If the observer determined that his or her original coding was

accurate, the coding was left as it was originally. Inter-rater reliability was calculated using a kappa coefficient. The kappa coefficients for each of the measured child behaviors were as follows: picking up appropriately .98, sorting appropriately .96, toy contact .89, and touching forbidden objects .92. The kappa coefficients for each of the measured maternal behaviors were as follows: modeling .88, interaction .84, praise .97, physical prompt .28, prompt .80, toy clean-up directives with reasons .91, toy clean-up directives without reasons .89, utensil sorting directives with reasons .90, utensil sorting directives without reasons .90, touching forbidden objects/leaving the area directives with reasons .87, touching forbidden objects/leaving the area directives without reasons .79, other directives with reasons .39, and other directives without reasons .81. The kappas for both physical prompt and other directives with reasons were low due to extremely low rates of occurrence across participants.

Procedure

Children were matched for gender and age. Participants were randomly assigned to one of two experimental conditions: reasoning strategy ($n = 16$, $M = 38.5$ months) or no reasoning strategy ($n = 15$, $M = 38.5$ months). Each mother and child pair participated in a single visit of approximately 1 1/2 hours.

General Protocol

Each mother and child pair met in the anteroom of the laboratory. A research assistant played with the child while the experimenter read an overview of the study from a script and obtained consent. After consent was obtained, the experimenter explained and demonstrated the use of the bug-in-the-ear and delivered the standardized instructions for the free play phase.

Free Play Phase Protocol

During this phase, which lasted eight minutes, mother and child played together in a non-disciplinary context. The mother was instructed to actively play with her child, allowing him/her to choose the activities. Beginning with this phase, nurturance was kept high and constant across participants by instructing mothers to give positive feedback, praise, and encouragement to their child (examples were provided by the experimenter). Mothers were also instructed to sit with their children on the floor and to play along with their child. Praise statements were given, at minimum, once per minute. If the mothers did not spontaneously praise at least once per minute the experimenter cued mothers via the bug-in-the-ear device with a praise statement. Because the goal of this phase was to achieve an optimal level of positive interaction between mother and child, forbidden objects were not in place. The mother was instructed to avoid giving reprimands. If misbehavior occurred (i.e. the child attempted to leave the room) the mother was instructed to give detailed distraction statements regarding playing with the toys and silently retrieve the child if necessary.

Break

There was a brief break between the free-play phase and the task phases to allow the experimenter to give the mother scripted instructions for the task phases. During this time the forbidden objects were set in place for the task phases. The mother was presented with questionnaires which she was cued to fill out after three minutes of the task phase had elapsed.

Task Phases

Following free-play there was the first of two task phases: toy clean-up or utensil sorting. The order in which these phases occurred was systematically varied across subjects to control for order effects. Each task phase lasted six minutes. During the task phases the mother was cued by the experimenter via the bug-in-the-ear device as to what to say. She was instructed not to say anything unless cued, and when cued, to repeat exactly what the experimenter said.

Task Phase-Immediate

The task phases began with the mother sitting on the floor with the child and delivering instructions for either sorting the utensils or cleaning up the toys. The children were instructed to put the toys in a bucket or to sort forks and spoons from a larger basket to two smaller baskets. Mothers were cued to model each task twice for the child before they began.

Praise. Praise was given for every appropriate response for the first five acts of compliance. Praise was then delivered once for every two appropriate responses for the next five acts of compliance. Praise continued to be faded in this fashion but not less than once for every three acts of compliance.

Directives. If task-related directives were necessary following the initial instructions the mother was cued to deliver the directive given by the experimenter in a firm, neutral voice (11-12 words in length). If the child did not initially comply, the mother was cued to wait three seconds and repeat the directive. If compliance still did not occur the mother was cued to briefly model the desired behavior. If the child was not attending to the task, a verbal prompt was given.

Different directives (11 words in length) were also delivered that instructed the child to stop engaging in a competing behavior. These were issued in situations where the child was attempting to leave the room, or was touching forbidden objects. These directives were immediately followed by a task-related directive. If the child failed to comply, the mother was cued to wait three seconds, then the reprimand and directive were repeated. Following this, if compliance did not occur within three seconds the mother was cued to use a physical prompt.

Verbal Prompts. Verbal prompts were given if the child did not respond to the initial directive and was not attending to the task (e.g. looking at the forbidden objects, looking out the window). Using a firm but neutral voice the mother called the child's name and repeated the initial directive. If the child still failed to reply within three seconds, the mother was cued to repeat his/her name, followed by "Look at me," and then repeat the directive.

Physical Prompts. Physical prompts were used if the child failed to comply to the initial directives and verbal prompts. Situations in which physical prompts were appropriate included those in which the child attempted to leave the room or refused to stop touching a forbidden object. Physical prompts were always followed by a directive.

Reasons. For those subjects in the reasoning condition a developmentally appropriate reason was included in each directive and reprimand (e.g., "Since you played with the toys you need to help clean up", "You need to help sort because the lady won't have time", "Don't touch because it breaks very easily"). The reasons were designed to provide the child with additional information regarding why they were being asked to engage in the task or refrain from engaging in prohibited behaviors. For those in the no

reasoning condition a reason was not attached to directives; however, they were equal in length to those including reasons (e.g., "All of the toys need to be picked up and put away", "I want you to sort the spoons and forks", "No, no. Mommy said not to touch").

Off-Task Conversation. If the child initiated conversation not related to the tasks the mother was cued to briefly respond then re-direct attention back to the task (e.g., "We can talk later, it is time to clean up/sort utensils now"). After one such redirection any additional off-task conversation was ignored.

Task-Phase Delayed.

After three minutes the mother was cued to sit at a table and fill out the questionnaires, turning her back to the child. The mother was cued to explain to her child that she needed to fill out some forms and instruct the child to continue working. During this phase the mother was instructed not to talk to her child. Mothers were directed to respond to the first solicitation for attention from their child with a brief instruction for the child to continue working on the task, or if the child had finished the task, to wait quietly. Additional solicitations for attention were ignored. If the child became upset the mother was directed to attend to the needs of her child. Children were visible to the experimenter at all times via a remote monitor. When the phase was complete the experimenter cued the mother to let her know. If questionnaires were not completed, the mother was given time to complete them while the experimenter or assistant played with her child.

Debriefing.

The assistant played with the child while the mother was interviewed and given the opportunity to pose questions and concerns. The debriefing was introduced by a

general statement, such as “At the end of the study, we like to get feedback from parents. What did you think?” The mother was also asked specific questions such as, “Was the study realistic? Did your child behave in his or her typical manner?” The mother was given a packet containing a copy of the consent form, a list of community referral sources, a copy of a parent letter explaining the study that she could give to interested friends or neighbors, and various coupons from local businesses. The child was given a small prize. After thanks were given for their time and participation, their participation was complete.

Inclusion/Exclusion Criteria

Children having physical or mental disabilities that would have interfered with their ability to engage in the behaviors of interest to the study would have been excluded from the study. Children scoring in the clinical range on the CBCL/2-3 Total Problems score (T-score ≥ 67) would have been excluded. Also, mothers not complying with experimental conditions would have been excluded from the study. This would have included mothers in both conditions who gave more than three reprimands during the free play situation; mothers in both conditions who interacted three or more times with their child outside of that which was cued by the experimenter during the immediate and delayed task situations; mothers in both conditions who issued three or more uncued directives or reprimands; and mothers in the no reasoning condition who issued three or more reasons. The application these criteria resulted in no subjects being excluded.

Results

Questionnaire data

A series of two-tailed, independent samples t -tests were conducted to ensure that randomization led to equivalence between groups across a number of variables. Using the CBCL/2-3 (Achenbach, 1992) a Total Problems T-score was calculated and used to ensure that randomization led to equivalence between groups with regard to child behavior and a two-tailed, independent samples t -test was applied. The results indicate that the reasoning group ($M = 52.00$, $SD = 8.42$) did not differ from the no-reasoning group ($M = 50.133$, $SD = 8.16$) with regard to child behavior, $t(28.96) = .63$, $p < .54$.

