THE EFFECTS OF REASONING ON CHILD COMPLIANCE: A FATHER-TODDLER LABORATORY INVESTIGATION

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CHAPTER I

INTRODUCTION

Over the course of the last several decades there has been a growing body of research on the specific strategies parents use with toddlers to gain their compliance, and the relative effectiveness of those strategies. There also is a growing focus on general parenting issues in the popular media, with magazines and internet sites dedicated entirely to helping parents discipline and ultimately parent, their children.

Although added attention to parenting is certainly a positive sign, the importance of adhering to empirically validated parenting methods continues to be a concern. One method of obtaining child compliance, reasoning, has received a fair amount of attention both in research and the popular media. According to Leach (1997), parents should "always tell [their] child why he should (or shouldn't) behave in particular ways" (p.526). The empirical evidence to support the use of reasoning with young children, however, has been mixed. The aim of this study is to clarify the utility of reasoning as a means of helping toddlers comply with the requests made of them by their parents, specifically, fathers.

Aside from the specific strategies that parents might use is the issue of whether certain techniques are more or less successful when they are applied by mothers as opposed to fathers. The majority of the literature in the parenting domain has examined the interactions of mothers and children. And, while the number of father-child studies has increased somewhat over the last few decades, the proportion of mother-child studies

to father-child studies remains largely unbalanced. This discrepancy highlights the need for more studies which examine the issue of father-child interactions.

This paper will examine the effectiveness of various parenting strategies in gaining child compliance. A comprehensive literature review will precede a detailed explanation of the current investigation. First, the relevant literature on child compliance is discussed. This review will include the negative effects of noncompliance on children and parents, definitions of compliance and noncompliance, and the examination of variables that have been found to influence child compliance. These variables are divided into three categories: task and situation factors, child factors, and parent factors (including sex of parent). Second, parenting techniques that have been investigated will be addressed. These include power assertion, love withdrawal, divergence of attention, and nurturance. Third, the relevant literature on the effectiveness of reasoning will be reviewed. Next, a discussion of how children respond to discipline strategies will be reviewed. Finally, the current investigation is discussed.

CHAPTER II

REVIEW OF THE LITERATURE

Compliance

Compliance and noncompliance are issues of daily concern to parents. In fact, one of the most common problems parents face is how to effectively get their children to comply with their rules. In an extensive review of the compliance literature, Forehand (1977) reported that child noncompliance was the number one concern cited by parents of clinic referred children. He also reported evidence suggesting an association between rates of compliance during early childhood and later childhood, and possibly into adolescence. Other researchers have presented similar findings. For example, Kagan and Moss (1962) found that compliance during the 3- to 6-year-old period correlated significantly with compliance during both the 6-10 and 10-14 age ranges. Conversely, noncompliance during early childhood could be an indication of the potential for problems later on. Such findings lend support to the importance parents place on child compliance from an early age. If it is true that behavioral patterns established very early in life may be maintained into the teen years, then effectively managing children's behavior from the beginning becomes a crucial element of parenting. Not only does child noncompliance have potentially negative consequences for children, but parents may also be adversely affected.

Arnold and O'Leary (1995) found that mothers made subtle changes in their behavior in response to their child's noncompliance. These changes in maternal behavior

resulted in further noncompliance on the part of the child. The mothers also reported experiencing negative emotions associated with their child's misbehavior. Other researchers have found similar evidence of negative parental consequences resulting from child noncompliance. Patterson (1980) found that increased rates of parent-child conflict may lead to decreased self-esteem and increased doubts about one's ability to parent effectively. And there is some evidence to support the notion that children with more negative parents are more likely to be referred to the mental health clinic (Johnson & Lobitz, 1974). Thus it appears that the parent-child relationship is reciprocal, in that parent and child can each affect the other's behavior in potentially negative ways in the form of escalating coercive cycles. It therefore becomes important that parents learn to effectively manage their children's behavior, as both they and their children will benefit from the improved interactions. Before discussing the various methods of gaining child compliance, it is necessary to address the definition and operationalization of some terms.

Kochanska and Aksan (1995) characterized child compliance as a "complex phenomenon" due to the various forms that compliance may take, and the possibility that these forms are driven by the underlying motivation of each child. They pointed to the motivational elements of child compliance and noncompliance, noting that a child either feels motivated to comply with the parent's requests or to resist and reject the parent's agenda. A child is considered compliant when he or she follows a parental directive or request, changes his or her behavior to meet the demands of the parent of environment, or when he or she inhibits a response to an attractive stimulus, such as a forbidden object (Vaugh, Kopp, & Krakow, 1984). On the other hand, a child who cannot or will not engage in these behaviors is typically viewed as noncompliant. It is generally accepted

that there are two types of noncompliance: passive and active. Passive noncompliance is a failure to comply with a parental request to do something, and includes such things as playing with toys instead of picking them up, or selectively ignoring a parental request (Braungart-Reiker, Garwood, & Stifter, 1997). Active noncompliance refers to the more overt defiance toward the parent, and may include such behaviors as leaving a designated area or touching forbidden objects, or telling the parent "no!"

Compliance is sometimes operationalized as the immediate response of the child in adhering to the parent's request, and noncompliance then is viewed as a delay in child responsiveness. Researchers vary in the length of time in which a behavior must occur in order for the child to be considered compliant. Holden (1983) used a 20-second rule, whereas Williams and Forehand (1984) counted a behavior as compliant if it were produced within 5 seconds of the parental request. In both cases, if the behaviors did not occur within the defined period of time the child was said to be noncompliant. Similarly, Schaffer and Crook (1980) defined compliance as an immediate response to a parental request. These authors subdivided compliance into three parts: orientation (child directs his/her attention to a designated object or activity), contact (child establishes physical contact with the designated object), and task (the child performs specific behaviors requested by the parent). Others (McLaughlin, 1983) have used the immediacy definition similar to Schaffer and Crook, with a variation on the subdivided elements of compliance. McLaughlin referred to attention (the parent's ability to direct the child's attention toward a designated object) and action (the parent's success in getting the child to engage in a specified activity). Finally, one study by Kuczynski (1984) defined short-term compliance as adherence to a parental request or prohibition in an immediate (parent present) situation.

Internalization of parental rules is often the desired outcome of compliant behavior on the part of the child. One measure of whether the child has successfully internalized such rules is the degree to which he/she is able to perform appropriately in the absence of the parent. Kuczynski (1984) incorporated a long-term compliance component into his study, defining it as compliant behaviors to parental requests in the parent's absence or in future situations (i.e., outside of the immediate situation). Many parents are concerned with how their children behave when not under their direct supervision. Measuring child compliance under such conditions in the laboratory setting allows for a clearer picture of the child's ability to internalize and perform in accordance with parental expectations outside of their immediate view.

There appear to be several factors that influence child compliance. Studies have focused on the identification of such factors and have successfully found there to be three primary categories into which these fall. The three factors are: task factors (including proactive and prohibitive tasks, and novel and familiar tasks); child factors (including age, internalization, level of autonomy, and temperament); and parent factors (level of direct supervision of the child and various parental behaviors). The following section will address each of these factors in detail.

Task Factors

Researchers have found that whether a child complies with a request depends in part on the type of task in which the child is engaged. In general there are two types of situations, prohibitive and proactive. In a prohibitive situation the child is required to refrain from engaging in specified behaviors, such as touching a forbidden object or leaving a restricted area. In a proactive situation the child is expected to perform a defined behavior, such as sorting objects or picking up toys. Kochanska and Aksan

(1995) relabeled these tasks "don't" (prohibitive) and "do" (proactive) tasks. They found that 26- to 41-month-old children were more apt to comply with "don't" tasks than "do" tasks. Children may also be asked to perform familiar tasks (things they have done before), and novel tasks (tasks they have never, or rarely performed). In two naturalistic observational studies (Lytton, 1977; Lytton & Zwirner, 1975) and two studies involving mother-report of child behavior (Chapman & Zahn-Waxler, 1982; Zahn-Waxler & Chapman, 1982), children were involved in situations and tasks that were familiar to them. In these studies reasoning was not found to be an effective means of obtaining child compliance.

Laboratory studies have involved both novel and familiar tasks and/or situations. Kuczynski (1984) had 4-year-old children engage in a sorting task in which they had to sort forks and spoons into two separate containers, a relatively unfamiliar task. He found that children engaged in high rates of compliant behavior in this type of setting. Conversely, Munn (1999) examined between-group differences in rates of child compliance with both a novel (utensil sorting) and familiar (toy clean-up) task. She found a pattern of higher rates of compliance in the novel task than in the familiar task, but this difference was not significant. Perhaps in the studies involving familiar tasks or situations the children's familiarity with these parameters made the use of reasons obsolete, because the children already tacitly knew *why* they should comply. The extent to which a child's degree of compliance is influenced by his or her familiarity with task demands remains unclear. Although task factors do seem to influence child compliance, child factors may play an even bigger role. Child factors will be examined next.

Child Factors

Age

Significant changes in development occur during the childhood years, especially prior to age six. Thus, there may often be large discrepancies in ability between children with a seemingly small difference in age. Naturally, one would expect a school-age child to have a greater capacity to comply with parental requests than would a toddler. One way in which age may influence child compliance is in the child's ability to simply comprehend what the parent has asked of him or her. Thus, it is possible that in some cases misbehavior stems from a simple breakdown in communication. Kaler and Kopp (1990) found that children between the ages of 12 and 19 months only understood 25% percent of parental directives, whereas children of 17 to 18 months of age understood approximately 60% of parental directives. Kaler and Kopp also found that noncompliance was mildly positively correlated with age, which could be attributed to age-appropriate struggles for autonomy. Elsewhere it has been found that direct defiance and passive noncompliance peaks around age three and then declines (i.e., negative correlation) with age (Kuzcinski & Kochanska, 1990). Vaughn et al. (1984) found that children as young as eighteen months have a limited ability to delay their actions. The ability to delay one's behavior was found to increase drastically between 18 and 30 months of age. Kopp (1982) found additional support for this concept, noting that self-regulation evolves as a developmental progression from infancy to childhood, and results in the ability to monitor and modify one's behavior. It follows that age has a direct influence on the child's ability to control his or her own behavior and to internalize parental expectations, which affects compliance.

Internalization

Of significant interest to both researchers and parents is a child's ability to internalize expectations. Internalization of expectations defined as child compliance with a family rule or norm even outside the parent's supervision. When this has occurred, the parent can be relatively sure his or her child will behave appropriately when he/she is interacting with individuals outside the home (e.g., school, friends homes, etc.). Internalization of expectations can be an important protective factor for children, especially when the child is presented with difficult choices in the parent's absence. Several researchers have examined this internalization construct (Kochanska & Aksan, 1995; Kuczynski, 1984; Vaughn, et al., 1984). Internalization has positive influences on both parent and child. When a child has internalized her parent's expectations, the parent can put more trust in the child's ability to follow family rules even outside the home. Moreover, once a child is following parental expectations due to internalized motivation, the number of discipline encounters declines. Kockanska and Aksan (1995) found that children who had internalized parental expectations were more likely to be compliant than noncompliant, or than those who did not internalize parental expectations. Given that an important goal of parents is to help children become responsible, self-controlled individuals, knowing how to help children internalize and therefore act in accordance with parental expectations is of great importance.

Autonomy

Anyone who has worked with young children has experience with their developing sense of autonomy. Children in the first three years of life are constantly in the process of gaining independence from their caregivers (Belsky, Woodworth, & Crnic, 1996; Crockenberg & Litman, 1990; Vaughn, Kopp, & Krakow, 1984;). The toddler

struggling for autonomy often engages in behaviors that are contrary to parental wishes, and is thus considered noncompliant. Parents are in the difficult position of balancing the developmental inevitability of autonomy with the desire to have children who comply with certain rules. Crockenberg and Litman (1990) referred to self-assertive behaviors, such as saying "no" to an authority figure, as being characteristic of the development of autonomy. Although noncompliance and autonomy are not synonymous (Crockenberg & Litman, 1990), a child's development in this area seems to influence overall rates of compliance and noncompliance (Vaughn et al., 1984). Some researchers have gone so far as to say that noncompliance is a sign that a child has begun to develop autonomy (Braungart-Reiker, Garwood, & Stifter, 1997). The development of autonomy is considered a positive event in a child's life; however, this normal developmental milestone is sometimes accomplished only through rigorous testing of limits on the part of the child. For other parents and children, this "struggle" for autonomy is much smoother. The temperament of the individual child is one factor that has an impact on the relative ease with which the child is able to obtain autonomy from the parent.

Temperament

Temperament is a pattern of behavior, or behavioral style, which is present from birth (Buss & Plomin, 1984; Chess & Thomas, 1986). In examining the relationship of toddler compliance and noncompliance to the development of internalized conscience later in life (between eight and ten years of age), Kochanska (1991) found that child temperament might be a mediating variable for the development of conscience. He also found that child compliance early in life might be linked with internalization later on, and thus increase a child's overall level of compliance.

Kochanska et al. (1996) examined the inhibitory systems of a child's temperament in determining a child's ability to internalize family standards. Kochanska measured children's ability to inhibit a play response to certain forbidden objects in a solitary environment. In a sample of children 26 to 41 months old and 43 to 56 months old, those children who scored high on inhibitory control were more internalized when left alone with prohibited objects than those children who scored low on the measure. Of particular interest in studying child compliance is whether, and to what extent, a child's temperament interacts with the strategies employed by the parent. Braungart-Rieker et al. (1997) found that children with impulsive temperaments tended to respond negatively (e.g., with noncompliance) to maternal commands that were in conflict with the child's wishes. It is also possible that the temperament of the child might elicit certain behaviors on the part of the parent.

There is little doubt that child factors like age, internalization, autonomy, and temperament, play a role in determining whether a child behaves in accordance with parental requests. The extent to which the influence of child factors can be separated from that of parent factors is somewhat less clear. Kochanska (1993) suggested internalization of parental expectations may develop through the interaction of the child's temperament with the various parenting strategies that his or her parents use to gain compliance. The next section will explore some key parent factors.

Parent Factors

Parental Behaviors

There is little doubt that how a parent behaves toward his/her child will have an influence on how that child behaves. Johnson and Lobitz (1974) asked parents to manipulate their child's behavior to make them appear "good" for half of a 45-minute

observation and "bad" for the second half. They found that parents were able to perform these manipulations, primarily by altering the rate at which they gave commands and by feigning negative reactions to child behavior.

Researchers have examined several techniques that parents use to get their children to comply with their requests. These techniques have varying degrees of effectiveness in fostering not only compliance but also internalization. Schaffer and Crook (1979) found that, in general, conflictual parent-child interactions can be avoided and child compliance can be gained with effective parenting strategies. Kuczynski (1984) found that mothers in his study were aware of the need for them to help their children develop the ability to control their own behavior through internalization of parental expectations. Mothers may employ specific strategies with their children in order to accomplish this goal. For instance, Holden (1983) found that by using proactive, or preventative, controls mothers were able to foster the social development of their children. Kuczynksi (1984) found that mothers of four-year-olds altered their parenting approach according to whether they were told the child would be expected to perform in their absence. When mothers were told that their child would be expected to comply with expectations outside their presence they tended to use more nurturance and reasoning than the mothers in the study who were not given this constraint. Children in the long-term (parent absent) condition worked more and displayed less distraction than children in the short-term (immediate) condition. They were also less negativistic and displayed more positive assertion, whereas children in the short-term condition were less compliant and more negativistic.

Holden (1983) studied the behavior of mothers and children (aged 27 to 34 months) in a supermarket. Mothers in this study reported the belief that they should be

able to anticipate the behavior of their child in different situations. Half of the mothers in the study stated they felt responsible for controlling child misbehavior by monitoring the environment and altering the environment to foster good behaviors. Holden found that by using simple techniques (e.g., redirecting child's attention before a misbehavior occurs) mothers were able to avoid conflicts with their children. Lytton (1977) found that by consistently enforcing rules and encouraging positive behaviors, parents of two-year-old boys were able to increase the amount of positive behaviors in which their children engaged. Thus, how a parent interacts with his or her child seems to have the ability to produce certain behaviors. Another factor of parent behavior affecting children is level of supervision.

Level of Supervision

One factor associated with child compliance is the issue of parental supervision. It is expected that over the course of the child's life, the amount of time the child spends outside the presence of his or her parents will increase. This increasing absence from parents places new demands on the child. As parents move from a position of providing almost constant, direct monitoring of child behavior to less direct monitoring, the child is expected to begin to regulate his or her own behavior (Maccoby, 1984). Vaughn et al., (1984) described self-control as the child's ability to perform or delay certain actions as appropriate to the social context, even in the absence of a parent or other adult.

In order to examine the child's ability to monitor his/her own behavior, researchers have measured child compliance in both immediate (parent present) and delayed (parent absent or unavailable) situations. As might be expected, rates of child compliance in the two types of situations are quite different. Kochanska and Aksan (1995) measured factors influencing child compliance and internalization in children

between 26 and 41 months old. Using both maternal reports and direct observation of the children when left alone with prohibited toys, the researchers were able to obtain measures of compliant behavior which they believed to be internalized. They found that children who readily complied with maternal commands in the mothers' presence were also more likely to display compliance to those expectations in her absence (whereas noncompliant children were noncompliant both in the presence and absence of the mother). Conversely, the study also found that constant supervision and direct control by parents might have a negative impact on the development of internalization (i.e., compliance with parental expectations outside the parent's presence). It appears that level of supervision by the parent can have different effects on child behavior, and that too much supervision may have an adverse effect on child compliance. Similarly, parents who use strategies known as power assertive, or forceful, experience differing results.

Power Assertion

The term power assertion refers to a group of parenting behaviors that includes restraint, criticism, force, threats, and punishment (Kuczynski, 1984; Lytton, 1979). Power assertion is often used in combination with other parenting techniques, such as issuing direct commands, and is used more often in dealing with an aggressive child (Minton, Kagan, & Levine, 1971). Zahn-Waxler and Chapman (1982) found that parents tended to use power assertive techniques to correct misbehavior that involved destruction of property or severe lapses in self-control. In the study by Holden (1983) cited earlier, it was found that mothers used power assertion as much as 25% of the time when attempting to control noncompliance in the supermarket. Although parents tend to use power assertive techniques rather often, there is little research to suggest that such

techniques are effective in fostering compliance or reducing noncompliance. Indeed, several studies have found that power assertive techniques may actually result in higher levels of noncompliance (Kochanska & Aksan, 1995; Lytton, 1975), and lower levels of compliance (Kuczynski, 1984; Lytton, 1977). Lytton and Zwirner (1975) found that, in children 25 to 35 months of age, the use of physical control and negativity on the part of the parents increased noncompliance in the present and the likelihood of parent-child conflict in the future. A good alternative to power assertive techniques is to distract children through divergence of attention.