Using the Parenting Scale (Arnold et al., 1993) a total score was calculated to ensure that randomization led to equivalence between groups with regard to parenting style and a two-tailed independent samples t -test was applied. The results indicate that the reasoning group ($M = 2.70$, $SD = .62$) was significantly different from the no-reasoning group ($M = 3.24$, $SD = .73$) with regard to the Parenting Scale Total score, $t(27.18) = -2.21$, $p < .04$. Therefore, Pearson product-moment correlations were calculated between the Total score and each of the observed child behaviors. A significant correlation between the Parenting Scale Total score and utensil sorting in the immediate phase was found. Therefore, in subsequent analyses involving utensil sorting in the immediate phase, an analysis of covariance was used.

A two-tailed, independent samples t -test was calculated to ensure that randomization led to equivalence between groups with regard to child age and years of maternal education. The reasoning group ($M = 38.50$, $SD = 4.37$) did not differ from the no-reasoning group ($M = 38.53$, $SD = 3.91$) on child age, $t(28.94) = -.02$, $p < .98$. The

reasoning group ($M = 14.81$, $SD = 1.56$) did not differ from the no-reasoning group ($M = 15.33$, $SD = 1.54$) on maternal education, $t(28.91) = -.93$, $p < .36$.

A series of chi-square analyses were conducted to ensure that randomization led to equivalence between groups on dichotomous variables, including child gender, family income level, and race of the child. The reasoning group did not differ from the no-reasoning group on child gender, $\chi^2(4, N = 31) = 0.04$, $p < .83$. The reasoning group did not differ from the no-reasoning group on family income, $\chi^2(4, N = 31) = 3.39$, $p < .49$. The reasoning group did not differ from the no-reasoning group on child race, $\chi^2(3, N = 31) = 4.67$, $p < .20$.

Data Reduction for coded observational data

Percentage of occurrence for maternal use of directives with/without reasons, verbal prompts, physical prompts, praise, and interaction was tabulated. These data were used to check the manipulation of the independent variables. The rates at which these behaviors occurred are presented below in Table 1 and Table 2.

Child compliance was measured by the percentage of occurrence of picking up appropriately (toy clean-up) and sorting appropriately (utensil sorting). Child noncompliance was measured by the percentage of occurrence of toy contact, touching forbidden objects, and leaving the area.

Manipulation checks

Free-Play Phase. A one-way ANOVA with strategy as a between-groups variable was calculated in order to ensure that the reasoning and no reasoning groups did not differ on praise and interaction, which were to be equivalent across groups. There was no

main effect of strategy on interaction, $F(1, 31) = 0.40$, $p > .53$, and no main effect of strategy on praise, $F(1, 31) = 0.84$, $p > .36$. Thus, the free-play phase was correctly implemented.

Task Phases. A series of 2 (strategy) X 2 (task) X 2 (phase) mixed design ANOVAs with task (toy cleanup vs. utensil sorting) and phase (immediate vs. delayed) as within-subjects factors and strategy (reasons vs. no reasons) as a between-groups factor were conducted. These analyses served to ensure equivalence across groups for the following maternal behaviors: Interaction, Praise, Modeling, Prompt, and Physical Prompt. These analyses also served as a check to ensure that the factor of phase was successfully implemented. It was predicted that there would be no main effect of strategy on praise, modeling, prompt, interaction, or physical prompt as these were held constant across groups. Because mothers were prohibited from interacting with their children during the delayed phase, a main effect of phase on praise, modeling, prompt, interaction, and physical prompt was predicted. The results of these analyses are presented in Table 3.

The results presented in Table 3 verify that the variables designed to be held constant across both groups were successfully implemented. The reasoning group and the no reasoning group did not differ with regard to amount of interaction, praise, modeling, prompts, and physical prompts. Thus, there was no main effect of strategy on the above-named maternal behaviors. The results also indicate that for each above-named maternal behaviors there was a significant main effect for phase, verifying that the immediate vs. delayed phase manipulation was successfully implemented.

A series of 2 (strategy) x 2 (task) x 2 (phase) mixed design ANOVAs were also conducted for the maternal behaviors of other directives with and without reasons and forbidden objects/leaving the area directives with and without reasons. These analyses served to ensure that the independent variable of strategy was successfully manipulated between groups and to ensure that the factor of phase was successfully implemented. Because the use of reasons was manipulated between groups, a main effect of strategy on directives with reasons and directives without reasons was expected. Because mothers were prohibited from interacting with their children in the delayed phase, a main effect of phase on directives with reasons and directives without reasons was expected. The results of these analyses are also presented in Table 3 and Table 4.

The results in Table 3 verify that forbidden objects/leaving the area directives with and without reasons were successfully implemented. Mothers in the reasoning condition gave significantly more forbidden objects/leaving the area directives with reasons than mothers in the no-reasoning condition. The results also indicate that mothers in the no-reasoning condition gave significantly more forbidden objects/leaving the area directives without reasons than mothers in the reasoning condition. Thus, there were main effects of strategy on maternal use of forbidden objects/leaving the area directives. The results did not, however, indicate a main effect of strategy on maternal use of other directives with reasons or a main effect of strategy on maternal use of other directives without reasons. The lack of main effects is most likely attributable to the exceptionally low rate at which those directives were issued.

The results in Table 4 indicate that for each maternal behavior, with the exception of other directives with reasons, a significant main effect for phase exists. These results

verify that the immediate vs. delayed phase manipulation was successfully implemented. The lack of a phase effect on other directives with reasons is most likely due to its only occurring once across all participants.

A series of 2 (strategy) x 2 (phase) ANOVAs were conducted for the following maternal behaviors: toy clean-up directives (with and without reasons) and utensil sorting directives (with and without reasons). Phase (immediate vs. delayed) was the within-subjects factor and strategy (reasons vs. no-reasons) was the between-groups factor. A main effect of strategy on the maternal behaviors listed above was expected. These analyses served to ensure that strategy was successfully manipulated between groups and that the factor of phase was successfully implemented. A main effect of both strategy and phase on toy clean-up directives (with and without reasons) and utensil sorting directives (with and without reasons) was predicted. A 2 x 2 ANOVA was applied because the second within-subject factor of task, included in the previously described manipulation checks, did not apply to the maternal behaviors included in this analysis. The maternal behaviors in this analysis are task-specific and did not occur across both tasks.

The results presented in Table 5 verify that the strategy factor was successfully implemented. Mothers in the reasoning group gave significantly more toy clean-up and utensil sorting directives with reasons as compared to mothers in the no-reasoning group. In addition, mothers in the no-reasoning group gave significantly more toy clean-up directives without reasons as compared to mothers in the reasoning group. Although approaching significance, the results indicate that mothers did not differ in their use of utensil sorting directives without reasons. The finding is attributable to mothers in both groups being cued to give sorting instructions to their children at the beginning of the

utensil sorting task. The set of instructions were the same for both groups and did not involve reasons. Therefore, mothers in both groups gave a series of utensil sorting directives without reasons to get their children started in the sorting task.

The results in Table 6 indicate that for each maternal behavior a significant main effect for phase exists. These results verify that the immediate vs. delayed phase manipulation was successfully implemented.

Main analyses

The main analyses tested the hypotheses and examined the rates at which the observed child behaviors occurred across phases and tasks, and the rates at which they occurred between the reasoning and no-reasoning groups. A 2 (strategy) x 2 (task) x 2 (phase) mixed ANOVA was conducted for each observed child behavior with strategy as a between-groups variable and with task and phase as within-subjects variables (with the exception of analyses including sorting in the immediate phase).

A main effect of strategy on compliance (picking up/sorting appropriately) was predicted. It was expected that children in the reasoning condition would exhibit higher rates of compliance than those not receiving reasons. For this analysis, an ANCOVA was used with Parenting Scale Total scores as a covariate. This ensured that the effect of pre-existing differences between the reasoning and no-reasoning group on this measure was controlled. There was no main effect of strategy on compliance, ($F(1,31) = .52, p > .43$). Thus, the expected difference in rates of compliance (toy clean-up and utensil sorting) between the reasoning and no reasoning group was not obtained.

A main effect of strategy on noncompliance (toy contact, leaving the area, and touching forbidden objects) was predicted. It was expected that children in the reasoning

condition would exhibit lower rates of noncompliance than those not receiving reasons. There was no main effect of strategy on toy contact, ($F(1,31) = .79, p > .38$). There was no main effect of strategy on leaving the area, ($F(1,31) = .25, p > .62$). There was no main effect of strategy on touching forbidden objects, ($F(1,31) = .07, p > .80$). Thus, the expected difference in rates of noncompliance between reasoning and no reasoning group was not obtained.

No predictions were made regarding the main effects of task on any of the variables. It was not expected that the type of task alone would have an effect on any of the child variables. However, a main effect of task on toy contact was obtained, ($F(1,31) = 14.23, p < .001$).

A main effect of phase on compliance (picking up/utensil sorting) was predicted. It was predicted that rates of compliance would be greater during the immediate phase as compared to the delayed phase. For this analysis, an ANCOVA was used with Parenting Scale Total scores as a covariate. This ensured that the effect of pre-existing differences between the reasoning and no-reasoning group on this measure was controlled. There was no main effect of phase on compliance, ($F(1, 31) = 1.05, p > .31$). Thus, the expected difference in rates of compliance between phases was not obtained.

A main effect of phase on noncompliance was predicted. It was predicted that rates of toy contact, touching forbidden objects, and leaving the area would be greater in the delayed phase as compared to the immediate phase. There was no main effect of phase on toy contact, ($F(1, 31) = 1.09, p > .30$). As expected, a main effect of phase on touching forbidden objects was obtained, ($F(1, 31) = 7.19, p < .04$). There was no main effect of phase on leaving the area, ($F(1, 31) = 3.01, p > .09$). Thus, the expected

difference in rates of noncompliance between phases was obtained only for touching forbidden objects.

A strategy x task interaction for compliance was predicted. It was expected that rates of compliance would be higher for individuals in the reasoning condition during the utensil sorting task as compared to individuals not receiving reasons. It was predicted that rates of compliance displayed by individuals receiving reasons versus individuals not receiving reasons would not differ significantly during the toy clean-up task. For this analysis, an ANCOVA was used with Parenting Scale Total scores as a covariate. This ensured that the effect of pre-existing differences between the reasoning and no-reasoning group on this measure was controlled. A strategy x task interaction for compliance was obtained, ($F(1, 31) = 5.66, p < .03$).

To further examine the factors contributing to the strategy x task interaction, simple effects analyses were conducted. During the toy clean-up task individuals not receiving reasons ($M=55.80$) were more compliant than individuals receiving reasons ($M=44.21$). Simple effects analyses revealed that these differences are not significant, ($F(1, 31) = 1.01, p > .32$). During the utensil sorting task individuals receiving reasons ($M=55.21$) were more compliant than individuals not receiving reasons ($M=44.43$). Simple effects analyses revealed that these differences are not significant, ($F(1, 31) = 0.80, p > .37$). Therefore, the strategy by task interaction for compliance was the result of individuals in the reasoning condition displaying higher rates of compliance in utensil sorting task compared to individuals in the no reasoning condition and individuals in the no reasoning condition displaying higher rates of compliance in the toy clean-up task compared to individuals in the reasoning condition.

A strategy x task interaction for noncompliance (toy contact, touching forbidden objects, and leaving the area) was predicted. It was expected that rates of noncompliance would be lower for individuals in the reasoning condition as compared to individuals not receiving reasons during the utensil sorting task. It was predicted that rates of noncompliance displayed by individuals receiving reasons versus individuals not receiving reasons would not differ significantly during the toy clean-up task. A strategy x task interaction was not obtained for toy contact ($F(1, 31) = .04, p > .84$), touching forbidden objects ($F(1, 31) = 1.43, p > .24$), or leaving the area ($F(1, 31) = 1.45, p > .24$).

A strategy (reasons vs. no reasons) x phase (immediate vs. delayed) interaction for compliance was predicted. It was expected that individuals in the reasoning condition would display similar rates of compliance across phases while individuals in the no-reasoning condition would display different rates of compliance across phases. Specifically, it was predicted that rates of compliance between groups would be similar in the immediate phase followed by a significant decrease in compliance in the no-reasoning condition during the delayed phase. For this analysis, an ANCOVA was used with Parenting Scale Total scores as a covariate. This ensured that the effect of pre-existing differences between the reasoning and no-reasoning group on this measure was controlled. A strategy x phase interaction was not obtained, ($F(1, 31) = .93, p > .34$).

A strategy (reasons vs. no reasons) x phase (immediate vs. delayed) interaction for noncompliance was predicted. It was expected that individuals in the reasoning condition would display similar rates of toy contact, leaving the area, and touching forbidden objects across phases while individuals in the no-reasoning condition would display different rates of those behaviors across phases. Specifically, it was predicted that rates

of noncompliance between groups would be similar in the immediate phase followed by a significant increase in non-compliance in the no-reasoning condition during the delayed phase. A strategy x phase interaction was not obtained for toy contact, ($F(1, 31) = .16, p >.69$). A strategy x phase interaction was not obtained for leaving the area, ($F(1, 31) = .25, p >.61$). A strategy x phase interaction was obtained for touching forbidden objects, ($F(1, 31) = 4.81, p <.04$).

To further examine the factors contributing to the strategy x phase interaction for noncompliance, simple effects analyses were conducted. Individuals not receiving reasons had a mean percentage of 14.30 for touching forbidden objects in the immediate phase, and a mean percentage of 16.3 for touching forbidden objects in the delayed phase. Simple effects analyses revealed that there was not a significant change across phases in rates of touching forbidden objects for children in the no reasoning condition, ($F(1, 31) = 0.13, p >.71$). Individuals receiving reasons had a mean percentage of 7.46 for touching forbidden objects in the immediate phase, and a mean percentage of 27.50 in the delayed phase. Simple effects analyses revealed that there was a significant change across phases in rates of touching forbidden objects for individuals in the reasoning condition, ($F(1, 31) = 10.69, p <.001$). Therefore, the strategy x phase interaction for noncompliance was the result of individuals in the no reasoning condition displaying similar rates of touching forbidden objects across phases while individuals in the reasoning condition displayed a significant increase in their rates of touching forbidden objects in the delayed phase compared to the immediate phase.

No predictions were made regarding a task x phase interaction. No predictions were made regarding a strategy x task x phase interaction. These analyses were

conducted to explore the effects of reasoning, task, and phase on these child behaviors.

Although no predictions were made regarding the child soliciting maternal attention, a strategy (reasons vs. no reasons) x task (picking up vs. utensil sorting) interaction was obtained, ($F(1, 31) = 5.06, p < .03$). During the utensil sorting task, children not receiving reasons had higher rates of soliciting attention than children receiving reasons.

Although no predictions were made regarding child negative affect, a main effect of phase on negative affect was obtained, ($F(1, 31) = 5.83, p < .02$). Overall, children displayed higher rates of negative affect during the immediate phase than the delayed phase.

Discussion

The present study was designed to examine the effects of reasoning on child behavior during both novel and familiar tasks, and across immediate and delayed phases. The manipulation checks analyses confirmed that the experimental controls and manipulations were appropriately implemented. During the free play phase, designed to be highly nurturant for all participants, rates of praise and interaction did not differ between groups. During the task phases the reasoning strategy was successfully implemented between groups, while all other factors were held constant across participants. The delayed phase was successfully implemented, as rates of mother-child interactions across participants were significantly reduced.