Divergence of Attention

Divergence of attention involves an attempt by the parent to redirect the child's attention away from an undesirable activity. This involved directing the child's attention away from a situation or object in a study by Holden (1983). Altering the child's attention can serve as a preventative strategy if performed just prior to a noncompliant behavior, or to get the child to disengage from a noncompliant behavior. In the Holden study it was found that, of the total time spent by mothers attempting to gain child compliance, 7% of that time involved attempts to divert the child's attention. Holden also found that this strategy was more effective than some other techniques, including power assertion, reasoning, and ignoring. When evaluating Holden's results it is important to consider the somewhat nontraditional setting of the study (i.e., supermarket) and the potential for an increased number of attractive stimuli present there as compared to other research settings. Nevertheless, divergence of attention appears to have a positive impact on child compliance. Another element of parent behavior that has been shown to alter child behavior, under certain conditions, is love withdrawal.

Love Withdrawal

Love withdrawal, or withdrawing attention or affection from a child, has shown mixed results as a means of gaining child compliance (Chapman & Zahn-Waxler, 1982). Parent behaviors such as sending a child to his or her room or simply ignoring the child both fall under the category of love withdrawal. Holden (1983) found that in attempting to get a child to comply with parental requests in a supermarket, ignoring was the least effective method. Alternatively, Chapman and Zahn-Waxler (1982) found that a combination of love withdrawal and other parenting techniques (e.g., reasoning) was the most effective technique used by parents of 10- to 20-month-old children. Thus, ignoring a child appears to have some effectiveness when used in combination with other behaviors. Similar compound effects are found in parenting interactions with the opposite behavior, nurturance.

Nurturance

Lytton (1979) described nurturance in general as positive actions by mothers toward their children. More specifically, this includes behaviors such as expressing love and approval, hugging, and smiling. Lytton found that in 25- to 30-month-old children a combination of nurturance and commands led to increased compliance. In an earlier study Lytton (1977) found that the use of praise and approval were associated with the development of child compliance. In a study by Kuczynski (1984) mothers of four-year-olds were instructed to use whatever means necessary to teach their child to accurately sort a container of forks and spoons into two separate containers. The children's sorting behavior was then examined both in the presence and absence of the mother. The sample was divided into two groups, in one of which the mothers were informed of the fact that their child would be required to perform the sorting task in their absence (long-term

condition). The other group of mothers received no such information. The mothers who were informed of the long-term condition tended to use greater nurturance and reasoning than mothers in the short-term condition. The children in the long-term condition engaged in more compliance and less noncompliance, than the children in the short-term condition, and the correlations between child compliance and maternal nurturance and reasoning were high.

In 1996 Clark conducted a laboratory study in which she examined the effects of nurturance on child compliance in both proactive and prohibitive task situations with 18- to 30-month-old children. Although the results of this study did not demonstrate the effectiveness of nurturance independently, it did show that when nurturant maternal behavior was combined with the use of reasoning, compliance improved (interaction effect). Finally, a study by Pfiffner and O'Leary (1989) examined the effect of different types of reprimands in the context of either low or high nurturance. The results of this study showed that when mothers gave immediate, short, and firm reprimands for non-compliance, coupled with high levels of nurturance, there was a strong association with negative affect in the child. Although the results of most of these studies demonstrate some level of association between nurturance and reasoning in obtaining child compliance, further clarification is needed to determine whether it is the combination of these variables or one of them independently that has the most significant impact. The final parent factor to consider is reasoning as an independent parenting strategy.

Reasoning

Many parents attempt to gain their child's compliance by reasoning with them. Holden (1983) found that in refusing their child's requests, mothers used reasoning 32% of the time. Kuczynski et al. (1987) defined reasoning as explaining to the child the

justification for compliance with respect to values or norms, or consequences to property, self, or others. Lytton (1979) offered that providing justification for a command or prohibition is considered reasoning. Chapman and Zahn-Waxler (1982) defined reasoning in terms of providing the child with an explanation of the significance and consequences of the misdeeds. Kuczynski (1984) subjugated the definition of reasoning to six subtypes: other-oriented (explaining to the child the potential consequences of their actions to other people, or emphasizing why the child should obey a certain individual); authority-oriented (requesting compliance from the child based on the authority of the parent or other adult); normative statements (also referred to as moralizing, this involves pointing out the child that compliance is expected by society); matter-of-fact (emphasizes the physical state of the task or other nonsocial justifications for compliance); and generalizations (getting the child to comply with present demands based on the past compliance with similar demands). The extent to which a child's behavior is influenced by the reasons they are provided has been a topic of debate among researchers for some time. Lytton (1977) stated that in general, the literature on reasoning suggests a positive association between reasoning and the development of conscience. Hoffman (1970) found that child compliance and internalization of expectations were more positively influenced by methods of reasoning than by force (power assertion). Hoffman found that certain types of reasons (e.g., those involving guilt, pride, or the expression of empathy for others) may lead to internally motivated behavior in children. In a more recent study, Kochanska (1993) found that reasoning was more effective with children who exhibited high levels of inhibitory control versus those who were more impulsive. Whether or not reasoning proves to be an effective parenting strategy may depend on the methodology employed to investigate its use. Methodologies have included experimental studies,

naturalistic observational studies, and studies of self-reported parenting behaviors. In the next section these methodologies will be explained and their strengths and limitations discussed.

Methodological Overview of Reasoning Studies

Experimental Designs

In a study by Kuczynski (1984) the choice of parenting strategies employed by mothers in various situations was investigated. Sixty-four mother-child dyads (children aged 4 years) participated in this laboratory-based experiment. The participants were divided into two groups based on whether or not the mothers were told their child would be expected to perform a novel task (utensil-sorting) in their absence. The mothers who believed their children would be expected to perform in their absence tended to treat their children with greater nurturance and provided them with more reasons as to why they should perform the task. Children in this condition had a higher rate of compliance than did the children in the no-reasoning condition, suggesting a positive impact of reasoning and nurturance on compliance.

Kuczynski et al. (1987) conducted a laboratory observation of semi-structured dyadic interactions with a sample of 70 mothers with their toddler children aged 15 to 44 months. In a laboratory designed to resemble a small apartment, mothers were asked to engage in situations they might encounter on a regular basis at home (e.g., mother talking on the phone, lunch time, and story time). Although the direct relationship between child compliance and reasoning was not examined in this study, it was found that children whose mothers reasoned with them were more likely to engage in negotiations regarding the requests being made of them. This finding could be considered slightly negative, as

most parents do not want to negotiate with their children about obedience to parental requests.

A more recent study by Clark (1996) examined the direct effects of nurturance and reasoning on child compliance. Thirty-three children between 18 and 30 months of age and their mothers participated in this study. The study involved two phases for each subject with nurturance being manipulated in both. Mothers in the low nurturance condition were instructed to sit in a chair, fill out questionnaires, give infrequent praise (cued by the researcher) and to interact at a reduced rate. Mothers in the high nurturance condition joined their children on the floor, gave frequent praise (cued by the researcher), and interacted continuously throughout the phase. Results indicated no difference in rates of compliance between children who were given reasons versus children who were not. However, as was found in previous studies, there was an interaction between high levels of nurturance and reasons. In the high nurturance condition, those children in the reasoning condition engaged in greater amounts of appropriate play than did children in the no reasoning condition. Alternatively, in the low nurturance condition, children who were not given reasons engaged in more appropriate play than did the children who were given reasons.

The results concerning reasoning are mixed. In a laboratory study by Munn (1999) involving 31 mother-child dyads, it was found that there were no significant differences in rates of compliance between children in reasoning versus no-reasoning conditions, even with nurturance at a high level. In one phase of the study, in which children were expected to play appropriately and not touch forbidden objects with the mother absent, it was found that children who were given reasons actually engaged in higher rates of noncompliance (measured as the number of times touching forbidden

object). The hypothesized positive impact of reasoning on rates of compliance was not confirmed in this study.

Naturalistic Observation Studies

In analyzing videotaped interactions of 136 children between the ages of 25 and 35 months and their parents, Lytton and Zwirner (1975) found that children whose parents reasoned with them engaged in less compliant behavior than did children whose parents did not provide them with reasons. The researchers discovered that parents were less likely to enforce a demand once they gave their child a reason for obeying it.

In a subsequent home observation with 90 children aged 25-35 months, Lytton (1977) combined the analyses of videotaped interactions, 24-hour diaries of child compliance kept by mothers, and an interview by the experimenter regarding the child's behavior during the same 24-hour period, to examine the effect of parenting strategy on child compliance. Reasoning did not have a significant influence on either the display of moral behavior by children or in the appearance of internalized compliance (defined as obedience in the absence of parental reminders).

Self-report Studies

A 1982 study by Zahn-Waxler and Chapman relied on mothers' self-reports of discipline encounters with their children age 10 to 20 months. Mothers were asked to keep a diary of their child's noncompliant behavior and to record in narrative fashion how these interactions played out. The aim of the study was to determine base rates of different parenting techniques used by parents. Results showed that mothers gave their children more reasons when their misbehavior had resulted in harm to another person (e.g., hurting a sibling).

Based on the results of the above-cited study, Chapman and Zahn-Waxler hypothesized that perhaps reasoning with a child might serve to enhance the degree of internalization of prosocial behavior and moral standards. In a follow up study (Chapman & Zahn-Waxler, 1982), they again used mothers' self-reports of their interactions with their children to examine more closely the influence of reasoning on child compliance. It was found that mothers used reasoning alone 9.8% of the time to gain child compliance. It was also found that when mothers gave verbal prohibitions or used physical force to gain compliance, these were sometimes accompanied by the use of reasoning. The most powerful means of gaining child compliance was the combination of love withdrawal and reasoning (100% compliance rate).

Summary and Critique

There are several possible explanations for the mixed results regarding the effectiveness of reasoning as a compliance engendering parenting strategy, including differences in methodology, differences in the age of the child, differing task demands, and presence or absence of the mother (immediate versus delayed conditions).

Whether reasoning is demonstrated to be effective varies somewhat by the research methodology employed. Self-report studies found that reasoning was only effective when used in combination with other parenting strategies, and that parents tended to use reasoning when the misbehavior involved harm to another person (Chapman & Zahn-Waxler, 1982; Zahn-Waxler & Chapman, 1982). On the other hand, naturalistic observation studies failed to show any positive effect of reasoning in either promoting internalization of rules or gaining compliance (Lytton, 1977; Lytton & Zwirner, 1975). Self-report studies rely on untrained individuals to accurately report their own experience. There is the possibility that parents misreport either their own or

their child's behavior, or that they fail to observe certain behaviors because those behaviors only happen in contexts other than the home (e.g., school, daycare). Although naturalistic observation studies rely on trained experimenters in collecting and processing data, they may be subject to a number of confounds resulting from differences in the settings in which the observations take place. Laboratory studies employing experimental control of variables are able to reduce the number of potential confounds, but they might also cause their participants to engage in behavior that is atypical for them, and therefore not representative of typical interactions occurring in the home.

Studies conducted in the laboratory have also produced mixed results. One study demonstrated a positive influence of reasoning on compliance, but reasoning covaried with the level of nurturance and therefore results could not be attributed solely to reasoning (Kuczynski, 1984). Kuczynski, et al. (1987) and Munn (1999) found no effect of reasoning on compliance. Another study found reasoning to be effective only in combination with high rates of maternal warmth (nurturance) (Clark, 1996). In both the naturalistic observation studies (Lytton, 1977; Lytton & Zwirner, 1975) and the self-report studies (Chapman & Zahn-Waxler, 1982; Zahn-Waxler & Chapman, 1982), children were involved in situations and tasks that were familiar to them. Conversely, the laboratory studies involved novel and familiar tasks and/or situations. A study that engaged the children in familiar situations and tasks was unable to demonstrate any positive effect of reasoning on compliance (Clark, 1996). Perhaps these children were too familiar with the situation involved in this study, and therefore providing them with reasons for compliance had no effect. The children may have already understood their parent's rationale for compliance with the tasks and therefore the use of reasoning carried no additional persuasive value. Other studies placed the participants in unfamiliar

situations or asked them to engage in unfamiliar tasks, or some combination of both familiar and novel situations (Kuczynski, 1984; Munn, 1999). Munn was unable to establish any positive effect of reasoning on compliance, whereas Kuczynski found that when combined with a nurturing interaction, reasoning with a child was an effective means of gaining compliance. The extent to which a child's degree of compliance is influenced by his or her familiarity with task demands remains unclear. Incorporating both novel and familiar situations and tasks in the same study could lead to further clarification on this issue. Further, in order to adequately study the effects of reasoning, the apparently overlapping effects of nurturant parental treatment need to be separated and controlled.

Variations in the effectiveness of reasoning may be due to the presence of the mother (immediate or short-term condition) versus the absence of the mother (long-term or delayed condition). Studies vary in how they manipulate the presence or absence of the mother. In the Kuczynski (1984) study, mothers actually left the child alone in the observation room. In this study reasoning was effective but only with varying degrees of nurturance. Clark (1996) had the mothers remain in the same room as the child, but had them move behind a curtain. Although reasoning was found to be effective, when coupled with high nurturance, the children frequently went behind the curtain and established physical proximity with their mothers. It is therefore possible that the children never truly experienced a delayed (mother absent) condition in this study. Munn (1999) employed a delayed condition by having the mother turn her back to the child. Reasoning was not shown to be an effective strategy in this study. Thus, there have been mixed results concerning whether, and to what extent, and in combination with what other variables, reasoning results in better child behavior. As noted earlier the above

studies were conducted exclusively with mother and child data.

Having reviewed the literature concerning variables relevant to the study of reasoning, nurturance, and compliance, the pertinent literature concerning fathers will be examined next.

Fathering Literature

The majority of research on children has involved mothers and children (Phares, 1996). It can be safely said that the parenting literature in general is largely comprised of mother-child studies. This can plausibly be attributed to the traditional role of mothers as the primary caregivers in our society, which has made mothers more accessible and perhaps more cooperative with research efforts. Mother-child studies have examined many elements of child development, from early infancy through childhood and into adolescence.

While the majority of studies in the parenting literature have examined maternal variables, fathers have also been studied by social scientists. Beginning in the 1940s some researchers began examining the influence of fathers on various aspects of child development. A number of studies in the last 60 years have sought to tease apart, with varying degrees of success, unique influences on child development made by fathers. See Lamb (1976, 1981, & 1997) for a more comprehensive overview of this body of literature.

Key elements of the fathering literature include sex role development, parenting style (authoritarian, authoritative, or permissive), the impact of father involvement on children, and the impact of father absence on children. Researchers have found that mothers and fathers both play an important part in the transmission of sex-roles to both sons and daughters (Lamb, 1997). The influence of mothers on the sex-role development

of sons is similar to that of fathers (Biller, 1973). In terms of parenting style, some research has found that mothers tend to be more nurturing and authoritative, and fathers tend to be less warm and more authoritarian in their parenting styles (Russell & Russell, 1987; Starrels, 1994). Some evidence suggests that, although fathers and mothers have statistically significant differing rates of nurturing behavior (with mothers being higher in nurturance), both parents tend to engage in high amounts of this behavior (Bentley & Fox, 1991). Furthermore, the differences between mothers and fathers would likely be imperceptible to the child. Father involvement, usually defined as the number of hours a father spends in direct contact with his child (although sometimes defined more loosely as the number of domestic tasks the father performs), has been shown to have important positive effects on child development in many areas (Biller, 1973; Lamb, 1976, 1981, 1997). Father absent children have been shown to be at risk for a number of problematic behaviors (Lamb, 1997). Hawkins and Dollahite (1997) caution that when researchers approach the issues of fatherhood from a deficit paradigm (i.e., father absence), they may bring an inherent bias to their work. In examining the *role inadequacy perspective* (the idea that fathering is an important social role that men perform poorly), which is prevalent in the fathering literature, Hawkins and Dollahite concluded that such a model is having deleterious effects not only on scholarly work examining fatherhood, but also on fatherhood itself.

The present social and political climate, with its many references to "deadbeat dads" is quite similar in tone to a "war on dads" much in the way we have a "war on drugs" and a "war on terrorism." Though one cannot ignore the existence of so called "deadbeat dads," whose caretaking behavior on behalf of their children post-divorce is highly inadequate, so much of social (and scholarly) discourse is focused on this minority

of individuals that those fathers who work daily to provide for and nurture their children seem often to go unnoticed. Additionally, Hawkins and Dollahite note the fundamental problem of the deficit paradigm, that it does not lend itself to understanding or encouraging *responsible* fatherhood. Thus, the studies reviewed in this paper concern the active and positive contribution of fathers in the lives of children. To get a sense of the necessity for such a discourse, consider the significant changes that have occurred in the last several decades with respect to father's participation in the childrearing process.

Changing Trends of Father Involvement

Over the last several decades there have been significant changes in the nature and quantity of father involvement with children. Whereas fathers in intact families once spent proportionally between 30% and 45% the amount of time with their children that mothers spent, this percentage has now grown to an estimated 67% as much time as mothers on weekdays and 87% as much time as mothers on weekends (Yeung et al., 1999).

In addition to fathers in intact families spending more time with their children, there have been dramatic increases in the number of single-parent, father-headed households. Between 1970 and 2000 the number of such households grew by over 500% (from 393,000 in 1970 to 2,044,000 in 2000). This represents an increase from just over 10% of the total single-parent households to over 17% of such households. During the same time period, the number of single-parent households led by women increased also, but by much less (280%). Additionally, there was a decline in the proportion of total single-parent households being led by women, from around 89% down to 82%. These changes have naturally resulted in corresponding increases in the number of children under 18 years old living with a single parent (a 400% increase in the number of children

living with fathers vs. a 227% increase in the number of children living with mothers) (U.S. Bureau of the Census, 2001).

It is apparent from these statistics that the proportion of female-led, single-parent households is significantly greater than the proportion of similar households led by males, and we cannot overlook the increase in the number of fatherless homes that has also occurred during the last 30 years. Nevertheless, the fact that the number of male-led, single-parent households has risen so dramatically (500%) indicates a substantial change in the structure of our society. Moreover, the growth of father-only homes has been substantially greater than the growth of fatherless homes. More fathers than ever before are taking full and primary responsibility for their children.