Novel vs. Familiar Tasks

Compliance

It was expected that rates of compliance would vary as a function of reasoning across tasks. Reasoning was expected to produce higher rates of compliance during a novel task as compared to no-reasoning, and reasoning was not expected to produce higher rates of compliance than no-reasoning in a familiar task. The results indicated that compliance did vary across tasks with a weaker effect of reasoning compared to no-reasoning in familiar situations and a stronger effect of reasoning compared to no-reasoning in novel situations. Although this pattern was found, the rates of compliance within a single task did not differ significantly by reasoning. Therefore, while the pattern of compliance across tasks differed for reasoning vs. no reasoning, overall rates of compliance were not significantly different for the two groups on either task. Thus, the hypothesis that rates of compliance would differ between groups during the novel task was not supported.

The results indicate that using reasons in combination with directives does not result in significantly different rates of compliance. Previous studies that have addressed the effect of reasoning on compliance have suggested that 1) reasoning increases compliance (Kuczynski, 1984; Clark, 1996), 2) reasoning decreases compliance (Lytton & Zwirner, 1975), and 3) reasoning has no effect on compliance (Chapman & Zahn-Waxler, 1982). Inconsistencies of the present findings with previous studies, both those that found reasoning to be effective and those that found reasoning to be deleterious in gaining compliance, could be attributable to several differences across the studies.

The differences could be related to age of participants. None of the above-named studies included subjects in the age range used in the present study, 32 to 45 months. Kuczynski (1984) found that the use of reasoning increased compliance in four-year-olds, as did Clark (1996) with 18- to 30-month-olds. Lytton and Zwirner (1975) reported that using reasons decreased rates of compliance in 2 1/2-year-olds and Chapman and Zahn-Waxler (1982) reported that reasoning had no effect on the rates of compliance in 10- to 20-month-old children. Given the discrepant findings, studies conducted in the future should include a representative group of participants across the age ranges listed above.

As stated earlier, the environments in which these studies were conducted differed greatly. One of the goals of this study was to include a task similar to those that occurred in naturalistic observations which found that using reasons decreased rates of compliance (Lytton & Zwirner, 1975). A toy clean-up task was included because such an activity is likely to occur in the home environment. During this familiar task results indicated that, although rates of compliance were lower for individuals receiving reasons as compared to individuals not receiving reasons, the difference was not significant. Therefore, using reasons in addition to directives does not appear to significantly decrease compliance to maternal directives. To better address the discrepancy between laboratory research findings and naturalistic research findings, future research on the effects of reasoning should be conducted in a controlled fashion in the home environment.

The utensil sorting task included in the present study was designed to closely resemble the task included in the study conducted by Kuczynski (1984). Despite the task similarity, the present study failed to replicate the finding that using reasons increased rates of compliance. Therefore, it does not appear that novelty of the situation

significantly increases the effect of reasoning on compliance. Factors other than task novelty could explain why the individuals receiving reasons in Kuczynski's (1984) study displayed higher rates of compliance than those not receiving reasons. As stated earlier, an older age group was used. In addition, the individuals that received more reasons (and were more compliant) also received a higher degree of nurturance from their mothers. Clark (1996) found that reasoning increased compliance only when combined with high nurturance. In the present study nurturance was kept high across all groups. Therefore, the increased rates of compliance in Kuczynski's (1984) study could be all or partially due to increased nurturance rather than increased reasoning.

Clark (1996) conducted a controlled laboratory experiment in which the effects of reasons and nurturance on compliance were examined. Results indicated that individuals in the high nurturance condition receiving reasons displayed greater rates of compliance than individuals in the same condition not receiving reasons. The results of the present study failed to replicate those findings. In addition to employing different age groups, the two studies differed in the behavior the child was directed to perform. In Clark's (1996) study, the children were not given a specific task to complete but were told only to play with toys. Thus, the discrepant findings may be due to qualitative differences in what the children were being directed to do (play with toys vs. pick up the toys/sort the utensils). The discrepancy between the results in the present study and those reported by Clark (1996) may be a function of differential willingness to comply based on activity.

Noncompliance

It was expected that rates of noncompliance would be affected by whether or not the individual received reasons and that the effectiveness of the reasons would vary

across tasks. Although no previous research including novel tasks and measures of noncompliance has been conducted, it was hypothesized that rates of noncompliance would be lower as a function of their increased rates of compliance (utensil sorting). Rates of noncompliance did not differ across task as a function of reasoning. However, given that the hypothesis regarding increased rates of compliance was not supported, it follows that rates of noncompliance would not be affected either.

Immediate vs. Delayed Phases

The effect of reasoning of child compliance and noncompliance across situations in which mother was present (immediate phase) and absent (delayed phase) was also examined. It was expected that rates of compliance and noncompliance across phases would be affected by the use of reasoning. It has been suggested that using inductive techniques, such as reasoning, leads to internalization of maternal requests (Hoffman, 1975; Kuczynski, 1984). Such internalization is evident in situations where the child is left to govern his/her behavior in the absence of a caregiver. Therefore, differences in rates of compliance and noncompliance between groups were expected during the delayed phase when the mother was unavailable because of internalization. The hypothesis that during the delayed phase individuals who had received reasons in the immediate phase would display higher rates of compliance than individuals who had not received reasons was not supported. The hypothesis that during the delayed phase individuals who had received reasons in the immediate phase would display lower rates of noncompliance than individuals who had not received reasons was not supported. There was no difference in the rates of compliance between groups during the delayed phase. Therefore, compliance in the absence of the mother was not affected by reasoning.

Individuals in the reasoning groups displayed greater noncompliance in the delayed phase as compared to the immediate phase while rates of noncompliance in the no reasoning groups were relatively stable across phases. Therefore, using reasoning actually led to increased noncompliance compared to no reasoning in situations where the mother was unavailable to direct the child's behavior. These findings are contrary to what would be expected based on previous research (Clark, 1996; Kuczynski, 1984).

Kuczynski (1984) found that when the mother left the child alone to complete a utensil sorting task, those who had received reasoning were more compliant than those who did not receive reasoning. The present study's inability to replicate those findings could be due to several factors. First, as stated earlier, the group receiving more reasons also received higher nurturance. Clark (1996) found that individuals receiving reasons were more compliant in mother's absence only if they had received high levels of nurturance. The present study held nurturance high across all groups. Therefore, the increased rates of compliance in absence of maternal supervision reported by Kuczynski (1996) cannot definitively be attributed to the effects of reasons. Second, Kuczynski (1984) did not use a forbidden objects paradigm. Thus, participants in Kuczynski's study did not have the added distraction of forbidden objects. It is possible that the distraction and temptation of the forbidden objects overshadowed the effect of reasoning in the present study.

However, Clark (1996) employed a forbidden objects paradigm and found that individuals who had received reasons were both more compliant and touched significantly fewer forbidden objects in mother's absence than those who did not receive reasons. There are several possible explanations for the discrepancy between those

results and the results reported in the present study.

There are differences in the design of the present study and that used by Clark (1996). As mentioned earlier, the participants in Clark's study were not required to complete a task but were provided a box of toys with which they were encouraged to play. The forbidden objects may not have been as tempting to the children given that the alternative was to play rather than engage in a boring task. Also different was the manner in which the delayed phase was implemented. Clark has mothers sit behind a curtain whereas mothers in the present study sat at a table with their backs to the child. Clark reported that although rates of touching forbidden objects decreased, rates of solicitation for attention increased significantly in children in the reasoning condition. It is not clear why reasoning resulted in increased rates of solicitation for attention for this group. Therefore, rates of touching forbidden objects may have decreased because children were busy trying to get their mother's attention or were anxious or curious about what was behind the curtain. Therefore the decrease in rates of touching forbidden objects when the mother was absent cannot definitively be attributed to the effects of reasoning.

The significant increase in noncompliance by individuals receiving reasons indicates that in situations that 1) require compliance and 2) provide tempting opportunities to non-comply, reasons are not effective in gaining compliance and increase the likelihood that noncompliance will occur. The finding that in unsupervised, tempting situations the use of reasons led to increased levels of non-compliance is better understood when literature describing the development of self-regulation is considered.

Self-regulation, as defined by Kopp (1982), includes the ability to "postpone acting upon a desired object or goal, and to generate socially approved behavior in the

absence of external monitors” and often develops late in the third year. Given that the majority of the sample was younger than 36 months, it is likely that the group of participants used would be pre-self-regulatory, and better described as having developed self-control. Self-control develops in the stage preceding self-regulation and is characterized by having “limited capacity for delay and waiting” (p.207). Additionally, in prohibitive situations in which strong stimuli (e.g. forbidden objects) are present they “become heedless of rules or exhortations” and compliance is “more firmly tied to levels of pleasure than to reasoned logic” (p.208). These characteristics suggest the need for parenting techniques that will influence and strengthen the ability of children to control their behavior. The success with which various techniques facilitate self-control is most evident in the absence of parental supervision.

The techniques parents use in an attempt to influence the behavior of their children will often elicit situation-specific responses from their children. Kuczynski et. al. (1996) noted that explanations may lead the child to believe that the parent’s request is subject to negotiation. The use of reasons has been also found to elicit higher rates of self-assertion (i.e. saying “no” response to parental directives) (Crockenberg & Litman, 1990). Therefore, using reasons to supplement directives may make prohibitions less potent. Complicating the issue further is the finding that children in this stage also have limited memory capabilities (Kopp, 1982). Reasons may reduce the effectiveness of directives by making the prohibitions less salient in the presence of tempting stimuli.

Summary and Conclusions

Several conclusions regarding the effectiveness of reasons can be drawn from the findings of the present study. First, using reasons does not appear to be exceptionally

more effective than not using reasons as measured by the tasks in the present study. Although a pattern emerged suggesting reasons are more effective in novel situations as compared to familiar situations, using reasons did not significantly alter child compliance in either situation. However, it is possible that the pattern of effects observed in the present study would be more apparent with children 1) in a later developmental period and/or 2) in different task situations or environments. Second, using reasons does not increase compliance in the absence of maternal supervision. Giving children reasons for engaging in a behavior does not increase the likelihood that they will persist in the absence of parental supervision. Finally, in situations that provide a challenge to children's self-control, using reasons increases rates of noncompliance in the absence of parental supervision. In such situations parents need to facilitate their child's self-control by providing simple, clear, and firm directives (e.g. Don't touch. Keep your hands off.) as opposed to directives that include reasons (e.g. Don't touch because it breaks very easily.). The latter directive may be more likely to be experienced by the child as less absolute and may be perceived as negotiable.

The limitations of the present study suggest several directions for future research. The age group used included children between the ages of 32- to 45-months. Because discrepancies exist between the findings of the present study and those of studies using both older and younger age groups, future research should include participants of varied ages.

The inability of the present study to replicate the findings of previous research, specifically that of Lytton and Zwirner (1975), based on 136 participants, and Kuczynski (1984), based on 64 participants, may be the result of an inadequate sample size. The

results indicated that during the familiar task (toy clean-up) children receiving reasons had a lower mean rate of compliance than children not receiving reasons and during the novel task (utensil sorting) children receiving reasons had a higher mean rate of compliance than children not receiving reasons. Keeping in mind that Lytton and Zvirner's study was conducted under familiar circumstances (uncontrolled home observation) and Kuczynski's study was conducted under novel circumstances (utensil sorting in the lab) these differences are consistent with what would be expected. However, as stated earlier these differences are not statistically significant. Given that the pattern of results is consistent with previous findings, the lack of significance could be solely attributable to an insufficient sample size. Therefore, future attempts to replicate the findings described above should include a larger sample size.

Finally, the present study did not examine the relationship between reasoning and individual child characteristics. Kochanska, Murray, Jacques, Koenig, and Vandegest (1996) suggest that individual child temperaments significantly affect self-regulation and may moderate the impact of socialization (i.e. whether parental directives are internalized). The effectiveness of reasoning as a parenting strategy may be beneficial for children of certain temperaments whereas simple directives and prohibitions may be more beneficial for others. Currently, the relationship between temperament and socialization is poorly understood. It may be that individual differences in temperament are the source of some of the discrepant findings regarding the effectiveness of reasoning.

Although previous research has reported findings that are contrary to some of the conclusions derived from the results of the present study, their validity is strengthened by several factors. First, the present study is one of the only studies to examine the effects of

reasoning under highly controlled situations. Previous studies reporting on the effectiveness of reasoning have failed to control for other factors and additional parenting techniques that likely influenced the dependent measures (Lytton & Zwirner, 1979; Kuczynski, 1984). Second, the present study included tasks of varied familiarity. Previous studies have relied on home observation (Lytton & Zwirner, 1979), novel tasks conducted in the lab (Kuczynski, 1984), or included no specific task at all (Clark, 1996). Third, the present study included both proactive and prohibitive situations which allowed the differential effects of reasoning to be examined. Finally, the present study measured child compliance both in the mother's presence and absence.

In addition to the areas of research suggested by the findings of the present study described above, there are further areas to be explored. To better address the discrepancies between results found in naturalistic vs. laboratory settings, future research should attempt to measure compliance both in the home and in the lab. Research examining the use of reasons in the home setting under controlled situations would also enhance the body of literature addressing the effectiveness of reasoning. It is possible that children in different developmental periods would be differentially affected by reasons based on their content. Therefore, research examining the specific content of reasons, their developmental appropriateness, and their relative effectiveness is also needed. Finally, although challenging, controlled and systematic research is needed in all the areas described to yield valid and meaningful conclusions about the effective and appropriate use of reasoning.

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APPENDIX A

TABLES

Table 1

Mean Rates of Maternal Behaviors During Toy-Clean Up

Behavior	<u>Immediate Phase</u>		<u>Delayed Phase</u>	
	Means	SD	Mean	SD
Non-Directives				
Interaction	30.83	18.20	10.92	18.96
Praise	34.10	15.34	0.63	2.37
Modeling	18.94	12.78	0.22	1.16
Prompt	28.42	14.68	3.67	4.51
Physical Prompt	2.90	6.99	0.41	2.12
Directives				
With Reasons				
Toy Clean-Up	16.26	19.75	2.33	4.51
Forbidden objects/				
leaving the area	7.71	10.99	0.00	0.00
Other	0.00	0.00	0.00	0.00
Without Reasons				
Toy Clean-Up	38.03	22.33	2.37	4.27
Forbidden objects/				
leaving the area	7.74	10.56	0.00	0.00
Other	1.16	2.41	1.07	2.76

Table 2

Mean Rates of Maternal Behaviors During Utensil Sorting

Behavior	<u>Immediate Phase</u>		<u>Delayed Phase</u>	
	Means	SD	Mean	SD
Non-Directives				
Interaction	30.94	23.73	8.57	5.75
Praise	36.03	17.33	2.27	8.15
Modeling	32.26	17.94	2.50	4.39
Prompt	23.74	9.92	1.40	2.58
Physical Prompt	2.16	6.40	0.37	2.01
Directives				
With Reasons				
Utensil Sorting	8.71	13.04	0.30	0.65
Forbidden objects/				
leaving the area	5.00	11.28	0.57	2.25
Other	0.36	1.98	0.00	0.00
Without Reasons				
Utensil Sorting	44.42	19.67	4.03	5.10
Forbidden objects/				
leaving the area	6.67	9.46	0.00	0.00
Other	3.77	4.54	1.20	2.44