Not only have the sheer numbers of involved fathers outpaced the number of fatherless homes, but the nature of father involvement has also changed. Even in intact families, where mothers have traditionally been responsible for the majority of childcare tasks, the parental roles are changing. Two key measures of parental involvement are engagement (direct interaction with the child, in the form of caretaking or play), and accessibility or availability (being present in the home and available to the child). After analyzing a number of studies of father involvement conducted over the last 20 years, Pleck (1997) concluded that fathers' level of engagement increased from one-third that of mothers to a little over two-fifths that of mothers. In absolute terms, fathers spend approximately 1.9 hours/weekday and 6.5 hours on Sundays interacting with their young children (the amount of time spent with children decreases as they reach adolescence). Availability estimates suggest fathers are accessible to their young children roughly 2.8 to 4.9 hours/weekday and 9.8 hours/day for Sundays.

Another estimate of maternal and paternal caregiving activities reveals a similar,

although somewhat less dramatic, trend. Based on a 1965 sample of 358 married mothers and 326 married fathers, and a 1998 sample of 194 married mothers and 141 married fathers (couples not married to each other but averaged across the sample) Bianchi (2000) reported the following. In 1965 fathers reported spending 0.4 hours per day in direct childcare, and 2.8 hours per day in activities involving their children (but not necessarily direct childcare). The corresponding figures for fathers in 1998 were 1 hour per day in direct childcare and 3.8 hours per day in activities involving their children. Similar data were reported for mothers. In 1965 mothers reported spending 1.5 hours per day in direct childcare and 5.3 hours per day in activities involving their children. In 1998 these figures were 1.7 for direct care and 5.5 for other activities involving children. Thus, both mothers and fathers are spending greater amounts of time with their children, even in intact families.

Bianchi (2000) also reported proportional amounts of time spent by mothers and fathers in childcare. In 1965, the amount of time fathers reported spending in direct childcare was about one quarter the amount of time that mothers reported spending with their children. Also in 1965, fathers reported spending about half the amount of time that mothers spent in activities involving their children (other than direct childcare). The 1998 data reveal that fathers reported spending about half the amount of time that mothers did in direct childcare, and two-thirds the amount of time that mothers spent in activities involving their children.

Some caution is warranted in examining these self-reported levels of parenting activities. A 1998 study by Press and Townsley compared mother and father self-report of domestic duties with daily journals of such activity and found that men and women tended to over-report. Men overestimate their level of activity in this area by about twice

as much as women (Men = 149%, Women = 68%). However, even if the proportion of time fathers spend in domestic and childcare activities has not increased, it appears that their overall rates of involvement have improved somewhat.

Moreover, given the increasing number of father-only homes it becomes important to further define the nature of father-child interactions. It seems safe to assume, given the above outlined increases in the involvement of fathers in the lives of their children (however slight), that fathers are engaging in a greater number of disciplinary interactions. This seems plausible when one considers the nature of parenting itself, with the need to request (or demand) that one's children obey rules and comply with parental requests on a regular basis. Presumably, if fathers are engaging in higher amounts of interactions with their children in general, then they are also finding themselves in a higher number of discipline/compliance interactions. One domain in which fathers' influence has been found to have significant effects is that of the clinical treatment setting.

Fathers' Influence in Treatment Settings

A study by Webster-Stratton (1985) examined the effectiveness of a parent training program in families with and without involved fathers. Father involvement was defined as the presence of a father, boyfriend, or stepfather who cared for the child either with the mother or separately in his home. Father absent families had no male involvement in childcare tasks. Webster-Stratton found that father involvement was an important predictor of treatment maintenance in conduct disordered children. While all children in the study made improvements in their behavior immediately following treatment, significantly more of the mother-child dyads who retained behavioral improvements at one year post-treatment came from father-involved families. The

author suggested that mother-father teams are more effective than mother-only situations because they can support and encourage each other. This study was limited by the fact that, due to scheduling difficulties, only mother-child interactions were systematically observed. Further, there was no control (no treatment) group with which to make comparisons. Finally, the groups were not matched on financial status. There were more of the father-absent families on social assistance compared to the father-involved families. The authors hypothesized that it was perhaps father's income or other SES variables, not father presence, that influenced outcome.

In another recent multi-method (observational and questionnaire) study on fathering and conduct problems in four- to five-year-old boys (n=110, 55 non-clinic, 55 clinic referrals), DeKlyen, et al. (1998) found that clinic referred boys' fathers were more likely to report engaging in hostile/ineffective parenting, have more angry interactions, and be more physically threatening and punitive, compared to fathers of nonclinic boys. They also reported that insecure attachment with, and harsh parenting by fathers were strongly linked with early onset conduct problems and clinic referral. A few studies have made more direct comparisons of mothers' and fathers' use of discipline, these are reviewed in the following section.

Mothers, Fathers, and Discipline

Within the parenting literature there are a number of studies examining issues relating to child compliance and discipline. Many of these studies have given special attention to the nature of parental discipline strategies with respect to child compliance. As discussed in the section of this paper titled "compliance," research has shown that discipline strategies have varying degrees of effectiveness. Aside from the effectiveness of the strategy itself, whether or not a given strategy facilitates child compliance depends

upon such variables as attachment, warmth (nurturance), temperament, and age, to name a few.

What remains to be learned is whether and to what extent mothers and fathers differ with respect to reasoning, in the context of discipline encounters. A review of some of the relevant studies will shed additional light on this specific domain of father-child interaction.

Arnold and O'Leary (1997) conducted a structured observational investigation of mothers' and fathers' discipline strategies with difficult toddlers. The sample consisted of 19 parent-child triads (9 girls, 10 boys, age 25-41 months). The study measured the level of parental laxness vs. over-reactivity, as well as depression and time spent in childcare tasks using self-report questionnaire measures. Additionally, children were observed in a structured laboratory task with each parent separately. Observations included clean-up, phone-call simulation, and quiet time, and were conducted at the same time of day one week apart. Results of the study indicated that mothers were more overreactive, but not differentially lax, than fathers. Depression and time spent in child care tasks accounted for 17% of the variability in parental overreactivity. Fatigue and stress were shown to adversely affect parenting (particularly in mothers, who spent twice as much time in child care tasks as fathers). And finally, children exhibited similar degrees of misbehavior in the presence of their mothers and fathers. This latter finding suggests the need for both mothers and fathers to know and adequately use effective parenting strategies in the management of their toddlers' behavior.

Hart and Robinson (1994) compared the use of power assertion (physical punishment, yelling, forceful commands, and threats) and inductive reasoning (reasoning or explaining rules and consequences to the child) in a sample of 109 mothers and fathers

of middle-class preschool children. Mothers' and fathers' responses to several hypothetical discipline situations were audio recorded and coded by trained undergraduates. Results indicated that fathers endorsed significantly higher tendencies toward power assertive or authoritarian discipline styles, whereas mothers reported using more reasoning.

Stoneman et al. (1989) asked mothers and fathers from 47 intact families about their opinion regarding rational guidance (reasoning) and authoritarian control. Consistent with other findings, mothers endorsed more of a belief in reasoning than did fathers. Fathers endorsed an orientation toward authoritarian control more than did mothers. In each case the results were statistically significant, however the real world expression of such behavior would likely be of little notice to the children, since the mean ratings of these parenting beliefs were quite close. Mothers' mean expressed belief in rational guidance was 5.77 versus 5.15 for fathers. Similarly the mean expressed belief in authoritarian control was 2.51 for mothers and 2.83 for fathers.

Summers et al. (1999) conducted a qualitative investigation of mothers' and fathers' perceptions of the father role among low-income families from early head start programs. This study provided evidence to suggest that both mothers and fathers perceive the father role as a multifaceted, multidimensional one. The list included financial support, "being there" (i.e., not running off), care giving, play, love, and protection. In addition, both male and female respondents believed teaching, modeling, and discipline (considered to be interrelated concepts) to be more of a father role. Individuals in the study expressed their belief that the father is much more than a disciplinarian (in the traditional sense of the word). Aside from viewing the father as potentially better at "laying down the rules" they conceptualized the father as important

for teaching children “to do right,” and to be “a good teacher about life,” one who used the home as the primary realm of education about life. Although most of the literature on parenting has been conducted with US samples, a few studies have been conducted overseas. These will be discussed next.

Cross-Cultural Research

A study by Russell and Russell (1987) observed both mother-child and father-child dyads in naturalistic and structured settings. The sample included 57 Australian children (29 boys, 28 girls, ages 6-7) and their parents. Each family was observed for two hours (beginning a half hour before the father returned home from work), including a mealtime and a 20-minute structured activity (ring toss game). Results of this study indicated that: 1) overall, mothers interacted more frequently with their children and were more directive than fathers; 2) mothers interacted with their children more frequently in the context of caregiving and in taking responsibility for the child’s needs than fathers; 3) fathers' interactions occurred more often within the context of play, compared to interactions of mothers; 4) overall mothers were more positive and less neutral than fathers; 5) fathers reacted more negatively to dependent child behaviors than did mothers; and 6) fathers engaged in more physical affection and more playful/joking behavior, than did mothers. The authors found no evidence to support the hypothesis that fathers would be more negative, firm, and restrictive in their parenting practices than mothers, nor that fathers of sons would interact with their children more frequently and would be more responsive to them than fathers of daughters.

A study by Best, et al., (1994) examined parent-child interactions in France, Germany, and Italy. This investigation centered on the influence of gender and culturally prescribed socialization practices on parenting behaviors in these three countries.

Twenty-nine parent-child dyads from France and Italy, and 27 from Germany were randomly selected at playgrounds and parks for a 10-minute observation that was coded in vivo by two trained coders. Children ranged in age from 2-7 years and were almost evenly split between boys and girls. There were slightly more mothers than fathers in each country. Child behaviors recorded were: affection, play, showing and sharing, vocalization, and aggression. Parental behaviors recorded were: affection, vocalization, play, "showing and sharing," discipline, caregiving, soothing, and controlling. More specific operational definitions were not given. Data are not reported for child aggression, parent discipline, and parent soothing due to low or zero frequencies. This study reported that French and Italian fathers engaged in more play than mothers, but the opposite was true for German fathers. Consistent with American data, French and Italian fathers were observed to be more interactive in the playground setting. According to the study, all parents were affectionate toward their children. The data on preferential interactions between fathers and sons or mothers and daughters were inconsistent. French fathers "showed and shared" more with boys than with girls, and the opposite was true for French mothers who "showed and shared" more with girls. However, Italian and German fathers "showed and shared" more with girls than with boys. Finally, Mothers in all countries exhibited more caregiving (wiping the child's nose or face, brushing the child's hair, rearranging child's clothing, giving the child food or drink) behavior than did fathers, which is consistent with research in US samples. It appears that although the traditional maternal and paternal differences observed in US samples are not completely universal, there is some evidence to suggest some degree of multicultural disparity in the way mothers and fathers interact with and care for their children.

A study of Swedish parents (185 mothers, 135 fathers, 120 from the same family), where physical punishment and 'harsh control' have been illegal since 1979, revealed some interesting findings (Palmerus, 1999). Using the Parental Discipline Interview (PDI) parents were asked to describe what they would do in five discipline or control situations. Their responses were coded for 18 possible responses, including physical punishment, reasoning, threat of physical restraint, withdrawal of love, attention, or privileges, and the use of time-out, firm commands or reprimands, and positive encouragement to change. The more frequent responses for both mothers and fathers were firm command (roughly 23%), physical restraint (roughly 15%), redefine (roughly 15%), and encouragement/praise (roughly 12%), followed by ignore, reasoning, withdraw privileges, and distraction which were all in the 5-7% range. Differences among mothers and fathers were noted. Mothers were found to use reasoning and ignoring more than fathers. Fathers used redefine (reframing the situation such that discipline is not necessary) more than mothers. Physical punishment was reported in less than 1% of the total parental responses.

Tulananda and Roopnarine (2001) conducted in-home observations of parental (maternal and paternal) interactions in Thailand. The sample included 53 preschool children and their parents. The results of this observation with respect to discipline revealed that both mothers and fathers used orders or commands most often when disciplining. Other types of discipline included reasoning, scolding, and physical punishment. It was also found that mothers used more commands and reasoning than fathers. Physical punishment occurred at a very low frequency in both mothers and fathers.

Summary

Several key points are worth mentioning in summarizing the fathering literature. First, fathers have been a relatively understudied group as compared to mothers with respect to parenting issues. Second, there is evidence to suggest that fathers' influence on children is equally important to that of mothers in important areas of functioning (e.g., sex-role development). Third, father involvement in the United States has changed significantly in the last several decades, with fathers becoming more involved with and spending more time with their children. Additionally, the number of father-headed, single-parent households has undergone a virtual explosion, meaning more children than ever before are being raised exclusively by their father. Fourth, the presence of a father (or male substitute) appears to have a facilitative effect on outcome in treatment settings. Fifth, mothers' and fathers' level of nurturing behavior appears to be quite high and differences between mothers and fathers do not appear to be as great as was once thought. However, evidence cited here does suggest differences between mothers and fathers with respect to certain parenting behaviors. Specifically, fathers appear to use more power assertive techniques and to interact more with their children in play situations, than mothers. Mothers appear to use more reasoning and tend to overreact more than fathers. Finally, some cross-cultural studies have been conducted. These reveal certain differences between US and non-US samples. Australian mothers and fathers closely resemble US parents, with mothers engaging in greater amounts of reasoning and fathers exhibiting more power-assertive strategies and engaging in more play than mothers. Other examples of cross-cultural data on parenting include a higher incidence of play behavior among fathers from France and Italy (which is consistent with US fathering data), and a lower incidence of such behavior among German fathers.

Swedish mothers and fathers differed in rates of reasoning and ignoring (mothers higher than fathers) and redefine (fathers higher than mothers). Parents from Thailand differed in their rates of reasoning and commands, with mothers using more of these strategies than fathers.

Few of the studies reviewed in this section utilized direct observation of dyadic behavior and none implemented experimental manipulation of parenting behavior. Most of the studies asked parents to self-report their preference for certain discipline strategies by completing questionnaires or responding to hypothetical discipline situations. An inherent weakness in these studies is the inability to objectively observe what parents actually do when in a discipline situation.

Noticeably lacking in the literature are studies examining the dyadic interactions of fathers and children in discipline encounters. Thus, the focus of the present study is to examine parental discipline and requests for compliance in dyadic interaction between children and their fathers. Direct observation and manipulation of father behavior will be conducted to enable a more objective analysis of parent-child interaction. The next section will provide an overview of the present investigation.

CHAPTER III

CURRENT INVESTIGATION

The present study was designed to examine the influence of reasoning on child compliance. Whereas previous studies have examined these variables primarily in the context of mother-child interactions, the present study examined them in the context of father-child interactions. Participants were 23 father-child dyads, with the children ranging between 24 and 32 months. The study consisted of three phases: free play, utensil sorting (novel task), and toy clean-up (familiar task). The free play phase served several purposes: fathers and children were enabled to become familiar with the observation room and the operation of the apparatus (to be described later), the experimenter established a pattern of consistent praise between father and child in order to set a positive tone for the remaining interactions, and finally, the father and child established positive interactions with one another with limited demands being made on the child (the child had to remain in the defined play area). Levels of praise and nurturance were controlled by the experimenter and held at high levels throughout the study. A study by Nichols-Anderson, Sullivan, Perry, and Munn (1997) found that child compliance was positively correlated with praise. Thus, praise was held constant to ensure that differences in child behavior were not a function of praise but rather of the independent variable.

The utensil sorting (novel) task required the father to instruct the child how to sort spoons of two different sizes and colors from a central box into to two separate color

matched boxes (e.g., white spoons into a white box, blue spoons into a blue box). The father discontinued interactions with the child at the end of the fourth minute (immediate phase), thus commencing the delayed phase (during which time the father and child did not interact). During this phase the child was asked not to touch certain forbidden objects that were placed in the room, and he/she was required to stay within view of the camera (e.g., not leave the area).

The toy clean-up (familiar) task required the father to instruct the child to clean up the toys from the free-play phase by putting them back into a large bucket. As with the utensil sorting task, the toy clean-up task also included a delayed phase. Forbidden objects were present during this phase, as well as the requirement to remain within view of the camera.

The design of the present study included several elements of previous studies for the purpose of facilitating cross-study comparisons. By implementing both prohibitive (leaving the area and forbidden objects) and proactive tasks (toy clean-up and utensil sorting), effect of type of task on reasoning was examined. The utilization of both a novel and familiar task provided the opportunity to measure whether reasoning was differentially effective based on the child's previous experience with certain demands. Additionally, the study incorporated periods when the father attended to the child (immediate phase) and when he did not (delayed phase). This facilitated the examination of the effectiveness of reasoning in gaining child compliance outside the father's direct supervision, which may be related to internalization of expectations.

Several main hypotheses were explored. It was predicted that children would engage in differing rates of compliance and noncompliance in the no reasoning versus reasoning conditions. Research has suggested that children vary in their rates of

compliance when they are given reasons for parental expectations than when they are not.

No main effect of task was predicted on any variable. Previous studies have not found differing rates of compliance solely as a function of task. Thus, children were expected to have equal rates of compliance between the novel and familiar tasks.

It was predicted that children would be more compliant and less non-compliant in the immediate versus the delayed condition. Research has suggested that child compliance is higher when children are under the direct supervision of their parents, versus when their parents are not attending to them.

An interaction between strategy and task was predicted. It was expected that children in the reasoning condition would exhibit higher rates of compliance in the novel task, and/or less compliance in the familiar task (i.e., their compliance was expected to decrease from the novel to the familiar condition), while children in the no reasoning condition were expected to comply about the same amount in both the novel and familiar tasks. This prediction was based on research that suggests that children are more compliant when provided reasons in unfamiliar tasks (perhaps because they do not know the reason for doing the task), and poorer compliance in familiar tasks (presumably because they know the reason for the task and perhaps disagree with it or the task is too mundane to elicit their interest). Finally, it was predicted that an interaction would occur between parenting strategy and phase, with children demonstrating a decline in compliance from the immediate to the delayed condition. It was expected that the rate of this decline will differ for children in the reasoning versus no-reasoning condition. No predictions were made regarding interactions between task and phase, or between strategy, task, and phase. These latter predictions were not made because of the lack of evidence supporting them, therefore these analyses will be for exploratory purposes.

CHAPTER IV

METHODOLOGY

Participants

Twenty-six father-child dyads, with children ranging from 24 to 32 months of age, were recruited. Participants were solicited through day care facilities, posters in the community and on campus, newspaper ads, campus events, and by contacting fathers through word of mouth advertising. Children were compensated with a small toy, and fathers received coupons from local businesses or $10.00 cash.

The children included in the study had a mean age of 27.61 months (reasoning *M* = 27.73; no reasoning *M* = 27.50), with a range of 24 to 32 months. There were 13 boys and 10 girls in the study (reasoning: boys = 6, girls = 5; no reasoning: boys = 7, girls = 5). All children and fathers included in the analyses were Caucasian, with the exception of one father of Asian background. The majority of the fathers were married (95.7%), with only one father being divorced (4.3%). The number of siblings of children who participated in the study ranged from 0 to 3 (*M* = 0.83), with nine children having no siblings (39.1%). Three children were the oldest children in their families (13%), and 11 children were the youngest in their family (47.8%). The fathers' mean age was 32.96 (reasoning *M* = 33.45; no reasoning *M* = 32.5), and the mothers' mean age was 30.61 (reasoning *M* = 30.73; no reasoning *M* = 30.5). The fathers' mean years of education was 15.91 (reasoning *M* = 16.09; no reasoning *M* = 15.75), and the mothers' mean years of education was 15.26 (reasoning *M* = 15.82; no reasoning *M* = 14.75). The ethnic

backgrounds of the children were as follows: Caucasian (*n* = 20: 86.97%), Bi-racial (*n* = 2; 8.7%), and Asian (*n* = 1; 4.3). The monthly family income for both groups was fairly high with most participants reporting monthly family income between $2001.00 - $2500.00. (Refer to Table 1 for a detailed participant demographic summary.)

Inclusion/Exclusion Criteria. The target population for the present study was restricted to children with typical development. Children who scored in the clinical range (T-score > 67) on the CBCL/1½ -5 Externalizing subscale were excluded from the study. Two children were excluded because of CBCL scores that were in the clinical range. Additionally, if it were noted by the parent on the demographic form that the child had a physical or mental disability that prohibits typical performance in the study, he or she would have been excluded (no children were excluded for this reason). The study only included English-speaking father/child dyads. Finally, one child was so compliant with the demands of the study that she was not able to experience the experimentally manipulated conditions (i.e., reasons, directives, etc.), and was therefore dropped from the study. Thus, a criterion of at least two misbehaviors (leaving the area, touching forbidden objects) or failing to pick up toys or sort utensils had to be met for a child to be included in the study.

Father behavior could also have been a factor in excluding a dyad from the analyses. Fathers who gave more than three directives during free-play, engaged in more than three uncued interactions with their child, gave more than three uncued directives, or who gave more than three reasons in the no reasoning condition, would have been excluded from the study. As there were no fathers who met these exclusionary criteria it was not necessary to exclude any participants on this basis.

Three participants were excluded from the study. Two were excluded because of clinical level behavior problems (high scores on the CBCL) and one because of insufficient misbehavior. The resulting sample included 23 participants, with 11 in the reasoning condition and 12 in the no reasoning Condition.

Materials

Demographic questionnaire. All fathers in the study completed a demographic questionnaire (Appendix A). This instrument gathered information regarding age, gender, ethnic background/race, level of education, occupation, and income. The developmental history of the child, including major developmental milestones, was also obtained. Fathers were also asked to report on the frequency/quantity of time spent in various parenting activities for them and their partners. Information from this questionnaire facilitated subject matching based on gender, age, and ethnicity. It was also used for descriptive purposes.

Eyeberg Child Behavior Inventory (ECBI). The ECBI (Burns & Patterson, 1990; Eyeberg & Ross, 1978) is a 36-item, parent report, checklist used to assess both the presence and intensity of behavior problems in children between 2 and 16 years. Boggs, Eyeberg, and Reynolds (1990) found the ECBI to have adequate validity and reliability in discriminating between problem and non-problem children. The instrument yields both a Problem score and an Intensity score. This questionnaire is part of a standard battery of measures that are given in most studies conducted by this lab. It was included here for descriptive purposes and to preserve continuity of data collection.

Child Behavior Checklist/1½-5 (CBCL/1½ -5). The CBCL/1½ -5 (Achenbach, 2000) is a 100-item scale that uses a three-point rating to assess both emotional and behavioral disturbances in children aged 19 months to 5 years. The CBCL/1½ -5 has

been shown to be both a valid and reliable standardized assessment tool (Achenbach, 2000). The instrument yields 9 syndrome scale scores, and 3 global scale scores (Internalizing T-score, Externalizing T-score, and Total Problem Behavior T-score). T-scores greater than 67 represent a clinic level problem. Participants were only included in the present study if their Total Problem T-score were below 67 (i.e., non-clinical range). The purpose of the CBCL was to provide descriptive data and to measure behavioral problems for potential exclusion from the study.

Parenting Scale. Created by Arnold and colleagues (Arnold, O'Leary, Wolff, & Acker, 1993), the Parenting Scale measures dysfunctional parental discipline practices of parents of children ranging from 18 months to 4 years old. The scale is completed by the parent and contains 36 items with seven-point ratings. The Parenting Scale has demonstrated adequate internal consistency and reliability (Arnold, et al., (1993). The instrument provides three factor scores, Verbosity, Overreactivity, and Laxness, as well as a Total score. This questionnaire is part of a standard battery of measures that are given in most studies conducted by this lab. It was included here for descriptive purposes and to preserve continuity of data collection.

Toddler Behavior Assessment Questionnaire (TBAQ). The TBAQ (Goldsmith, 1996) is a 108-item instrument that assesses temperament in children between the ages of 16 and 36 months. The TBAQ produces several subscales and has been shown to have adequate validity and reliability (Goldsmith, 1996). This questionnaire is part of a standard battery of measures that are given in most studies conducted by this lab. It was included here for descriptive purposes and to preserve continuity of data collection.

Apparatus

Father-child interactions were recorded using a Panasonic VHS video camera, Model #AG-1250-P. Father-child behavior was monitored in an adjoining room using a Panasonic monitor, Model #BTS1300N. Father behavior and verbalizations were controlled by means of a Bug-in-the-ear TM device, Model B-312 (Farrall Instruments, Inc.). This device consisted of a microphone and a hearing aid device that allowed the experimenter to deliver verbal instructions to the father without disrupting the flow of interaction with the child. Utilization of the bug-in-the-ear facilitated implementation of the experimental manipulation of independent variables.

Observation Room

Father-child interactions took place in a 17' by 8' room. The room was equipped with a chair, tables, toys, and a box of utensils. Plastic toys including human figures, cars, and blocks were available to the child during the freeplay and toy clean-up phases of the study, and were kept in a plastic bin. During the utensil-sorting phase, a box of plastic forks and spoons were sorted into two other plastic boxes. The utensils were only accessible during the utensil-sorting phase. With the exception of the freeplay phase, several objects were in the room which were off limits or forbidden to the children (i.e., the children were not allowed to touch or handle the objects). These objects included a typewriter, wind chime, lava lamp, plastic tray with pencils and paper, and a plate of cookies.

Observational Code

Father and child behavior was coded in 10-second intervals using an observational code. The principal type of father behavior coded was the directive. Directives that included reasoning were coded with an accompanying "R," (DR) whereas

directives without reasons were coded as D. Several kinds of directives were coded, including: directives relating to active nomcompliance (leaving the area (DRl, Dl) or touching forbidden objects (DRf, Df)), and directives requesting compliance with the task (toys (DRt, Dt) or utensils (DRu, Du)), and directives given for other behaviors (DRo, Do). Other father behaviors coded included modeling (M), father/child interaction (I), verbal prompt (Pt), physical prompt (PP), and praise (Pr).

Several child behaviors were also coded: measures of compliance, including picking-up appropriately (PA) or sorting appropriately (SO), and appropriate play (AP); active noncompliance, including leaving the area (LA), and touching forbidden objects (FO); and passive noncompliance, including toy contact (TC) and utensil contact (UC), when toys or utensils are contacted for reasons other than to perform the task. Two other behaviors were also coded including, negative affect (NA) which includes behaviors such as whining, crying, and tantrumming, and solicitation for fathers' attention (SA), which captures the child's efforts to obtain the father's attention.

Coding of videotaped interactions was conducted by three undergraduate and two graduate researchers, including the principal investigator. All coders underwent the same training process and were trained until a criterion of 90% agreement was reached. The undergraduate coders were blind to the hypotheses of the study, only one of the graduate coders was. Although it was not originally intended for the principal investigator to code the videotaped interactions, this was necessitated by the fact that some of the undergraduates who had been trained to code could not remain involved in the project until its conclusion. All videotapes were coded independently by two individuals. In addition, each coder overlapped an even number of times with every other coder. No

differences were observed in the coded data as a function of the degree of knowledge of the hypotheses (e.g., blind vs. not blind).

Each videotape was coded using the following procedure. Two individuals coded each tape for father behaviors and then coded it a second time for child behaviors. Note that coding of father and child behavior was done separately, not simultaneously. After this initial coding process, a separate group of undergraduate research assistants compared the coding sheets of the two coders for all tapes. Where disagreements in codes were observed for a given interval or intervals, the coders were asked to independently review those intervals again. If the coder determined that his/her original codes were correct, then no changes were made. However, if the coder decided his/her original codes were incorrect, the coder was asked to alter his/her initial codes to meet coding criteria. The two coders' sheets were compared again and the kappa coefficients were calculated.

Reliability Data. A kappa coefficient was calculated for all observations and for both father and child behaviors. Inter-rater reliability was calculated using a kappa coefficient. Average kappa coefficients for each of the paternal behaviors were as follows: toy directives without reasons = .96; utensil directives without reasons = .95; leaving the area directive without reasons = .78; touching forbidden objects directives without reasons = .94; other directives without reasons = .91; toy directives with reasons = .99; utensil directives with reasons = .99; leaving the area directives with reasons = 1.0; touching forbidden objects directives with reasons = .86; other directives with reasons = .75; prompts = .89; physical prompts = .72; modeling = .94; interaction = .95; and praise = .99. The average kappa coefficients for each of the measured child behaviors were as follows: leaving the area = .99; forbidden objects = .95; sorting appropriately = .98;

picking up appropriately = .99; utensil contact = .98; toy contact = .98; negative affect = .97; and solicitation for attention = .93. Thus, the coding was highly accurate for most paternal and child behaviors.

Procedure

Random assignment of participants to either the reasoning condition or the no reasoning condition occurred for the first 13 participants. The remaining 13 participants were matched to the first 13 as closely as possible for age, gender, and ethnicity. Two of the non-Caucasian children were matched together. The other could not be matched to another non-Caucasian child due to an unequal number of participants. One subject was dropped after matching due to his high score on the CBCL Externalizing scale, which resulted in 11 dyads in the Reasoning condition, and 12 in the No Reasoning condition. The entire protocol lasted approximately 1½ hours and required each father-child dyad to visit the laboratory on only one occasion.

General Protocol

All participants were met by the experimenter in the laboratory anteroom. The experimenter read a brief, scripted overview of the study to the father and obtained consent while a research assistant occupied the child. After obtaining consent, the experimenter demonstrated the use of the bug-in-the-ear device and gave the instructions for the freeplay phase. The study consisted of three separate phases, freeplay, toy clean-up and utensil sorting. The protocol for each phase will be described in the next several paragraphs.

Freeplay Phase Protocol

During the 10-minute freeplay phase, the father-child dyad played together in the observation room. This phase of the study was designed to help the subjects familiarize

themselves with and become comfortable in the laboratory surroundings. Fathers were instructed to actively play with their child and to let the child lead the play during this phase. Fathers were also instructed to avoid all reprimands to their children during this phase. If a child misbehaved during this phase, the experimenter coached the father to distract the child's attention and engage him/her in a new activity. Fathers were given instructions to encourage, praise, and otherwise provide their child with positive feedback during the phase. A minimum of one praise statement per minute was given, with the experimenter instructing the father (through the bug-in-the-ear device) to deliver the praise if it did not naturally occur. There were no forbidden objects in place during this phase of the experiment.

Break

A brief break occurred after the free-play phase to allow the experimenter to prepare the observation room for the task phases, including placement of the forbidden objects. During the break the father was given scripted instructions as to the format for the task phases. The father was also given a clipboard of questionnaires, which he completed during the latter part of each task phase.

Tasks

After the break, one of two task situations occurred: utensil sorting or toy clean-up. The order of tasks was counterbalanced across subjects, with all subjects participating in both tasks. The instructions for each task were that the father repeat exactly what the experimenter cued him to say through the bug-in-the-ear device. Each of the tasks lasted eight minutes. The first four minutes (immediate phase) involved the active teaching and demonstrating of the task requirements to the child by the father. During the last four minutes (delayed phase) the child was expected to continue with the

task while the father worked on questionnaires with his back to the child. The father was instructed not to interact with the child during this period of time except to make one comment that he was not able to talk at the time because he was busy working on questionnaires.

Task - Immediate

Each father was instructed to sit on the floor with his child and deliver cued instructions to the child to either pick up the toys or sort the utensils for 4 minutes. Toy clean-up required the child to place the scattered toys into a large plastic bucket. Utensil sorting required the child to sort small blue spoons and large white spoons from a large box into two separate boxes matched for color and size (a small blue box and a large white box). The fathers were cued to model the task twice, and then instruct the child to perform the task. Once this had been accomplished, the father actively monitored the child as he or she performed the task.

Task - Delayed

The 4-minute delayed phase commenced when the experimenter cued the father to instruct the child to keep working while he filled out some forms. The father was then cued to sit at a table in the observation room and fill out questionnaires. During this period of time the father was instructed not to interact with the child. If the child attempted to get the father's attention, he was cued to briefly redirect the child back to the task and to ignore all other communication from the child. If the child became upset during this portion of the experiment, the father was cued to briefly console the child. At the end of this latter four minutes, the experimenter cued the father that the task was concluded. At that point the father and child returned to the anteroom while the experimenter prepared for the next task, or proceeded with the debriefing.

Thus the laboratory component of the study was divided into three major components, freeplay, toy clean-up, and utensil sorting. Freeplay was the first component experienced by all participants. Following freeplay, participants experienced both the toy clean-up and utensil sorting tasks, the order of which were counterbalanced across subjects by randomly selecting which task to present first. During both the toy clean-up and utensil sorting tasks there were two key phases (immediate and delayed). These phases were presented in the same order for all subjects. Thus the immediate phase always preceded the delayed phase.

Debriefing

At the conclusion of the study, the experimenter conducted a brief interview with the father. The father was asked to share his impressions of the study and ask any questions or voice any concerns. The father was then given a gift certificate/coupon for goods or services at local businesses or 10 dollars cash, and the child was given a small toy or prize. The father was also given a copy of the consent form, an information letter to give to friends who might be interested in participating in the study, and a list of community referral sources.

Operational Definitions of Independent Variables

Directives. Any statement directed toward the child that is designed to reprimand or modify the child's behavior was considered a directive for purposes of the present study. Directives were given to the child if he or she attempted to leave the observation area or touch any of the forbidden objects. When these behaviors occurred the experimenter cued the father to deliver the directive in a firm, neutral tone. Directives, both with and without reasons, were 11 to 12 words in length. When a child failed to comply with the first directive, the father was cued to reissue the directive after a three-

second pause. As part of the standard set of instructions during the tasks, all children received a minimum of 6 directives without reasons, which included directives to remain within the observation area, not touch any forbidden objects, and to perform the task (e.g., sort the utensils or lean-up the toys). The number of directives given after this standard set of instructions was determined by the child's behavior.

Reasons. At times the father was required to give the child directives to keep him or her focused and working on the task at hand. The participants were separated into two groups, one received directives with reasons and the other directives with no reasons. An example of a directive with reason is: "You need to put all the toys in the blue bucket because someone else will be coming soon." An example of a directive without reasons is: "You need to put all the toys in this blue bucket. Put them all in."

Praise. Children were praised for each of his/her first ten compliant behaviors (e.g., picking up toys, sorting utensils) in the task. Following the first ten, the child was praised for every two acts of task-appropriate behavior. The level of praise was faded gradually, with the lowest level of praise being once for every three appropriate behaviors. In order to maintain a high level of nurturance, at least one praise statement was delivered every minute.

Verbal prompts. Anytime a child did not comply with a parental directive, a verbal prompt was given. Verbal prompts were cued by the experimenter and were delivered by the father in a firm, neutral tone of voice. A verbal prompt is as follows: Father says, "(name), look at me," followed by a repetition of the original directive. If the child did not comply within three seconds, the father was cued to either reissue the directive, or use a physical prompt.

Physical prompts. In the event a child did not comply with the father's initial directives or verbal prompts, physical prompts were used. A physical prompt was used only in cases when the child had left the area or refused to stop touching a forbidden object. In either instance, the father was cued to physically guide the child back into the observation area or away from the forbidden object. Immediately following the physical prompt the father again delivered the initial directive (i.e., to pick up the toys or sort the utensils).

Off-task conversation. In the event the child attempted to converse with the father regarding a matter that was not related to the task, the experimenter cued the father to redirect the child's attention back to the task. The father then ignored any further off-task conversation on the part of the child.

CHAPTER V

RESULTS

Descriptive Information Regarding Fathers' Parenting Activities

As part of the demographic questionnaire, fathers were asked to complete several questions regarding the type of parenting activities they perform, and the degree to which they share in domestic duties. The following results were obtained from this descriptive questionnaire. When asked whether they or their partners (or both of them) typically perform a series of childcare tasks, fathers reported that, on the whole, both they and their partners share tasks equally (*Mode* = "both" on 7 of 12 tasks). Fathers reported that both they and their partners tend to share in diapering, feeding, bathing, playing with, reading to, comforting when hurt, and disciplining their children. Partners were reported to be the primary persons to schedule medical appointments, perform hygiene and grooming (clipping nails, doing hair, and dressing), arrange babysitters, and take the children to the barber (*Mode* = "partner" on 5 of 12 tasks). Fathers reported spending an average of 19 hours each week in six key parenting activities (feeding, bathing, dressing, reading, playing, and disciplining). Partners were reported to spend an average of 35 hours each week engaged in these activities. Thus, fathers in this sample reported spending 54% the amount of time as their partners in parenting activities. Although these figures are rough estimates by the fathers, it appears this group of fathers is highly involved in parenting their children. Fathers were also asked to report the approximate number of hours they and their partners spend each week performing a series of domestic

duties. Results indicate that fathers spend an average of 2.8 hours per week cleaning house (9.6 hours for partners), 1.3 hours doing laundry (5.1 for partners), 2.7 hours doing yard work (1 hour for partners), and 3 hours preparing meals (7.5 hours for partners). In terms of work outside the home, fathers reported that they work on average 44 hours per week (M = 44.35) and their partners 15 hours per week (M = 15.33).