Table 3

Main Effects of Strategy on General Maternal Behaviors

<u>Behavior</u>	<u>MS</u>	<u>df</u>	<u>F</u>	<u>Sig of F</u>
Non-Directives				
Interaction	1525.10	1	2.36	.14
Praise	90.04	1	0.40	.53
Modeling	0.82	1	0.01	.94
Prompt	175.84	1	1.84	.19
Physical Prompt	3.11	1	0.06	.80
Directives				
With Reasons				
Forbidden objects/ leaving the area	1142.61	1	30.45	.00**
Other	0.90	1	0.79	.38
Without Reasons				
Forbidden objects/ leaving the area	650.42	1	17.42	.00**
Other	0.57	1	0.07	.79

Note. * $p < .05$, ** $p < .01$

Table 4

Main Effects of Phase on General Maternal Behaviors

<u>Behavior</u>	<u>MS</u>	<u>df</u>	<u>F</u>	<u>Sig of F</u>
Non-Directives				
Interaction	882.94	1	51.72	.00**
Praise	27143.36	1	120.18	.00**
Modeling	17556.00	1	133.13	.00**
Prompt	16247.12	1	282.81	.00**
Physical Prompt	128.09	1	7.03	.01**
Directives				
With Reasons				
Forbidden objects/ leaving the area	1026.44	1	36.63	.00**
Other	0.90	1	00.79	.38
Without Reasons				
Forbidden objects/ leaving the area	1593.07	1	42.68	.00**
Other	61.68	1	4.40	.04*

Note. * $p < .05$, ** $p < .01$

Table 5

Main Effects of Strategy on Task Specific Maternal Behaviors

<u>Behavior</u>	<u>MS</u>	<u>df</u>	<u>F</u>	<u>Sig of F</u>
With Reasons				
Toy Clean-Up	6211.20	1	105.93	.00**
Utensil Sorting	1859.27	1	29.55	.00**
Without Reasons				
Toy Clean-Up	3332.05	1	27.07	.00**
Utensil Sorting	627.27	1	3.20	.08

Note. * $p < .05$, ** $p < .01$

Table 6

Main Effects of Phase on Task Specific Maternal Behaviors

<u>Behavior</u>	<u>MS</u>	<u>df</u>	<u>F</u>	<u>Sig of F</u>
With Reasons				
Toy Clean-Up	3557.04	1	110.15	.00**
Utensil Sorting	707.27	1	12.68	.00**
Without Reasons				
Toy Clean-Up	18179.41	1	108.57	.00**
Utensil Sorting	25379.27	1	137.68	.00**

Note. * $p < .05$, ** $p < .01$

APPENDIX B

FIGURES

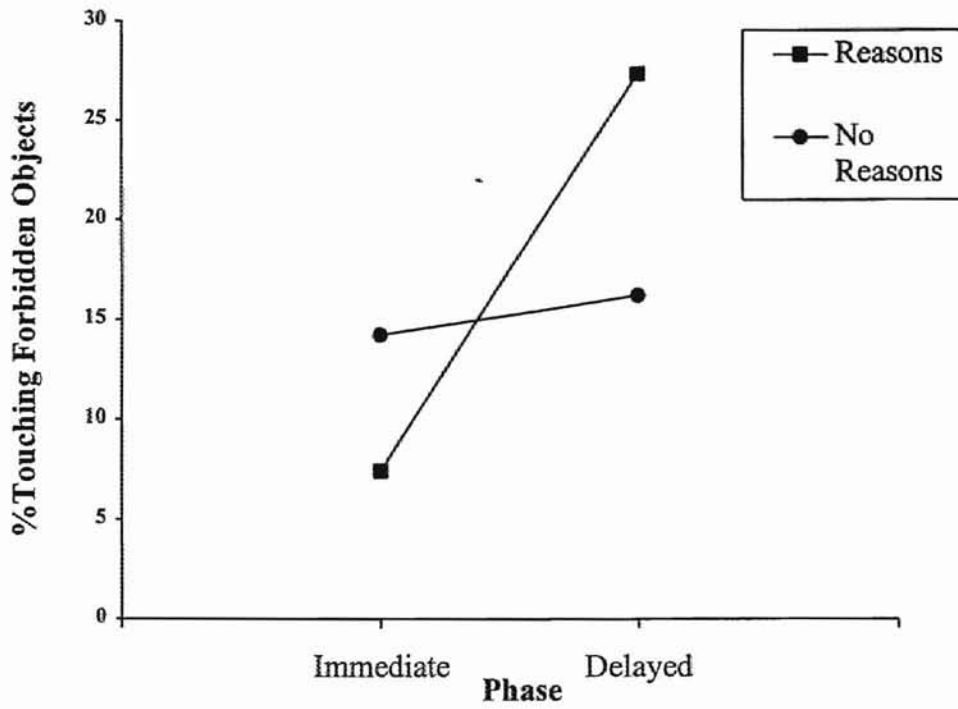


Figure 1. Strategy x Phase interaction for Touching Forbidden Objects

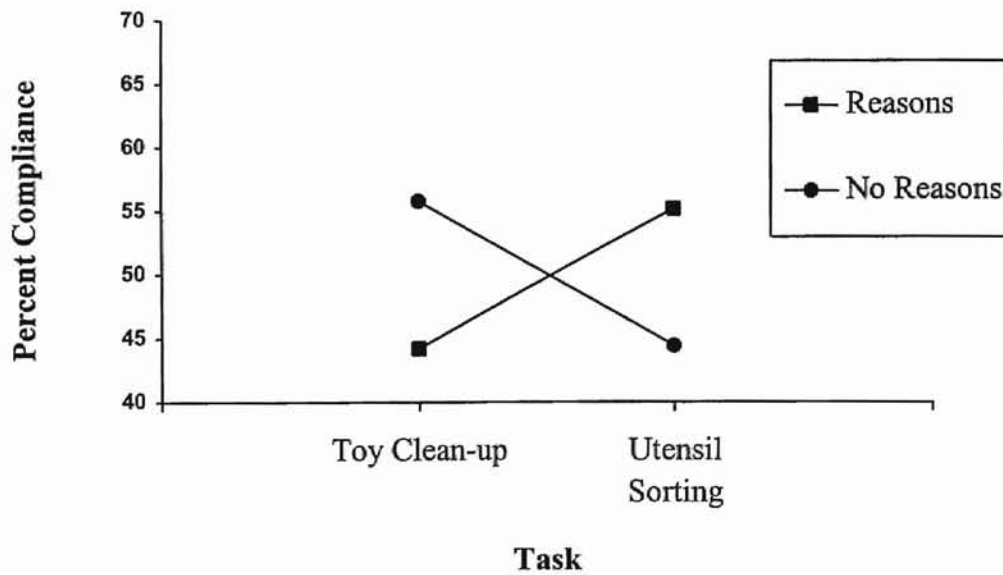


Figure 2. Strategy x Task interaction for Compliance.

APPENDIX C
CHILD BEHAVIOR CHECKLIST

CHILD BEHAVIOR CHECKLIST FOR AGES 2-3

For office use only
ID # _____

CHILD'S FULL NAME			First	Middle	Last	PARENTS' USUAL TYPE OF WORK, even if not working now (<i>Please be specific—for example, auto mechanic, high school teacher, homemaker, laborer, lathe operator, shoe salesman, army sergeant.</i>)
GENDER		AGE	ETHNIC GROUP OR RACE			
<input type="checkbox"/> Boy <input type="checkbox"/> Girl						MOTHER'S TYPE OF WORK: _____
TODAY'S DATE			CHILD'S BIRTHDATE			THIS FORM FILLED OUT BY:
Mo. _____	Date _____	Yr. _____	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 print additional comments beside each item and in the space provided on page 2.

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

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PAGE 1

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

PLEASE BE SURE YOU HAVE ANSWERED ALL ITEMS.

UNDERLINE ANY YOU ARE CONCERNED ABOUT

Does the child have any illness or disability (either physical or mental)? No Yes—Please describe:

What concerns you most about the child?