Group Equivalence on Questionnaire and Demographic Data

A series of two-tailed, independent samples *t*-tests was conducted to ensure that randomization led to equivalence between groups across a number of variables. Using the CBCL/1½-5 (Achenbach, 2001), a Total Problems T-score, an Externalizing T-score, and an Internalizing T-score were calculated and compared. Results of the *t*-tests indicate that the reasoning group did not differ from the no reasoning group with regard to child behavior across the following scores: Total Problems scale (reasoning M = 51.55, SD = 11.34; no reasoning M = 50.5, SD = 9.68; t (21) = .238, $p < .81$); Externalizing scale (reasoning M = 51, SD = 9.4; no reasoning M = 50.25, SD = 6.9; t (21) = .220, $p < .828$); and Internalizing scale (reasoning M = 50.27, SD = 10.94; no reasoning M = 47.58, SD = 12.72; t (21) = .541, $p < .594$).

An additional parent report of child behavior measure, the Eyberg Child Behavior Inventory (ECBI) (Burns & Patterson, 1990; Eyberg & Ross, 1978), was utilized to examine group equivalence on reported child behavior problems. The groups did differ significantly on the ECBI Problem score (reasoning M = 6.0, SD = 5.23; no reasoning M = 2.08, SD = 2.07: t (21) = 2.4, $p < .026$). The groups did not differ on the ECBI Intensity score (reasoning M = 94.45, SD = 19.9; no reasoning M = 89, SD = 20.21; t (21) = .651, $p < .522$.

The Parenting Scale (Arnold et al., 1993) Total score was calculated to verify that randomization led to equivalence between groups with regard to parenting style. A two-tailed independent samples *t*-test was utilized. The results indicate that the reasoning group ($M = 2.99$, $SD = .34$) did not differ from the no reasoning group ($M = 2.54$, $SD = .66$) in their Parenting Scale Total score, $t\ (21) = 2.051$, $p < .053$. There was a significant difference between groups on the Overreactivity score (reasoning $M = 2.7$, $SD = .59$; no reasoning $M = 1.98$, $SD = .52$), $t\ (21) = 3.15$, $p < .005$. No significant differences were found on any other the remaining factor scores (Laxness and Verbosity).

An additional two-tailed, independent samples *t*-test was calculated to ensure that randomization led to equivalence of groups for child age, fathers' age, and fathers' years of education. The reasoning group ($M = 27.73$ months, $SD = 2.05$) did not differ from the no reasoning group ($M = 27.5$ months, $SD = 2.61$) with respect to child age, $t\ (21) = .230$, $p < .82$. Neither were there any differences between the two groups for fathers' age (reasoning $M = 32.75$ years, $SD = 7.629$; no reasoning $M = 32.50$ years, $SD = 6.53$, $t\ (22) = .086$, $p < .932$). Finally, the reasoning ($M = 16.09$, $SD = 1.14$) and no reasoning ($M = 15.75$, $SD = 1.77$) groups did not differ with respect to father's level of education, $t\ (21) = .545$, $p < .592$.

Finally, a series of chi-square analyses was conducted to ensure that randomization led to group equivalence on categorical variables including child gender, child ethnicity, father ethnicity, and family income level. The reasoning group did not differ from the no reasoning group on child gender, $\chi^2\ (1, N = 23) = .034$, $p < .855$. There were no differences between the reasoning and no reasoning groups on child ethnicity, $\chi^2\ (2, N = 23) = .2.96$, $p < .227$ or father ethnicity, $(3, N = 23) = 2.013$, $p <.570$. Finally,

there were no differences between groups with respect to family income level, χ^2 (4, N = 23) = 2.5, $p < .654$.

Note that the above analyses found significant differences between groups on two scores, the ECBI Problem score and the Parenting Scale Overreactivity score. Correlational analyses were conducted on these two scores with observed child behavior in all phases of the study as part of the main analyses. These analyses were designed to examine whether pre-existing differences in child behavior and/or parenting issues accounted for an observed differences between the groups. Results of these correlational analyses revealed the following significant correlations. The Parenting Scale Overreactivity score was correlated with utensil contact and with the touching of forbidden objects in the utensil sorting task (immediate phase) (r = -.44, $p < .05$), and (r = .52, $p < .05$), respectively. The ECBI problem score was significantly correlated with leaving the area during the toy clean-up task (delayed phase) (r = .602, $p < .01$) and with touching forbidden objects during the utensil sorting task (immediate phase) (r = .669, $p < .01$). No other significant correlations were found on the remaining child behaviors with these four variables.

Data Tabulation for Coded Observational Data

The percent occurrence of the following behaviors was tabulated for each father: directives with and without reasons, verbal prompts, physical prompts, praise and interaction. These data were utilized to verify the manipulation of the independent variable. Please refer to Tables 2 and 3 for a complete reporting of these behaviors during free play and task phases, respectively.

The percent occurrence of several child behaviors was tabulated as the measure of the dependent variable. Please refer to Tables 4, 5, and 6, for detailed reports of these

behaviors during free play, toy clean-up, and utensil sorting phases, respectively. Child compliance was measured as the percent occurrence of picking up and sorting appropriately. Measures of direct child noncompliance included leaving the observation area and touching forbidden objects. Passive noncompliance included toy contact and utensil contact. Other child behaviors included solicitation for attention and negative affect. Detailed analyses of these behaviors are presented later.

Manipulation Checks

Freeplay Phase. Father behavior during the free play phase was characterized by high rates of interaction with children (reasoning $M = 93.93$, $SD = 6.34$; no reasoning $M = 88.06$, $SD = 13.16$) and praising of positive child behavior (reasoning $M = 21.51$, $SD = 6.97$; no reasoning $M = 21{,}81$, $SD = 9.00$). Rates of directives were all less than 2%.

The freeplay phase served two purposes: 1) it provided an opportunity for the father and child to become familiar with the observation room and become comfortable with the surroundings, and 2) it established an optimal level of positive interaction between father and child (praise and interaction). A one-way ANOVA with strategy as the between-groups factor was conducted on praise and interaction in the freeplay phase. These analyses confirmed that all children, regardless of experimental condition, experienced equal levels of nurturant behavior during freeplay. There was no main effect of strategy on praise $F(1, 22) = .007$, $p = .93$, or interaction, $F(1, 22) = 1.81$, $p = .19$. Thus, paternal praise and interaction rates did not differ by condition (refer to Table 2 for mean rates). A series of one -way ANOVAs with strategy as the between-groups factor was also conducted for other paternal behaviors, directives with and without reasons for toys, leaving the area, and other, and other behaviors including prompts, physical prompts, and interaction. These analyses revealed a main effect of strategy on prompt F

(1, 22) = 5.79, p = .025, with the fathers in the reasoning group displaying this behavior significantly more frequently than fathers in the no reasoning group. Consequently, in conducting the analyses on the dependent variable, prompt was entered as a co-variate to ensure there were no effects of this behavior during freeplay on subsequent child behaviors (e.g., during task phases). Results of these ANCOVAs confirmed that there was no effect of fathers' prompt behavior during freeplay on the children's behavior during the task phases. No main effects of strategy were found on any other paternal behaviors during freeplay (all *F*s n.s.).

Task Phase - Reasoning Condition. During the task phases, fathers in the reasoning condition gave task-related directives (toys, utensils) with reasons in 10.5% of coded intervals. Directives with reasons about active non-compliance occurred in less than 1% of intervals and directives with reasons about touching forbidden objects occurred in 3.6% of intervals. Directives without reasons occurred in 23% of coded intervals, with directives without reasons about active non-compliance (leaving the area and touching forbidden objects) occurring in less than 1% and 3.5% of intervals, respectively. Other behaviors given by fathers in the reasoning condition included prompt (25%), modeling (21%), interaction (23.7%), praise (19%), and physical prompt (3.6%).

Task Phase - No Reasoning Condition. Also during the task phases, fathers in the no reasoning condition gave task-related directives (toys, utensils) without reasons in 34% of coded intervals, with directives without reasons about active non-compliance (leaving the area and touching forbidden objects) occurring in less than 1% and 3%, respectively. Task-related directives with reasons, as well as directives with reasons about active non-compliance all occurred in less than 1% of intervals in the no reasoning

condition. Other behaviors given in by fathers in the no reasoning condition included prompt (21%), modeling (21%), interaction (23.3%), praise (21%), and physical prompt (1.8%).

A series of 2 (strategy) x 2 (task) x 2 (phase) mixed design ANOVAs with strategy as the between-groups factor (reasoning versus no reasoning), and Task (familiar versus novel) and phase (immediate versus delayed) as the within-subjects factors were conducted. These analyses served to ensure equivalence across groups on paternal behaviors that were held constant, and on those behaviors that were part of the manipulation.

Manipulation of the independent variable strategy (reasons vs. no reasons), was verified by examining main effects on key father behaviors including, directives with and without reasons about toys, utensils, leaving the area, and touching forbidden objects. Results of these analyses are presented in Table 7. Main effects of strategy were found on the majority of these variables: directives with reasons toys F (1, 21) = 34.51, $p < .001$; directives with reasons utensils F (1, 21) = 46.46, $p < .001$; directives with reasons forbidden objects F (1, 21) = 7.07, $p < .015$; directives without reasons toys F (1, 21) = 18.05, $p < .001$; and directives without reasons utensils F (1, 21) = 19.92, $p < .001$. This indicates there was accurate manipulation of the strategy factor. No main effects were found for strategy on directives with and without reasons about leaving the area (all Fs n.s.) or on directives without reasons about forbidden objects, likely because of low rates of these behaviors. Although there was a significant main effect of strategy for directives with and without reasons, fathers in the reasoning condition did issue several directives without reasons. Because the standard instructions for fathers in either condition included directives without reasons, the result was a certain number of those directives being

given in the no reasoning condition. Fathers in the reasoning condition displayed task-related directives (toys, utensils) without reasons in 35 percent of total coded intervals, with fathers in the no reasoning condition displaying 50 percent of such behaviors (marginal mean rates reported).

No main effect of strategy was predicted for prompts, physical prompts, praise, interaction, modeling, or directives other (with or without reasons) during task phases. Because these behaviors were held constant by the experimenter, it was expected that these variables would not differ by strategy. Statistical analyses revealed no difference between the reasoning and no reasoning groups on any of these variables (all *F*'s n.s.), indicating good experimental control of these variables.

No main effect of task (novel vs. familiar) was predicted. It was expected that there would be no differences in the occurrence of any paternal behavior across tasks. However, there were two significant differences found. Fathers gave significantly more directives without reasons about forbidden objects in the familiar task than in the novel task $F\ (1, 21) = 11.26,\ p < .003$. The other significant difference occurred with respect to interaction, $F\ (1, 21) = 7.39,\ p < .013$. Fathers exhibited higher rates of interaction during the novel than the familiar task. No other main effects of task were found on the remaining paternal behaviors (all *F*s n.s.). Refer to Table 8 for detailed results of task main effects.

A main effect of phase (immediate vs. delayed) was predicted for all paternal behaviors since fathers were expected to be actively interacting with their children during the immediate phase and to be unavailable to their children during the delayed phase (see Table 9). A main effect of phase was found for directives with and without reasons about toys, utensils, and forbidden objects. Main effects of phase were also observed for the

other behaviors, prompt, physical prompt, modeling, praise, and interaction (all *F*'s significant). Main effects were not found for directives with and without reasons about leaving the area. This is likely due to the fact that such directives occurred at a very low rate throughout all phases (see Tables 2 and 3 for mean rates of child behavior). These results confirm that the immediate vs. delayed phase manipulation was implemented successfully.

The results of the manipulation checks provide sufficient evidence to verify the correct implementation of the independent variable (strategy), consistent experimenter control across tasks on other father behaviors, and accurate implementation of the delayed phase. Thus, the main analyses, presented next, may be interpreted in the context of these experimental controls.

Main Analyses

Prior to discussing the results of the hypotheses, a brief description of child behavior will be presented. Children in the reasoning condition displayed compliant behavior (picking up and sorting appropriately) in 25% of coded intervals. They displayed passively non-compliant behaviors (toy contact and utensil contact) in 22% of coded intervals. Actively non-compliant behaviors (leaving the area, touching forbidden objects) occurred in 1% and 35% of coded intervals, respectively. Other child behaviors observed during the reasoning condition included negative affect (16%) and solicitation for attention (13%). Children in the no reasoning condition displayed compliant behavior (picking up and sorting appropriately) in 28% of coded intervals. They displayed passively non-compliant behaviors in 38% of coded intervals. Actively non-compliant behaviors (leaving the area, touching forbidden objects) occurred in 3% and 27% of coded intervals, respectively. Other child behaviors observed during the no reasoning

condition included negative affect (7%) and solicitation for attention (11%). See Tables 4, 5, and 6 for more detail regarding child behavior during the study.

Main analyses were conducted on all child behaviors using separate 2 (strategy) x 2 (task) x 2 (phase) mixed design ANOVAs. As with other analyses, strategy was the between-groups factor (reasoning versus no reasoning), with task (familiar versus novel) and phase (immediate versus delayed) as within-subjects factors. Main analyses tested the hypotheses and examined whether rates of observed child behaviors differed across tasks and phases and between conditions.

It was hypothesized that a main effect of strategy on compliance (sorting appropriately and picking up appropriately), active noncompliance (touching forbidden objects and leaving the area) , and passive noncompliance (utensil contact and toy contact) would be found. Because several studies have found differences in child compliance as a function of reasoning, it was predicted that children in the reasoning condition would differ in their rates of compliance and noncompliance from children in the no reasoning condition. This hypothesis, however, was not supported. There was no main effect of strategy on compliance F (1, 21) = .345, $p < .56$. Neither was there a main effect of strategy on passive noncompliance (toy and utensil contact) F (1, 21) = 4.026, $p < .058$. The effect size for this analysis of passive noncompliance of .16 (partial eta squared) and observed power of .48 were noted, but not considered sufficient to consider this a significant finding. In addition an ANCOVA analysis was conducted with the Parenting Scale Overactivity and ECBI Problem scores entered as co-variates. This analysis did not yield a significant effect of reasoning on passive noncompliance F (1, 19) = 1.64, $p < .22$. There was no main effect of strategy on active non-compliance (leaving the area F (1, 21) = .461, $p < .504$; and touching forbidden objects F (1, 21) =

.810, $p < .378$). Thus the expected difference between rates of compliance (picking up toys and sorting utensils) and noncompliance (leaving the area and touching forbidden objects), as a function of reasoning (strategy), was not found.

No main effect of task was expected on any variable. Thus, it was hypothesized that children would have equal rates of compliance and noncompliance for both novel and familiar tasks. There was no main effect of task on compliance (picking up appropriately, sorting appropriately), passive non-compliance (toy contact, utensil contact), one of the active noncompliance behaviors (leaving the area) or other behaviors (solicitation for attention, negative affect). However, there was a main effect of task on rates of touching forbidden objects, F (1, 21) = 5.51, $p < .029$, which is one measure of noncompliance. Children engaged in higher rates of touching forbidden objects during the familiar (toy clean-up) task than the novel (utensil sorting) task. This effect is presented in Figure 1.

A main effect of phase on compliance and noncompliance was predicted. It was hypothesized that children would exhibit higher rates of compliance and lower rates of noncompliance during the immediate phase. Conversely, it was hypothesized that children would exhibit lower rates of compliance and higher rates of noncompliance during the delayed phase. There was a main effect of phase on compliance, F (1, 21) = 41.65, $p < .001$ (see Figure 2). Children exhibited higher rates of compliance in the immediate than in the delayed condition. There was also a main effect of phase on passive noncompliance (toy contact, utensil contact), F (1, 21) = 17.09, $p < .001$, with children displaying higher rates of passive noncompliance in the immediate than the delayed condition (see Figure 3). A main effect of phase was also found on the actively noncompliant behavior of touching forbidden objects, F (1, 21) = 35.22, $p < .001$, with

children engaging in significantly more of this behavior during the delayed than the immediate condition (see Figure 4). Other behaviors (negative affect and solicitation for attention) also differed significantly by phase, F (1, 21) = 9.79, $p < .005$ and F (1, 21) = 37.86, $p < .001$, respectively. Children exhibited significantly more negative affect during the delayed phase, and significantly less solicitation for attention during the immediate phase. These effects are presented in Figure 5 and Figure 6. A main effect of phase was not found for leaving the area, F (1, 21) = 1.61, $p < .218$, likely because of very low overall rates of this behavior. Thus the majority of child behaviors differed significantly, in the expected direction, as a function of phase.

An interaction between strategy and task on compliance and noncompliance was predicted. It was hypothesized that children in the reasoning condition would engage in lower rates of compliance during the familiar task (toy clean-up) and/or higher rates of compliance during the novel task (utensil sorting), while children in the no reasoning condition would exhibit higher rates of compliance in the familiar task and/or lower rates of compliance in the novel task. There were, however, no significant strategy by task interactions on compliant or noncompliant behaviors or negative affect (all *F*s n.s.). There was a strategy by task interaction on solicitation for attention (SA), F (1, 21) = 4.36, $p < .049$, see Figure 7. Children in the reasoning condition exhibited low rates of SA during the familiar task and high rates of SA during the novel task, while children in the no reasoning condition showed the opposite pattern. This interaction was followed up with a series of simple effects analyses, to examine any main effects of reasoning on SA withing the novel and familiar tasks separately. The results of these analyses showed no main effects (all *F*s n.s.).

A strategy x phase interaction on compliance and noncompliance was also predicted. It was anticipated that there would be a general decline in compliance behavior from the immediate to delayed condition for all children. It was expected that this decline in compliance would occur at different rates for children in the reasoning condition versus the no reasoning condition. No strategy by phase interaction was found on any variable (all *F*s n.s.).

No predictions were made concerning a task x phase interaction, or a strategy x task x phase interaction on rates of compliance and noncompliance. Analyses were conducted to test for these interactions, and none was significant.

CHAPTER VI

DISCUSSION

The current investigation was designed to examine the influence of reasoning on child compliance. Whereas previous studies have examined the effect of reasoning primarily in the context of mother-child interactions, the present study did so in the context of father-child interactions. Additionally, the study utilized both novel (utensil sorting) and familiar (toy clean-up) tasks, as well as immediate (father attending to the child) and delayed (father busy working on questionnaires) phases to examine all relevant variables. Manipulation checks verified that the experimental controls and manipulations were sufficiently implemented. The free play phase provided both father and child an opportunity to become familiar with the experimental environment, and a pattern of consistently high nurturance between father and child was established. During the task phases, the reasoning strategy was implemented between groups and the immediate and delayed phases were successfully manipulated and controlled. Thus, reasons were given almost exclusively by fathers in the reasoning condition (fathers in the no reasoning condition gave fewer than 1% of directives with reasons). Further, rates of parental interaction with the child were significantly lower during the delayed than the immediate condition.

This chapter will first present a discussion of the characteristics of the fathers who participated with respect to their involvement in parenting tasks. Then, the findings of the present study in terms of the effectiveness of parental use of reasoning in the context of

previous research findings, will be presented. Next, a discussion of the results of the present study in the context of the broader parenting research will be presented. Then, a discussion of the strengths and weaknesses of the present study will be given. And finally, some ideas will be presented for extending this line of research.

Father Involvement

Fathers were asked to respond to several questions regarding the type of parenting/childcare activities performed by them and their partners and the degree to which they share in domestic duties. Fathers reported working 44 hours each week outside the home, compared to 15 hours per week for partners (about 1/3 the amount worked by fathers). Fathers reported spending 54% the amount of time as their partners in parenting activities. They also reported spending approximately 43% the amount of time in domestic tasks as their partners. Although some suspicion about the accuracy of such reports, there is at least some cursory evidence that fathers in this sample were actively involved in parenting activities and shared in domestic chores, although mothers still do more of these tasks than fathers. This could have been a contributing factor in their willingness to participate in the study. It is difficult to know whether the results of the study would have been different with a more 'typical' group of fathers (e.g., not quite as involved). However, this seems unlikely given the explanations below about the apparent ineffectiveness of reasoning with young children.

Reasoning

It was predicted that children would have differing rates of compliance (picking-up and sorting appropriately) and noncompliance (toy contact, utensil contact, leaving the area, and touching forbidden objects) in the reasoning and the no reasoning conditions. The direction of this prediction was not specified because the effect of reasoning on child

compliance and noncompliance has not been well established. The results of the study did not support this hypothesis. None of the expected differences in rates of compliant and noncompliant behavior between the reasoning and no reasoning groups was obtained.

As noted above, the study of the influence of parental reasoning on child compliant and noncompliant behavior has produced inconclusive results to date. Some studies have found a positive effect of reasoning (Kuczynski, 1984), however, others have not (Kuczynski, et al., 1987; Lytton, 1977; Lytton & Zwirner, 1975; Munn, 1999). Some studies have shown reasoning to be effective only in combination with other parenting strategies (Chapman & Zahn-Waxler, 1982; Clark 1996). There are several possible explanations for the inconsistency in the findings of these studies. The discrepancies may arise due to differing methodology (e.g., self-report vs. laboratory experiments vs. naturalistic observation), task demands (e.g., familiar vs. novel tasks), control of confounding variables (e.g., nurturance), level of parental supervision (e.g., immediate vs. delayed), the age of the children being studied, and/or whether the participants were mothers, fathers, or both.

The present study was designed to examine the effects of reasoning under a variety of circumstances guided by past research. Self-report studies have found that reasoning is effective when used in combination with other parenting strategies (e.g., nurturance), and that parents tend to use reasoning when the misbehavior involves harm to another person (Chapman & Zahn-Waxler, 1982; Zahn-Waxler & Chapman, 1982). On the other hand, naturalistic observation studies have failed to show any positive effect of reasoning in either promoting internalization of rules or gaining compliance (Lytton, 1977; Lytton & Zwirner, 1975).

Studies conducted in the laboratory have also produced mixed results. One study demonstrated a positive influence of reasoning on compliance, but reasoning covaried with the level of nurturance and therefore results could not be attributed solely to reasoning (Kuczynski, 1984). Kuczynski, et al., (1987) and Munn (1999) found no effect of reasoning on compliance. Another study found reasoning to be effective only in combination with high rates of maternal warmth (nurturance) (Clark, 1996). Dunlap-Ballew (2002) found no positive effect of reasoning.

The type of task in which children are engaged may also have a bearing on the degree of compliance. Children may be asked to perform familiar tasks (things they have done before), and novel tasks (tasks they have never, or rarely performed). In two naturalistic observational studies (Lytton, 1977; Lytton & Zwirner, 1975) and two studies involving mother-report of child behavior (Chapman & Zahn-Waxler, 1982; Zahn-Waxler & Chapman, 1982), children were involved in situations and tasks that were familiar to them. In these studies reasoning was <u>not</u> found to be an effective means of obtaining child compliance. Laboratory studies have involved both novel and familiar tasks and/or situations. Kuczynski (1984) had 4-year-old children engage in a sorting task in which they had to sort forks and spoons into two separate containers, a novel task. He found that children engaged in high rates of compliant behavior in this type of setting. Munn (1999) examined between-group differences in rates of child compliance with both a novel (utensil sorting) and familiar (toy clean-up) task in a sample of children between 32 and 45 months old. She found no significant differences in rates of compliance across task.

Some of the discrepancy in findings across these studies may be attributable to the age of the children participating. The only study that found a direct effect of

reasoning was Kuczynski (1984), in a study examining children 4 years of age. The other studies (Clark 1996; Dunlap-Ballew, 2002; and Munn, 1999) all examined younger children (18-30 months in Clark and Dunlap-Ballew, and 32-45 months in Munn). Studies with younger children found no indication of a positive effect of reasoning, independent of other variables (e.g., nurturance). Likewise, the present study, which examined children between 24 and 32 months of age, found no positive effect of reasoning. Children become more compliant with age, but the degree to which the effect of reasoning varies with age remains an unanswered question.

There appear to be opposing developmental trends toward greater behavioral inhibition as children mature. Research indicates that both noncompliance and an increased ability to inhibit noncompliant behavior increase with age. Kaler and Kopp (1990) found that noncompliance was mildly positively correlated with age, which could be attributed to age-appropriate struggles for autonomy. Elsewhere it has been found that direct defiance and passive noncompliance peaks around age three and then declines (i.e., negative correlation) with age (Kuzcinski & Kochanska, 1990). Vaughn et al. (1984) found that children as young as eighteen months have a limited ability to delay their actions. The ability to delay one's behavior was found to increase drastically between 18 and 30 months of age. Kopp (1982) found additional support for this concept, noting that self-regulation evolves as a developmental progression from infancy to childhood, and results in the ability to monitor and modify one's behavior. It follows that age has a direct influence on the child's ability to control his or her own behavior, which affects compliance with parental requests. It is plausible, therefore, to hypothesize that because older children are better able to control their behavior, the potential for reasoning to be effective in eliciting that self-control is greater as children mature.

Immediate vs. Delayed Phases

The presence of the parent, and the degree to which the parent is actively monitoring child behavior, also appears to be a factor in the rate of child compliance and noncompliance. It was predicted that children would be more compliant and less noncompliant in the immediate phase (father present) than in the delayed phase (father occupied). Likewise it was predicted that children would be less compliant and more noncompliant during the delayed phase. These hypotheses were based on previous studies (Kuczynski, 1984, Clark, 1996, and Dunlap-Ballew, 2002) which found higher rates of child compliance during immediate phases. Additionally, one study (Kochanska & Aksan, (1995) found that children who were more compliant in their mother's presence were also more compliant in her absence. The present study found significantly higher rates of compliance during the immediate than the delayed phase. Thus the hypothesis that children would be more compliant in the immediate phase was supported. With respect to noncompliance, children exhibited higher rates of active noncompliance (touching forbidden objects) during the delayed phase. However, passive noncompliance (toy contact and utensil contact without actively cleaning or sorting) was higher in the immediate than the delayed phase. Thus the hypothesis that children would be less noncompliant in the immediate phase was supported for actively noncompliant, but not passively noncompliant, behaviors. This most likely resulted from children spending more time touching forbidden objects or attempting to gain the father's attention than engaging in passive noncompliance with the toys or utensils during the delayed phase.

Interactions

It was predicted that an interaction would be obtained between strategy and task. Children in the reasoning condition were expected to engage in lower rates of compliant

behavior during the familiar task and/or higher rates of compliant behavior during the novel task. Children in the no reasoning condition were expected to exhibit higher rates of compliant behavior in the familiar task and/or lower rates of compliant behavior in the novel task. The present study found no strategy by task interaction on compliance or noncompliance. However, there was such an interaction on the child behavior solicitation for attention (SA). Children in the reasoning condition exhibited lower rates of SA during the familiar task and higher rates of SA during the novel task, with the opposite pattern for children in the no reasoning condition. Previous studies employing familiar tasks (Clark, 1996; Kuczynski, et al., 1987; Lytton, 1977; Lytton & Zwirner, 1975), did not find reasoning to be independently effective in facilitating child compliance.

Nurturance was a potential confound in each of these studies. One previous study employing novel tasks (Kuczynski, 1984) found reasoning to be more effective than no reasoning, but these children also received high amounts of nurturant behavior from their parent. In the present study, nurturance was maintained at a consistently high level across all subjects, and in both novel and familiar tasks. Thus any effects of reasoning that may have been found could be reasonably assumed to be over and above the influence of nurturance. It was expected that reasoning would have a facilitative effect on compliance during the novel task because the reason provides new information to the child that might make performing the task more salient. Conversely, reasoning was expected to have a potentially negative effect on compliance during the familiar task because the reason for cleaning up one's toys would have been well established through previous experience, and therefore provides no new information. However, because the expected effects on compliance were not observed, this proposed differential effect of reasoning as a function of familiarity with the task was not supported.

It was expected that there would be a strategy by phase interaction. All children were expected to show a general decline in compliance from the immediate to the delayed phases of the study, with the expectation that the rate of that decline would differ by condition (reasons vs. no reasons). This interaction, however, was not found in the present study. One potential function of the delayed phase was to evaluate the effectiveness of reasoning in helping children internalize parental expectations.

Theoretically, a child who complies with a parental expectation, especially in the absence of parental supervision, can be said to have internalized that expectation. Previous studies have incorporated this notion of internalization in their designs (Vaughn, at al., 1984; Kuczynski, 1984; Kochanska & Aksan, 1995). Kochanska and Aksan (1995) hypothesized that children who have internalized parental rules have likewise adopted the parent's agenda, and would thus be more willing to comply. This prediction was not supported in the present study since the rate of decline in compliance was not different for children in the reasoning versus the no reasoning condition. For these children aged 24-32 months, reasoning did not lead to increased internalization of parental requests compared to the no reasoning group. However, internalization could be a more complex process that was not captured adequately by the present study involving young children. It is also possible an effect would have been found in a sample of older children. Further, there are other factors such as the frequency or saliency or the reason, the intensity of the interaction, or the importance of the behavior (e.g., potential for injury, harm to others, etc.) that may combine to produce well internalized expectations.

No prediction was made concerning a task by phase interaction. Children were not expected to differ in their rates of compliance or noncompliance as a function of parental supervision between tasks. No such interaction was observed.

No predictions were made concerning the strategy by task by phase interaction. No such interactions were found.

Conclusions and Future Directions

Based on the findings of the present investigation, several conclusions regarding the effectiveness of reasoning with young children can be drawn. First, the combined effect of a verbal reprimand with a reason appears to be no more effective than the verbal reprimand alone in children 24 to 32 months old. This finding is consistent with the results of Munn (1999) with children aged 32-45 months, as well as Dunlap-Ballew (2002) with children aged 24-31 months. Second, the use of reasoning does not appear to have differential effects on child compliance as a function of the familiarity of the task. Finally, whether parents use reasoning does not appear to have a differential effect on child compliance or noncompliance in terms of the level of parental supervision. The results of the present study did not find reasoning to be a more effective parenting strategy than direct verbal commands without reasons in children 24 to 32 months old, regardless of the familiarity of the task or the presence of parental supervision. These findings should be considered in terms of their clinical implications as well. Contrary to popular opinion, research does not support the use of reasoning in young children.

There are several limitations of the current investigation that may have hampered the ability to demonstrate the effectiveness of reasoning as a parenting strategy. First, the sample size was relatively small, 23 father-child dyads. It is possible that a larger sample size would have allowed for finer distinctions to be made in behaviors with subtle differences, although the meaning of such subtle differences could be questioned. Kuczynski (1984), who found a facilitative effect of reasoning in a novel task, included 64 mother-child dyads. However, age may also have been an issue in this study as the

child participants were all 4 years old. Future studies examining the effectiveness of reasoning may consider the benefits of obtaining a larger sample of both older and younger children to allow for a direct comparison of two different age groups in the same protocol.

Second, although fathers in the reasoning condition issued significantly more directives with reasons than fathers in the no reasoning condition (who gave less than 1% of directives with reasons), they also gave a substantial number of directives without reasons. This was due mostly to the fact that the standard instructions for the study included several directives without reasons (which were implemented in both the reasoning and no reasoning conditions). It is possible that the number of reasons the children in the reasoning condition received, over and above the number of verbal commands without reasons, was insufficient for the children to experience a truly "reasoning" condition. Future attempts to replicate this study should ensure that all (or nearly all) directives in the reasoning condition are accompanied by a reason, just as it is imperative that all (or nearly all) directives in the no reasoning condition not be accompanied by a reason.

Third, approximately 25% of participants' videotaped interactions were coded by a coding pair that included the principal investigator (who was not blind to either the hypotheses of the study nor the condition of the coded participants). Although steps were taken to ensure unbiased coding (e.g., the calculation of reliability coefficients for all coders, and the comparison of these coefficients across all coders with no observed differences) there is always the possibility that some bias existed.

Fourth, the fathers who participated in the study appear to be somewhat atypical. Even if we assume their reports are somewhat inflated (a fact which cannot be known),

these fathers appear to be spending a good deal of time in childrearing activities. It is possible that children with less involved fathers would respond differently to reasoning strategies. Nevertheless, fathers in this study may have chosen to participate because they were more involved.

Finally, the present study utilized two, eight-minute task phases for the purpose of examining the use of reasoning on child compliance and noncompliance. It may be that this was an insufficient length of time to demonstrate the effect that reasoning might have on child behavior. Future studies may wish to lengthen the time of the study to allow for the provision of more directives with reasons. Perhaps it is the repeated exposure to the reason that yields greater compliance from the child.

Although there are several limitations of the present investigation, there are also several strengths. First, the present study is one of only four to examine the effect of reasoning under highly controlled conditions. Further, it is the only study of which the author is aware that has examined the related variables in a father-child sample. Most previous research in this area has relied on self-report, naturalistic observation, or less controlled laboratory situations. In addition, previous research has relied almost exclusively on maternal report and/or participation. Second, the study implemented the use of both novel and familiar tasks, which facilitated a direct comparison between the two. Previous research has utilized either novel or familiar tasks, but not both. Third, the present study implemented both immediate and delayed phases. Previous research has most often utilized only one or the other of these varying degrees of parental supervision. Finally, the study replicated the findings of previous research using an established research protocol, and extended the findings by implementing the protocol with a relatively unstudied group, fathers. This allows for a closing of the gap that had

previously existed in the literature with respect to the effectiveness of reasoning in parent-toddler dyads. Most previous studies have not implemented such rigorous protocols in such a young sample and with as narrow an age span.

Ideas for Future Research

It may be useful to further extend the present study by expanding upon the protocol. In addition to including novel and familiar tasks, immediate and delayed phases, and proactive and prohibitive tasks, it may be helpful to extend the length of the laboratory session and increase the sample size. Future studies may combine self-report, naturalistic, and laboratory experimentation to further evaluate the use of reasoning by parents in a variety of contexts using different measurements. The ability to make comparisons between typical behavior of parents and children in the home and the laboratory may provide information necessary to make more definitive conclusions about the effectiveness of reasoning. Future studies may also wish to explore the long-term or cumulative effects of reasoning, by including a baseline measure of parental use of reasoning and studying the influence of reasoning longitudinally. A longitudinal design may provide additional information about the developmental course and/or long-term effects of reasoning. By comparing families that use reasoning and those that do not, additional effects of reasoning could be compared. Perhaps there are broader differences in parent-child interactions that arise from the continued use of reasoning over long periods of time that could be measured in a longitudinal format. Additionally, children's individual cognitive, emotional, and behavioral functioning could be periodically measured to assess the extent to which child variables may mediate the effectiveness of reasoning.

Further, researchers should recognize the importance of fathers in the rearing of children and should make specific efforts to include them in their future research. Studies may consider the potential benefit of making a direct comparison of mothers' and fathers' interactions with their children within a rigorous paradigm.

Although the present study did not find a facilitative effect of reasoning on child compliance or reducing child noncompliance, there may be other beneficial effects of reasoning that were not detected by this study. Perhaps parents experience greater satisfaction in their role when they feel justified in the demands they make on their children. Providing children with reasons might serve to alleviate doubt about one's own decisions as a parent. The present study did not evaluate the effect reasoning has on parents. Finally, although the present study did not find a facilitative effect of reasoning, there was also no indication that there are any harmful effects of reasoning.

The present study adds to the evidence that reasoning has no facilitative effect on child compliance nor a reducing effect on noncompliance in the short term. Clinically, the practice of recommending the use of reasoning with young children, although not likely to have detrimental effects, does not serve to improve the child's compliance. Thus, parents should not be encouraged to reason with the young children, as there is no added benefit over a more simple directive to comply. Evidence provided by this study indicates that fathers appear to be at least somewhat more involved with their children and to be more actively engaged in rearing them than they once were. They also seem to be spending a bit more time performing domestic activities. Future studies of parenting must recognize the importance of fathers, and their level of involvement in parenting, and include them in meaningful ways.

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APPENDIX A

PROTOCOL

PROTOCOL FOR ATR2 STUDY

General

1. Set up anteroom toys, chairs.

2. Check bug-in-the-ear and sterilize, make sure volume is at lowest setting.

3. Set up camera, check monitor, set timer to zero, check readability of numbers.

4. Label videotape with subject number, insert tape and record subject number/study title board for 5 seconds.

5. Set up clipboards with consent form, demographic, CBCL, ECBI, Parenting Scale, TBAQ, pens. Also, set up experimenter clipboard and shelf with protocol, explanatory statements, index cards, praise/compliance form, and debriefing.

6. Set up room with toys for free play.

Subject Arrives

1. Meet parent and child at building entry. Introduce self. Give parent a parking permit, if necessary. Ask parent if he or his child need a restroom break.