Please describe the best things about the child:

APPENDIX D
EYEBERG CHILD BEHAVIOR INVENTORY

ID# _____

Instructions: Below are a series of phrases that describe children's behavior. Please (1) circle the number describing how often the behavior currently occurs with your child, and (2) circle "yes" or "no" to indicate whether the behavior is currently a problem for you.

	How often does this occur with your child?							Is this a <u>problem for you?</u>	
	<u>Never</u>	<u>Seldom</u>	<u>Sometimes</u>	<u>Often</u>	<u>Always</u>		yes	no	
1. Dawdles in getting dressed	1	2	3	4	5	6	7	yes	no
2. Dawdles or lingers at mealtimes	1	2	3	4	5	6	7	yes	no
3. Has poor table manners	1	2	3	4	5	6	7	yes	no
4. Refuses to eat food presented	1	2	3	4	5	6	7	yes	no
5. Refuses to do chores when asked	1	2	3	4	5	6	7	yes	no
6. Slow in getting ready for bed	1	2	3	4	5	6	7	yes	no
7. Refuses to go to bed on time	1	2	3	4	5	6	7	yes	no
8. Does not obey house rules on own	1	2	3	4	5	6	7	yes	no
9. Refuses to obey until threatened with punishment	1	2	3	4	5	6	7	yes	no
10. Acts defiant when told to do something	1	2	3	4	5	6	7	yes	no
11. Argues with parents about rules	1	2	3	4	5	6	7	yes	no
12. Gets angry when doesn't get his/her own way	1	2	3	4	5	6	7	yes	no

	How often does this occur with your child?							Is this a problem for you?	
	<u>Never</u>	<u>Seldom</u>	<u>Sometimes</u>	<u>Often</u>	<u>Always</u>			<u>yes</u>	<u>no</u>
13. Has temper tantrums	1	2	3	4	5	6	7	yes	no
14. Sasses adults	1	2	3	4	5	6	7	yes	no
15. Whines	1	2	3	4	5	6	7	yes	no
16. Cries easily	1	2	3	4	5	6	7	yes	no
17. Yells or screams	1	2	3	4	5	6	7	yes	no
18. Hits parents	1	2	3	4	5	6	7	yes	no
19. Destroys toys and other objects	1	2	3	4	5	6	7	yes	no
20. Is careless with toys and other objects	1	2	3	4	5	6	7	yes	no
21. Steals	1	2	3	4	5	6	7	yes	no
22. Lies	1	2	3	4	5	6	7	yes	no
23. Teases or provokes other children	1	2	3	4	5	6	7	yes	no
24. Verbally fights with friends his/her own age	1	2	3	4	5	6	7	yes	no
25. Verbally fights with sisters and brothers	1	2	3	4	5	6	7	yes	no

	How often does this occur with your child?							Is this a <u>problem for you?</u>	
	<u>Never</u>	<u>Seldom</u>	<u>Sometimes</u>	<u>Often</u>	<u>Always</u>			yes	no
26. Physically fights with friends his/her own age	1	2	3	4	5	6	7	yes	no
27. Physically fights with sisters and brothers	1	2	3	4	5	6	7	yes	no
28. Constantly seeks attention	1	2	3	4	5	6	7	yes	no
29. Interrupts	1	2	3	4	5	6	7	yes	no
30. Is easily distracted	1	2	3	4	5	6	7	yes	no
31. Has short attention span	1	2	3	4	5	6	7	yes	no
32. Fails to finish tasks or projects	1	2	3	4	5	6	7	yes	no
33. Has difficulty entertaining himself/herself alone	1	2	3	4	5	6	7	yes	no
34. Has difficulty concentrating on one thing	1	2	3	4	5	6	7	yes	no
35. Is overactive or restless	1	2	3	4	5	6	7	yes	no
36. Wets the bed	1	2	3	4	5	6	7	yes	no

APPENDIX E
PARENTING SCALE

Parenting Scale

Child's Name: _____

Today's Date: _____

Sex: Boy Girl

Child's Birthdate: _____

At one time or another, all children misbehave or do things that could be harmful, that are "wrong", or that parents don't like. Examples include:

hitting someone

whining

throwing food

forgetting homework

not picking up toys

lying

having a tantrum

refusing to go to bed

wanting a cookie before dinner

running into the street

arguing back

coming home late

Parents have many different ways or styles of dealing with these types of problems. Below are items that describe some styles of parenting.

For each item, fill in the circle that best describes your style of parenting during the past two months with the child indicated above.

SAMPLE ITEM

At meal time . . .

I let my child decide
how much to eat.

0--0----0--0--0--0--0

I decide how much
my child eats.

1. When my child misbehaves . . .

I do something
right away.

0--0--0--0--0--0--0--0

I do something about it
later.

2. Before I do something about a problem . . .

I give my child several
reminders or warnings.

0--0--0--0--0--0--0--0

I use only one reminder
or warning.

3. When I'm upset or under stress . . .

I am picky and on my
child's back.

0--0--0--0--0--0--0--0

I am no more picky
than usual.

4. When I tell my child not to do something . . .

I say very little.

0--0--0--0--0--0--0--0

I say alot.

5. When my child pesters me . . .
 I can ignore the pestering. 0--0--0--0--0--0--0
 I can't ignore the pestering.
6. When my child misbehaves . . .
 I usually get into a long argument with my child. 0--0--0--0--0--0--0
 I don't get into an argument.
7. I threaten to do things that . . .
 I am sure I can carry out. 0--0--0--0--0--0--0
 I know I won't actually do.
8. I am the kind of parent that . . .
 sets limits on what my child is allowed to do. 0--0--0--0--0--0--0
 lets my child do whatever he or she wants.
9. When my child misbehaves . . .
 I give my child a long lecture. 0--0--0--0--0--0--0
 I keep my talks short and to the point.
10. When my child misbehaves . . .
 I raise my voice or yell. 0--0--0--0--0--0--0
 I speak to my child calmly.
11. If saying no doesn't work right away . . .
 I take some other kind of action. 0--0--0--0--0--0--0
 I keep talking and try to get through to my child.
12. When I want my child to stop doing something . . .
 I firmly tell my child to stop. 0--0--0--0--0--0--0
 I coax or beg my child to stop.
13. When my child is out of my sight . . .
 I often don't know what my child is doing. 0--0--0--0--0--0--0
 I always have a good idea of what my child is doing.
14. After there's been a problem with my child . . .
 I often hold a grudge. 0--0--0--0--0--0--0
 things get back to normal quickly.

15. **When we're not at home . . .**
 I handle my child the way I do at home. 0--0--0--0--0--0--0 I let my child get away with alot more.
16. **When my child does something I don't like . . .**
 I do something about it every time it happens. 0--0--0--0--0--0--0 I often let it go.
17. **When there's a problem with my child . . .**
 things build up and I do things I don't mean to do. 0--0--0--0--0--0--0 things don't get out of hand.
18. **When my child misbehaves, I spank, slap, grab, or hit my child . . .**
 never or rarely. 0--0--0--0--0--0--0 most of the time.
19. **When my child doesn't do what I ask . . .**
 I often let it go or end up doing it myself. 0--0--0--0--0--0--0 I take some other action.
20. **When I give a fair threat or warning . . .**
 I often don't carry it out. 0--0--0--0--0--0--0 I always do what I said.
21. **If saying no doesn't work . . .**
 I take some other kind of action. 0--0--0--0--0--0--0 I offer my child something nice so he/she will behave.
22. **When my child misbehaves . . .**
 I handle it without getting upset. 0--0--0--0--0--0--0 I get so frustrated or angry that my child can see I'm upset.
23. **When my child misbehaves . . .**
 I make my child tell me why he/she did it. 0--0--0--0--0--0--0 I say "No" or take some other action.
24. **If my child misbehaves and then acts sorry . . .**
 I handle the problem like I usually would. 0--0--0--0--0--0--0 I let it go that time.