2. Bring parent and child into anteroom. Ask parent to have a seat. Child is directed to toys on the floor.

3. Explanatory statement:

"There are three parts in our study, with special instructions for each one. In all three phases you and your child will be together in the same room. The room has several toys, and in two of the phases there will be objects he/she will be told not to touch. We will be videotaping you and your child for study later. The purpose of this study is to learn about the effectiveness of different parenting strategies, not to evaluate you or your child. Please don't feel upset or embarrassed if your child misbehaves. We have designed the study so that he/she will misbehave. In other words, we need him/her to misbehave so we can study which parenting strategies are most effective. Everything is confidential, and your name will not be attached to the videotapes or questionnaires. Are you willing to participate?"

4. Give the parent the consent form to read and sign, answer questions, tell him he will get a copy.

5. Demonstrate the bug-in-the-ear as means of communication.

Phase 1: free play

1. Free Play explanatory statement:

"We want to see you and your child actively playing together. You will go in and sit on the floor to play. You can suggest things to play with, but don't force _____ to play with any certain toy. If _____ picks the activity, do what he/she picks. Give lots of positive feedback (like "good job"), affection (like high fives), and encouragement (like "you're doing great"). At certain times I may cue you to give _____ a praise statement. If I cue you, please repeat exactly what I say. This is very important. Also, don't give commands, reprimands, or disapproval at any time during this phase. If _____ tries to leave the room or misbehaves, use distraction (try to get them interested in what you're doing be acting very excited about it) in a neutral/positive voice and then retrieve him/her, but do not scold him/her. This phase will last 10 minutes."

2. Ask if parent has any questions. Direct parent and child to the room.

3. Turn on monitor, start camera, reset timer, shut door.

4. Cue praise as needed (see praise/compliance forms).

5. When time is up, tell the parent the phase is over and that they can come out now. Open door. Pause video camera, reset timer to 0. Ask if parent and/or child need a restroom break. Give him instructions for tasks.

Task Phases

1. Task explanatory statement:

"The next two situations will be the toy clean-up and utensil sorting tasks I mentioned at the beginning. Remember that the toy clean-up task is designed to allow us to see how children respond to their parents when doing something familiar to them. The utensil-sorting task is designed to allow us to see how they respond when asked to do something less familiar. During each of these tasks I will be cueing you from the hearing aid as to exactly what to say. Please repeat exactly what I say, and don't say anything unless I tell you to. This is necessary to ensure that each group of fathers uses the correct strategy. In the beginning of each task I will have you explain and show ____ how to do the task, and he/she will have a few minutes to do it with you there to encourage him/her. I will be cueing you with encouraging statements as ____ works at each task.

After a period of time, I will cue you to sit at the table and tell _____ you have to fill out some forms. You will then sit at the table with your back to ____. If he/she tries to get your attention, I will cue you to briefly redirect and then ignore. Remember that this is to simulate your being busy with something very urgent at home. To make this simulation effective it is necessary that there be as little interaction between the two of you as possible while you are at the table. There will be objects placed in the room during these

tasks that are off limits (the wind chime, typewriter, globe, etc.). If _____ touches any of these items I will cue you to reprimand him/her in a firm voice, and then redirect them to the task. For example, if _____ touches a forbidden object I will cue you to say something like: (NR)no,no don't touch that. (R) no,no don't touch that, it might break. I will have you make a similar statement if _____ leaves the area. If necessary I will have you repeat the redirection a second time. If after two times using this verbal strategy ____ still not complied with your request, I will have you gently take him/her by the hand and bring him/her away from the forbidden object, or back into the area. Each of these tasks will last 8 minutes, with a brief break between tasks. Do you have any questions?"

2. Ask if parent has any questions. Ask if parent or child needs a restroom break. Ask parent's permission to set out cookies (if no permission, use pretzels instead).

3. Put forbidden objects in place: plate with four cookies, typewriter, lava toy, globe, windchime, pencil/paper caddies.

4. Set up room for next task phase. Both toys and utensils must be out for each task phase. For utensil sorting, place all utensils in box, and put cream and blue box in place. For toy clean-up, scatter toys around floor, and put bin in place.

Phase 2/3: Utensil sorting

1. Utensil explanatory statement:

"First (Next) we'll do the utensil sorting task. Remember that your child will be instructed to sort spoons from one box into two separate boxes, to stay in the area and not touch the forbidden objects. In the beginning I will cue you to both explain and show ____ how to do this task. Again, it is very important that you don't say anything unless I tell you to. When I do cue you, please say exactly what I say. Do you have any questions about this phase?"

2. Direct parent and child to the room.

3. Turn on monitor, start camera, reset timer, shut door.

4. Test bug-in-the-ear.

5. Cue parent to sit on the floor by the utensils (make sure parent and child are in view of the camera, if they are not direct them to appropriate placement) and deliver instructions for task:

"We have some things to do in here now. I'm going to show you some utensils, and I want you to stay over here. Don't touch the things on the tables (have parent motion to tables with their hand). _____ **come sit by me. I want to show you something. This box has spoons in it all mixed up. We have to put the big white spoons in the big**

white box, and the little blue spoons in the little blue box. This is called sorting. Watch me. I sort the spoons by putting a big white spoon in the big white box, and a little blue spoon in a little blue box. Now you try. {Put a big white spoon in the big white box (*wait for compliance, repeat if needed, then praise with* "very good"). **Now put a little blue spoon in the little blue box** (*wait for compliance, repeat if needed, then praise with* **"very good, you're doing great"**)**}**. (*Do this -up to 4 times- with successful compliance before moving on.*). **You've got it! Keep going, they all need to be sorted into the right boxes."** Fade praise and give non-compliance statements as necessary until end of 4 minutes.

6. Once instruction/modeling period is complete, deliver praise/directives/prompts for 2 minutes. If child does not comply, repeat modeling sequence once more, then give directive to sort and do not continue to have parent model. Cue as needed (see index cards and praise/compliance forms).

7. After 4 minutes, cue father to disengage himself, say "**The man wants me to fill out some forms now, but you keep working you're doing great.** Say to father – go ahead and work on the forms at the table. I'll keep an eye on NAME and let you know if I need you to say anything to him/her. We'll be finished with this task in 4 minutes.

8. After 8 minutes, tell father this phase is complete, and they can come out now. Open door. Pause video camera. Ask if parent and/or child need a restroom break. If appropriate, give instructions for the next task phase, and set up room for next phase.

Phase 3/2: Toy Clean Up

1. Explanatory statement:

"First (Next) we'll do the toy clean-up task. Remember that in this phase your child will be instructed to clean up the toys from the free-play phase by putting them in the blue bucket. He/she will also be expected to stay in the area and not touch the forbidden objects. In the beginning I will have you both explain and show ____ how to do this task. Again, it is very important that you don't say anything unless I tell you to. When I do cue you, please say exactly what I say. Do you have any questions about this phase?"

2. Direct parent and child to the room.

3. Turn on monitor, start camera, reset timer, shut door.

4. Test bug-in-the-ear.

5. Cue parent to sit on the floor by the toys (make sure parent and child are in view of the camera, if they are not direct them to appropriate placement) and deliver instructions for task:

"We have some things to do in here now. I'm going to show you some toys, and I want you to stay over here. Don't touch the things on the tables (parent motions

toward forbidden objects)**. _____ come sit by me. I want to show you something. You are going to put all the toys in this blue bucket. Watch me. I pick up a toy and put it in the bucket. I pick this toy and put it in the bucket. {See that toy, pick it up and put it in the bucket** (*wait for compliance, repeat if needed, praise with* **"very good, you're doing great! pick up another one."**)**}.** (*Do this up to 4 times with successful compliance before moving on.*) **You've got it! Keep going, they all need to be picked up and put into the bucket."** Fade praise and give non-compliance statements as necessary until end of 4 minutes.

6. Once instruction/modeling period is complete, deliver praise/directives/prompts for 2 minutes. If child does not comply, repeat modeling sequence once more, then give directive to clean-up and do not continue to have parent model. Cue as needed (see index cards and praise/compliance forms).

7. After 4 minutes, cue father to disengage himself, say **"The man wants me to fill out some forms but you keep working, you're doing great.** Say to father – go ahead and work on the forms at the table. I'll keep an eye on NAME and let you know if I need you to say anything to him/her. We'll be finished with this task in 4 minutes.

8. After 8 minutes, tell parent this phase is complete, and they can come out. Open door. Pause video camera. Ask if parent and/or child need a restroom break. If appropriate, give instructions for the next task phase.

****

After both task phases have been conducted:

1. Allow father to complete questionnaires if necessary. Researcher/assistant play with child.

2. Conduct the debriefing interview with the parent.

3. Give father and child incentives. Ask parent's permission to give child cookies if child did not eat them during task phases.

4. Ask if she knows anyone who would be interested in participating. If yes, give him a flyer to give to the individual. Thank father, and escort to building exit.

5. Turn off video camera. Record brief description of child on videotape. Lock tape in cabinet.

6. Put up forbidden objects, clean up rooms.

7. Remove battery from bug-in-the-ear, sterilize.

8. Make sure all equipment is turned off, all lights are out, and all doors are locked.

APPENDIX B

TABLES

Table 1
Summary of Participant Demographic Information

Demographic Variables	Reasoning Condition	No Reasoning Condition	Entire Sample
Parent Variables			
Father age*	*M* = 33.45 *SD* = 7.58	*M* = 32.5 *SD* = 6.53	*M* = 32.96 *SD* = 6.91
Father ethnicity			
Caucasian	10	12	221
Other	1	0	
Father education*	*M* = 16.09 *SD* = 1.14	*M* = 15.75 *SD* = 1.77	*M* = 15.91 *SD* = 1.47
Parental marital status			
Married	11	11	221
Divorced	0	1	
Child Variables			
Child Age**	*M* = 27.73 *SD* = 2.05	*M* = 27.50 *SD* = 2.61	*M* = 27.61 *SD* = 2.31
Child gender			
Male	65	75	1310
Female			
Child ethnicity			
Caucasian	10	102	203
Other	1		
Child birth order			
Only Child	5	4	9
First Born	1	2	3
Youngest Child	5	6	11

* = years, ** = months

Table 2

Percentages of Paternal Behaviors During Free Play

Behavior	Reasoning Condition		No Reasoning Condition	
	Mean	SD	Mean	SD
Directives With Reasons				
Toy Clean-up	0	0	0	0
Utensil Sorting	0	0	0	0
Forbidden Objects	0	0	0	0
Leaving the Area	0	0	0	0
Directives Without Reasons				
Toy Clean-up	0	0	0	0
Utensil Sorting	0	0	0	0
Forbidden Objects	0	0	0	0
Leaving the Area	1.97	2.04	2.22	1.95
Other Behaviors				
Prompt	21.97	3.3	10.97	3.16
Physical Prompt	0.76	0.56	0.28	0.54
Modeling	0	0	0	0
Praise	21.52	2.44	21.81	2.34
Interaction	93.94	3.16	88.06	3.03

Table 3

Percentage of Paternal Behaviors During Task Phases

	Reasoning Condition				No Reasoning Condition			
	Toy Clean-up		Utensil Sorting		Toy clean-up		Utensil Sorting	
Behavior	Immed. Mean (SD)	Delayed Mean (SD)	Immed. Mean (SD)	Delayed Mean (SD)	Immed. Mean (SD)	Delayed Mean (SD)	Immed. Mean (SD)	Delayed Mean (SD)
Directives With Reasons								
Toy Clean-up	24.24 (13.80)	1.14 (2.69)	0 (0)	0 (0)	.694 (1.62)	0 ()	0 (0)	0 (0)
Utensil Sorting	0 (0)	0 (0)	15.53 (2.56)	1.14 (.56)	0 (0)	0 (0)	.347 (1.20)	0 ()
Forbidden Objects	5.68 (7.04)	.38 (1.26)	4.17 (1.82)	8.74 (.26)	1.39 (1.47)	0 ()	0 ()	0 ()
Leaving the Area	0 (0)	0 (0)	.38 (1.26)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Directives Without Reasons								
Toy Clean-up	34.85 (8.59)	5.30 (3.77)	0 (0)	0 (0)	59.72 (14.25)	4.51 (4.52)	.347 (.25)	0 (0)
Utensil Sorting	0 (0)	0 (0)	50.00 (14.91)	2.65 (2.10)	0 (0)	0 (0)	67.71 (18.13)	5.90 (3.75)
Forbidden Objects	9.10 (6.13)	.38 (1.26)	4.55 (2.25)	.38 (1.26)	8.68 (8.23)	0 ()	3.82 (3.30)	0 ()
Leaving the Area	.76 (.95)	0 (0)	1.14 (.56)	0 (0)	1.04 (.905)	0 (0)	0 ()	0 (0)
Other Behaviors								
Prompt	47.73 (27.60)	4.55 (3.93)	45.83 (26.09)	3.03 (4.24)	43.75 (23.20)	2.08 (3.32)	38.54 (19.23)	2.08 (3.32)
Physical Prompt	7.96 (14.12)	.38 (1.26)	6.06 (10.76)	0 (0)	5.21 (9.75)	0 ()	2.08 (5.18)	0 (0)
Modeling	39.94 (13.86)	.76 (1.69)	43.56 (26.64)	1.89 (2.86)	37.50 (21.25)	1.39 (2.71)	42.71 (22.55)	1.04 (1.88)
Praise	35.99 (25.29)	1.89 (2.86)	35.23 (25.78)	3.03 (4.20)	37.15 (20.50)	2.78 (2.05)	42.36 (14.52)	4.17 (3.97)
Interaction	28.79 (15.86)	4.92 (2.51)	54.17 (30.33)	7.20 (5.62)	36.11 (25.95)	4.51 (3.30)	45.83 (35.22)	6.94 (5.98)

Note. Means are the percentage of total intervals in which the behavior occurred. The total number of intervals was 24 each for immediate and delayed phases.

Table 4

Percentages of Child Behaviors During Free Play

	Reasoning Condition		No Reasoning Condition	
Behavior	Mean	SD	Mean	SD
Appropriate Play	93.18	8.71	90.83	11.8
Leaving the Area	3.48	8.48	4.17	14.43
Negative Affect	2.73	6.07	3.89	7.89

Table 5

Mean Percentages of Child Behaviors During Toy Clean-up

	Reasoning Condition				No Reasoning Condition			
	Immediate Phase		Delayed Phase		Immediate Phase		Delayed Phase	
Behavior	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Compliance	41.3	28.7	7.58	13.5	41.7	26.7	7.64	12.4
Forbidden Objects	18.6	21	61.4	38.7	21.2	37	54.2	42.2
Leaving the Area	1.14	3.77	3.03	5.3	1.39	4.81	0	0
Toy Contact	31.1	28.2	15.2	27.4	47.9	29.9	29.5	39.7
Negative Affect	22.7	19.6	5.68	9.73	13.2	19.3	4.17	6.41
Solicitation for Attention	0.76	2.51	17.4	16.9	3.82	6.99	22.6	17.6

Table 6

Mean Percentages of Child Behaviors During Utensil Sorting

	Reasoning Condition				No Reasoning Condition			
	Immediate Phase		Delayed Phase		Immediate Phase		Delayed Phase	
Behavior	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Compliance	39.8	31.6	10.6	19	47.9	21.1	16.7	22.1
Forbidden Objects	7.95	11.1	54.6	38.8	0.35	1.2	34	37.3
Leaving the Area	2.27	5.39	0	0	0	0	11.5	26.9
Utensil Contact	33.3	24.1	8.71	15.1	47.6	33.6	27.8	31.8
Negative Affect	23.9	32.1	12.5	22.4	6.6	12.2	2.43	4.15
Solicitation for Attention	0	0	33.7	27.7	0	0	19.4	19.1

Table 7

Main Effect of Strategy on Paternal Behavior during Task Phases

Behavior	MS	df	*F*	Sig. of *F*
Directives				
With Reasons				
Task*	2412.28	1	46.46	.001
Forbidden objects	121.89	1	7.07	.015
Leaving the Area	.21	1	1.10	.307
Without Reasons				
Task*	2911.23	1	19.21	.001
Forbidden objects	5.15	1	.26	.617
Leaving the area	1.04	1	.34	.568
Other	26.02	1	1.53	.230
Other Behaviors				
Prompt	309.12	1	.60	.449
Physical Prompt	72.37	1	.94	.342
Modeling	12.63	1	.04	.846
Praise	152.87	1	.36	.555
Interaction	4.01	1	.01	.934

Note. * in Toy Clean-up, Dt, DRt; in Utensil Sorting, Du, DRu

Table 8

Main Effect of Task on Paternal Behavior during Task Phases

Behavior	MS	df	*F*	Sig. of *F*
Directives				
With Reasons				
Task*	117.72	1	3.48	.076
Forbidden objects	12.10	1	.96	.339
Leaving the Area	.21	1	1.10	.307
Without Reasons				
Task*	686.60	1	6.41	.019
Forbidden objects	126.96	1	11.26	.003
Leaving the area	.63	1	.18	.678
Other	10.09	1	.69	.415
Other Behaviors				
Prompt	106.55	1	.68	.421
Physical Prompt	41.80	1	1.32	.263
Modeling	148.23	1	.74	.400
Praise	69.82	1	1.04	.319
Interaction	2273.28	1	7.39	.013

Note. * in Toy Clean-up, Dt, DRt; in Utensil Sorting, Du, DRu

Table 9

Main Effect of Phase on Paternal Behavior during Task Phases

Behavior	MS	df	*F*	Sig. of *F*
Directives				
With Reasons				
Task*	2131.21	1	43.64	.001
Forbidden objects	157.58	1	7.45	.013
Leaving the Area	.21	1	1.10	.307
Without Reasons				
Task*	53946.86	1	483.70	.001
Forbidden objects	924.10	1	43.45	.001
Leaving the area	12.37	1	3.99	.059
Other	1018.34	1	55.46	.001
Other Behaviors				
Prompt	38641.63	1	95.64	.001
Physical Prompt	628.41	1	8.73	.008
Modeling	35854.31	1	143.04	.001
Praise	27664.67	1	69.22	.001
Interaction	28654.42	1	66.31	.001

Note. * in Toy Clean-up, Dt, DRt; in Utensil Sorting, Du, DRu

Table 10

Main Effect of Strategy on Child Behavior During Tasks

Behavior	MS	df	*F*	Sig. of *F*
Compliance*	307.79	1	.345	.563
Active Noncompliance				
Forbidden objects	1534.39	1	.810	.378
Leaving the Area	111.03	1	.849	.368
Passive Noncompliance**	5972.89	1	4.03	.058
Other Behaviors				
Solicitation for Attention	52.70	1	.179	.677
Negative Affect	2113.89	1	4.43	.047

Note. * includes PA and SO behavior. ** includes TC and UC behavior.

Table 11

Main Effect of Task on Child Behavior During Tasks

Behavior	MS	df	*F*	Sig. of *F*
Compliance*	404.61	1	1.33	.262
Active Noncompliance				
Forbidden objects	4892.82	1	5.506	.029
Leaving the Area	79.81	1	.899	.354
Passive Noncompliance**	56.03	1	.048	.829
Other Behaviors				
Solicitation for Attention	105.77	1	.636	.434
Negative Affect	.206	1	.001	.977

Note. * includes PA and SO behavior. ** includes TC and UC behavior.

Table 12

Main Effect of Phase on Child Behavior During Tasks

Behavior	MS	df	*F*	Sig. of *F*
Compliance*	23565.02	1	41.65	.001
Active Noncompliance				
Forbidden objects	34944.00	1	35.22	.001
Leaving the Area	63.44	1	.726	.404
Passive Noncompliance**	8892.19	1	17.09	.001
Other Behaviors				
Solicitation for Attention	1256.18	1	37.86	.001
Negative Affect	2483.40	1	9.79	.005

Note. * includes PA and SO behavior. ** includes TC and UC behavior.

Table 13

Strategy X Task Interactions on Child Behavior during Tasks

Behavior	MS	df	*F*	Sig. of *F*
Compliance*	271.76	1	.893	.356
Active Noncompliance				
Forbidden objects	795.60	1	.895	.355
Leaving the Area	113.66	1	1.28	.271
Passive Noncompliance**	6.23	1	.005	.942
Other Behaviors				
Solicitation for Attention	724.73	1	4.36	.049
Negative Affect	380.64	1	1.55	.227

Note. * includes PA and SO behavior. ** includes TC and UC behavior.

Table 14

Strategy X Phase Interactions on Child Behavior During Tasks

Behavior	MS	df	*F*	Sig. of *F*
Compliance*	8.26	1	.015	.905
Active Noncompliance				
Forbidden objects	741.12	1	.747	.397
Leaving the Area	102.50	1	1.17	.292
Passive Noncompliance**	7.83	1	.015	.904
Other Behaviors				
Solicitation for Attention	213.01	1	.716	.407
Negative Affect	332.13	1	1.31	.265

Note. * includes PA and SO behavior. ** includes TC and UC behavior.

APPENDIX C

FIGURES

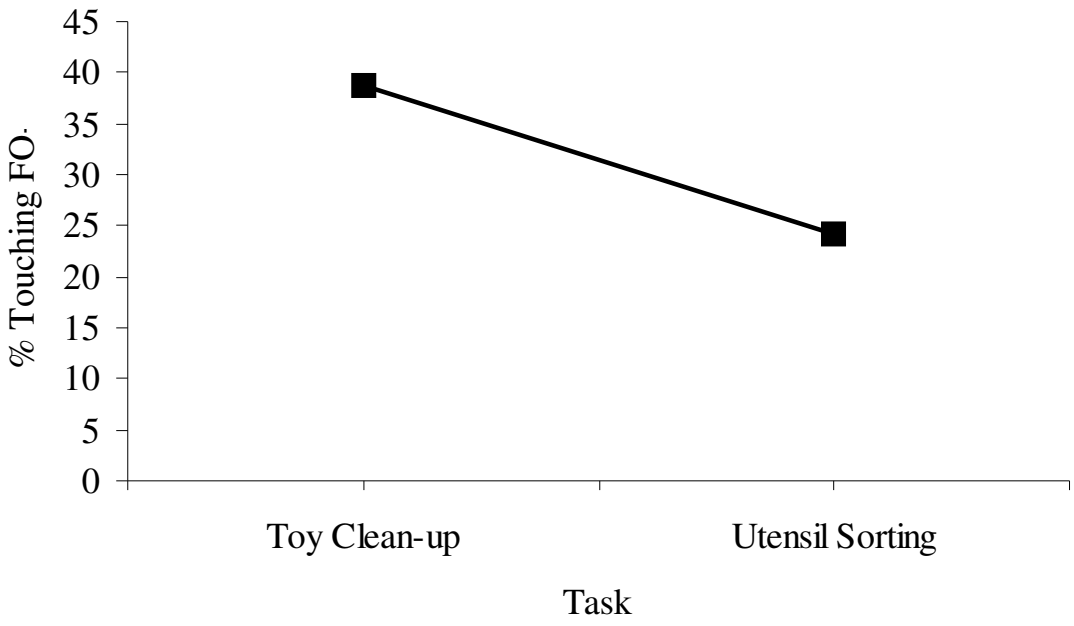

Figure 1. Main effect of task on touching forbidden objects (FO).

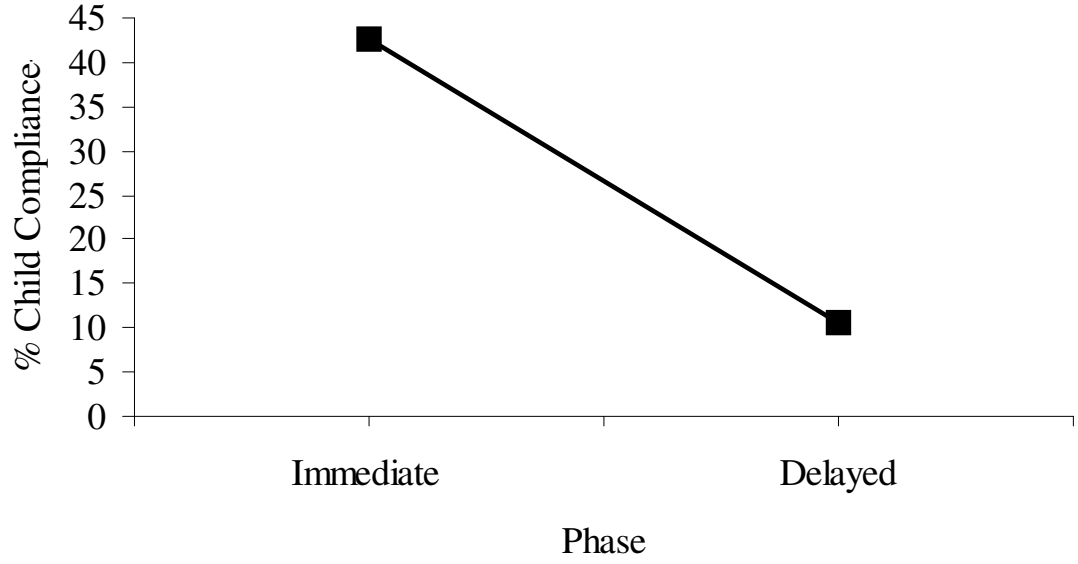

Figure 2. Main effect of phase on compliance.

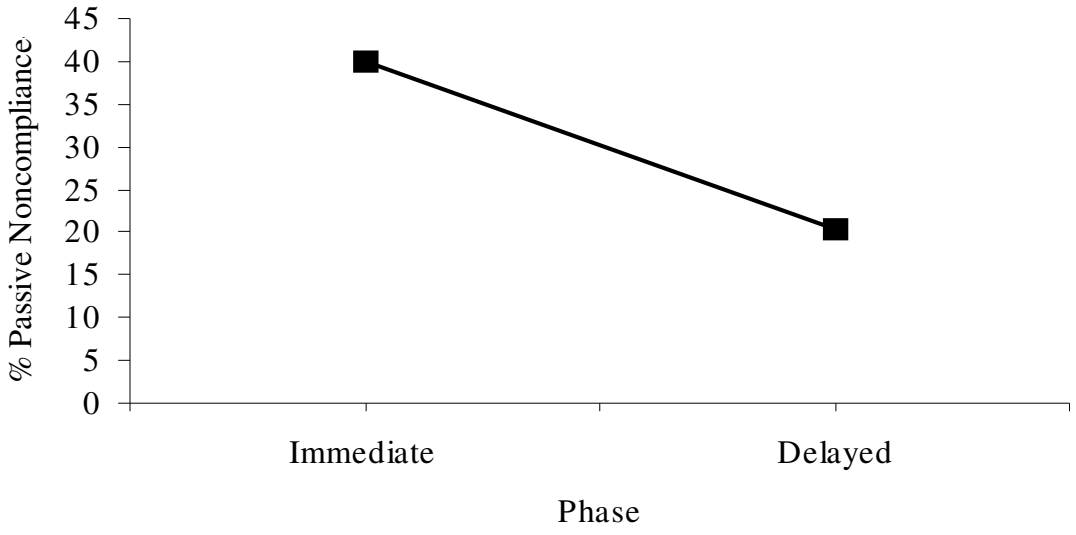

Figure 3. Main effect of phase on passive noncompliance.

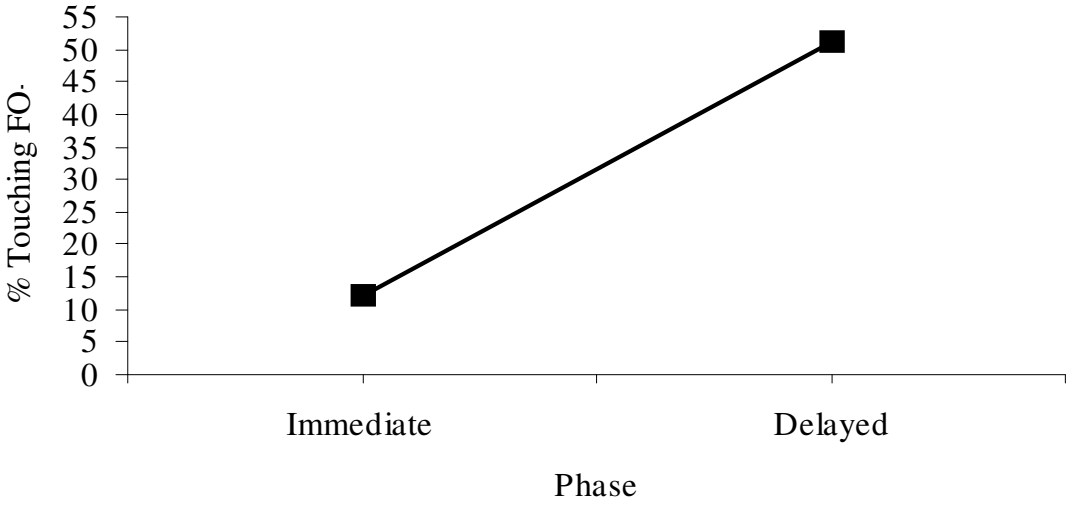

Figure 4. Main effect of phase on touching forbidden objects (FO).

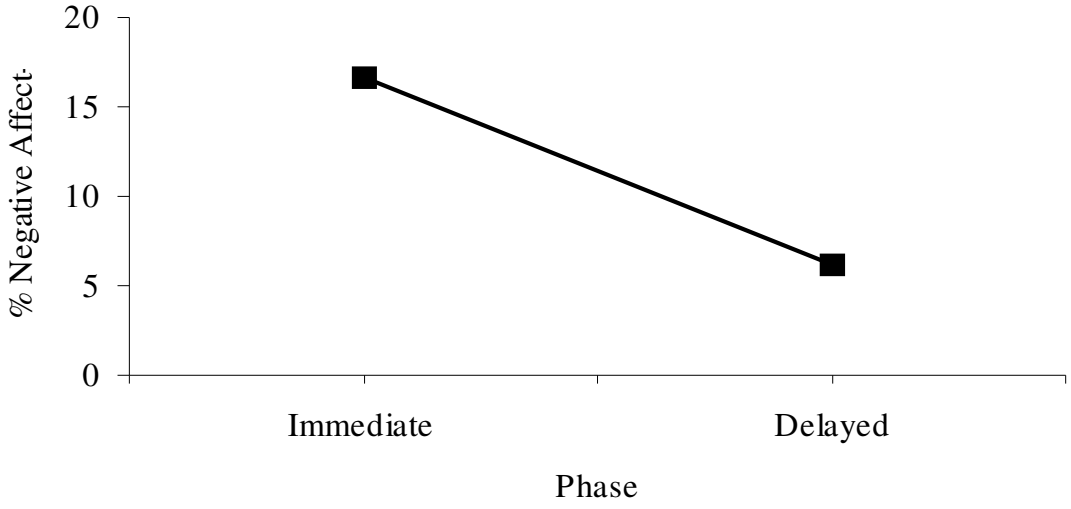

Figure 5. Main effect of phase on negative affect.

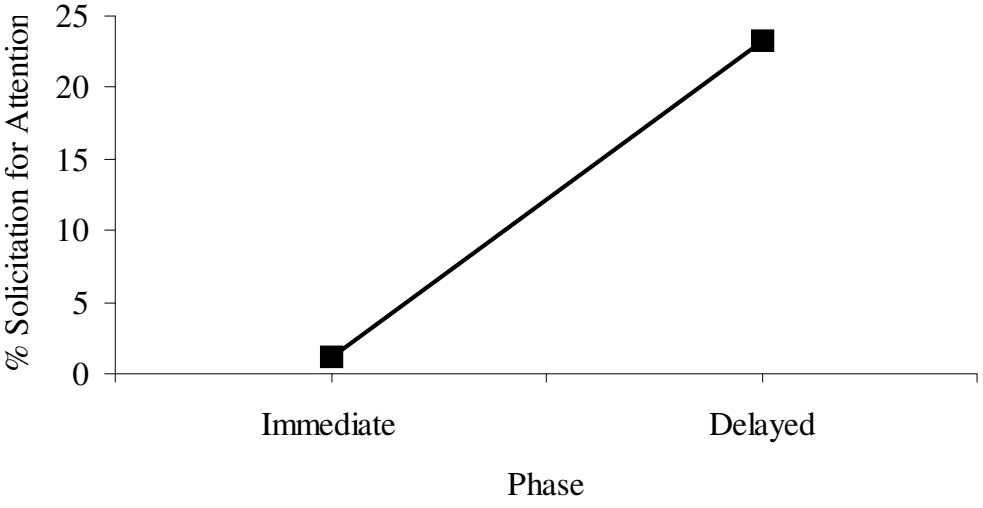

Figure 6. Main effect of phase on Solicitation for Attention.

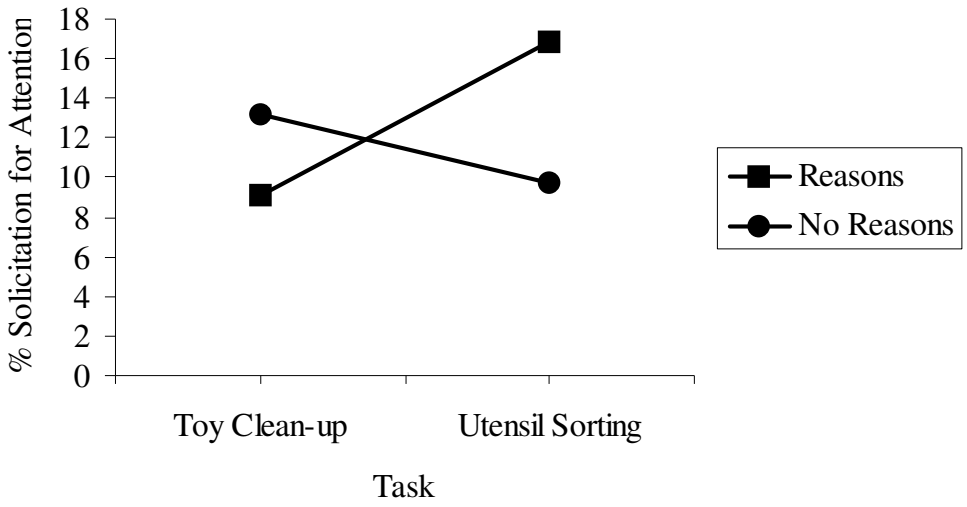

Figure 7. Strategy X Task interaction on solicitation for attention (SA).

APPENDIX D
INSTITUTIONAL REVIEW BOARD
APPROVAL FORMS

Oklahoma State University
Institutional Review Board

Protocol Expires: 2/4/2004

Date: Wednesday, February 05, 2003 IRB Application No AS0336

Proposal Title: THE EFFECTS OF REASONING AND NURTURANCE ON CHILD COMPLIANCE: A FATHER-TODDLER LABORATORY INVESTIGATION

Principal Investigator(s):

Carl Edgington
311 N. Muray
Stillwater, OK 74078

Maureen Sullivan
215 N Murray
Stillwater, OK 74078

Reviewed and Processed as: Expedited (Spec Pop)

Approval Status Recommended by Reviewer(s): Approved

Dear PI :

Your IRB application referenced above has been approved for one calendar year. Please make note of the expiration date indicated above. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved projects are subject to monitoring by the IRB. If you have questions about the IRB procedures or need any assistance from the Board, please contact Sharon Bacher, the Executive Secretary to the IRB, in 415 Whitehurst (phone: 405-744-5700, sbacher@okstate.edu).

Sincerely,

Carol Olson, Chair
Institutional Review Board

Oklahoma State University
Institutional Review Board

Protocol Expires: 2/3/2005

Date: Wednesday, February 04, 2004 IRB Application No AS0336

Proposal Title: THE EFFECTS OF REASONING AND NURTURANCE ON CHILD COMPLIANCE: A FATHER-TODDLER LABORATORY INVESTIGATION

Principal Investigator(s):

Carl Edgington
311 N. Muray
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Sincerely,

Carol Olson, Chair
Institutional Review Board

VITA

Carl Robert Edgington

Candidate for the Degree of

Master of Science

Thesis: THE EFFECT OF REASONING ON CHILD COMPLIANCE: A FATHER-TODDLER LABORATORY INVESTIGATION

Major Field: Psychology

Biographical:

Personal Data: Born in Salt Lake City, Utah, on May 15, 1973, the son of Carl and Kathie Edgington, the husband of Maria Sessions, the father of Sadie and Liam Edgington.

Education: Graduated from Olympus High School, Salt Lake City, Utah in May, 2001; received Bachelor of Science degree in Psychology, from the University of Utah, Salt Lake City, Utah in June, 1998. Completed the requirements for the Master of Science degree with a major in Psychology at Oklahoma State University in December, 2004.

Professional Memberships: American Psychological Association, Association for the Advancement of Behavior Therapy.