25. When my child misbehaves . . .
- | | | |
|-------------------------------------|---------------------|-----------------------------------|
| I rarely use bad language or curse. | 0--0--0--0--0--0--0 | I almost always use bad language. |
|-------------------------------------|---------------------|-----------------------------------|
26. When I say my child can't do something . . .
- | | | |
|------------------------------|---------------------|-------------------------|
| I let my child do it anyway. | 0--0--0--0--0--0--0 | I stick to what I said. |
|------------------------------|---------------------|-------------------------|
27. When I have to handle a problem . . .
- | | | |
|-------------------------------------|---------------------|------------------------|
| I tell my child I'm sorry about it. | 0--0--0--0--0--0--0 | I don't say I'm sorry. |
|-------------------------------------|---------------------|------------------------|
28. When my child does something I don't like, I insult my child, say mean things, or call my child names . . .
- | | | |
|------------------|---------------------|-------------------|
| never or rarely. | 0--0--0--0--0--0--0 | most of the time. |
|------------------|---------------------|-------------------|
29. If my child talks back or complains when I handle a problem . . .
- | | | |
|--|---------------------|---|
| I ignore the complaining and stick to what I said. | 0--0--0--0--0--0--0 | I give my child a talk about not complaining. |
|--|---------------------|---|
30. If my child gets upset when I say "No", . . .
- | | | |
|--------------------------------------|---------------------|-------------------------|
| I back down and give in to my child. | 0--0--0--0--0--0--0 | I stick to what I said. |
|--------------------------------------|---------------------|-------------------------|

APPENDIX F
DEMOGRAPHICS QUESTIONNAIRE

Subj# _____

Demographics Questionnaire

Please complete this confidential questionnaire. An answer to every question is requested.

1. Your relationship to the child: Mother _____
Father _____
Other _____
2. Your sex: Female _____ Male _____
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:
Less than \$800 _____ \$800-\$1000 _____ \$1001-\$1500 _____
\$1501-\$2000 _____ \$2001-\$2500 _____ over \$2500 _____
9. If married, please provide the following information about your spouse:
 - a. his/her relationship to the child: _____
 - b. his/her age: _____
 - c. his/her race: _____
 - d. his/her 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. Does the child have siblings? Sex _____ Age _____
Sex _____ Age _____
Sex _____ Age _____

11. Please provide the following information about your child:

b. sex: female _____ male _____

c. race: _____

12. Developmental milestones:

At what age did your child:

a. sit independently _____

b. crawl _____

c. walk independently _____

13. What is your child's primary means of getting around?

14. Any difficulty riding a trike or bike?

15. Has your child ever been considered clumsy?

16. Does your child enjoy playground equipment?

17. Does your child seem fearful of spaces (going up and down stairs, riding a teeter totter)?

18. Does your child seem weaker or stronger than normal?

19. Does your child have difficulty using tools (pencil, fork)?

20. Which hand does your child favor most often?

21. Do you consider your child's attention span to be good?

22. Is your child on any medication at this time?
If so, please list:

APPENDIX G

FORMS

INFORMED CONSENT STATEMENT

Project Title: The Effects of Parenting Strategies on Child Compliance

Investigators: Maureen Sullivan, Ph.D., Ann Munn, B.A.

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

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 four questionnaires. One questionnaire will ask for demographic information such as number and age of household family members, income, occupation, etc. One questionnaire will ask about typical parenting strategies you use with your child. Two questionnaires will assess your child's typical behaviors and behavior problems.

2. You will participate in a videotaped procedure in which you and your child will engage in activities such as playing with toys, cleaning up toys, and sorting objects into different containers. There will also be some tempting objects in the room which are not to be touched or played with by your child. You will be asked to give your child directions regarding cleaning up and sorting, praise for appropriate behaviors, and reprimands, such as "no-no don't touch". The situations involving forbidden objects is designed to elicit misbehavior from young children so that we may observe discipline strategies.

C. Duration of participation: Your participation is completely voluntary and may be ended at any point. This study is designed to last approximately 1.5 hours.

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 assistants. This information will be saved as long as it is scientifically useful; typically, such information is kept for five years after publication of the results. Results from this study may be presented at professional meetings or in publications. You and your child will not be identified individually; we will be looking at the group as a whole.

Confidentiality will be maintained except under specified conditions required by law. For example, current Oklahoma law requires that any ongoing child abuse (including sexual abuse, physical abuse, and neglect) of a minor must be reported to state officials. In addition, if an individual reports that he/she intends to harm himself or others, legal and professional standards require that the individual must be kept from harm, even if confidentiality must be broken. Finally, confidentiality could be

broken if materials from this study were subpoenaed by a court of law.

E. Benefits of participation: If you are interested, we will send you a copy of the results of the study when it is finished.

F. Risks of participation: 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 uncomfortable or too upset, you will be given the opportunity to stop the procedure at that point with absolutely no penalty. You may also choose to stop at any time, even without our asking you. In completing the questionnaires, some mothers may become aware that their child's behavior is not typical for his or her age. You will be offered several names and phone numbers of agencies that work with parents and children should you desire psychological services to assess or treat developmental or behavioral problems.

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 benefits of my participation. I also understand the following statement:

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 participation in the study and/or request information about the results of the study: Maureen Sullivan, Ph.D., 215 North Murray Hall, Dept. of Psychology, Oklahoma State University, Stillwater, OK 74078-0250, (405) 744-6027. I may also contact Gay Clarkson, Institutional Review Board, 305 Whitehurst, OSU, (405) 744-5700. I have read and fully understand this consent form. I sign it freely and voluntarily. A copy of this form will be 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 that the participant sign it.

Signature of Researcher

Date

11/11/2020
11/11/2020
11/11/2020

APPENDIX H
INSTITUTIONAL REVIEW BOARD
APPROVAL FORM

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD
HUMAN SUBJECTS REVIEW

Date: 05-13-97

IRB#: AS-97-067

Proposal Title: THE EFFECTS OF REASONING ON COMPLIANCE

Principal Investigator(s): Maureen A. Sullivan, Ann E. Munn

Reviewed and Processed as: Full Board

Approval Status Recommended by Reviewer(s): Approved

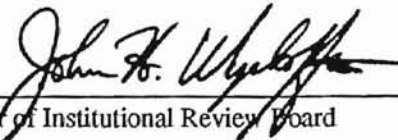
ALL APPROVALS MAY BE SUBJECT TO REVIEW BY FULL INSTITUTIONAL REVIEW BOARD AT NEXT MEETING, AS WELL AS ARE SUBJECT TO MONITORING AT ANY TIME DURING THE APPROVAL PERIOD.

APPROVAL STATUS PERIOD VALID FOR DATA COLLECTION FOR A ONE CALENDAR YEAR PERIOD AFTER WHICH A CONTINUATION OR RENEWAL REQUEST IS REQUIRED TO BE SUBMITTED FOR BOARD APPROVAL.

ANY MODIFICATIONS TO APPROVED PROJECT MUST ALSO BE SUBMITTED FOR APPROVAL.

Comments, Modifications/Conditions for Approval or Disapproval are as follows:

Signature:



Chair of Institutional Review Board

cc: Ann E. Munn

Date: May 16, 1997

VITA

Ann E. Munn

Candidate for the Degree of

Master of Science

Thesis: THE EFFECTS OF REASONING ON COMPLIANCE IN NOVEL VS.
FAMILIAR TASKS

Major Field: Psychology

Biographical:

Personal Data: Born in Saranac Lake, New York, on August 20, 1974, the daughter of Howard and Elizabeth Munn.

Education: Received Bachelor of Arts degree in Psychology from the University of Mississippi, Oxford, Mississippi in May 1996. Completed the requirements for the Master of Science degree with a major in Psychology at Oklahoma State University in December 1996.