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An investigation of the interrelations of attributional bias, life stress, and social support in predicting coercive mother-son interactions

Arbuckle, Barry Scott, Ph.D.

The University of North Carolina at Greensboro, 1989

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An Investigation of the Interrelations of Attributional Bias, Life Stress, and Social Support in Predicting Coercive Mother-Son Interactions

by

Barry S. Arbuckle

A Dissertation Submitted to
the Faculty of the Graduate School at
The University of North Carolina at Greensboro
in Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

Greensboro
1989

Approved by

Carol E. MacKinnon
Dissertation Adviser

APPROVAL PAGE

This dissertation has been approved by the following committee of the faculty of the Graduate School at the University of North Carolina at Greensboro.

Dissertation Advisor Carol E. MacKinnon

Committee Members

July 18, 1989
Date of Acceptance by Committee

July 18, 1989
Date of Final Oral Examination

ARBUCKLE, BARRY SCOTT. An Investigation of the Interrelations of Attributional Bias, Life Stress, and Social Support in Predicting Coercive Mother-Son Interactions. (1989) Directed by: Dr. Carol E. MacKinnon. pp. 176

The purpose of this investigation was to examine the interrelations between mothers' and children's negative attributions about intent and coercive mother-son interactions. The extant literature focuses primarily on adult attributions about adults, adult attributions about children, or on children's attributions about their peers. In all of these studies, attributions about an actor's intent are correlated with behavior. The current study sought to explore these relations between parents and children as they interpret the other's behavior. Moreover, contributions of negative life events and social support were also investigated.

Sixty-three mother-son dyads were interviewed in a semi-structured format designed to assess attributions about intent. The subjects also completed questionnaires about the prevalence, direction, and salience of life events as well as their utilization of social supports. Finally, the dyads were observed interacting in two different tasks (one cooperative and one competitive) designed to elicit a wide range of prosocial and agonistic behaviors.

The results provided clear support for the hypotheses that mother and son negative attributions of intent would be predictive of the negativity of their interactions. Further, results suggested that the experience of life events was related to mothers' and sons' attributions about one another. Negative attributions about intent appear to be more predictive of one's negative behavior than another's actual behavior. For both mothers and children, the results provided partial support for the hypothesis that attributions are more predictive of behavior than are other's actual behavior. Finally, analyses of covariance implicated that both maternal and child social supports were powerful mediators between the experience of negative life events and attributions about intent. That is, a socially supportive network acted as a buffer to the deleterious effects of negative life events for both mothers and children.

The results of the study were discussed in terms of the importance of considering affective-cognitive factors in the development and maintenance of coercive mother-son interactions. The importance of social supports was also discussed. Finally, suggestions were presented that these processes should be studied longitudinally so that causal relations between the variables could be teased apart.

ACKNOWLEDGEMENTS

Sincere appreciation is expressed to the following individuals who helped make this manuscript possible:

To Dr. Carol MacKinnon, my advisor and mentor, for her constant encouragement, guidance, and resourcefulness throughout my doctoral program.

To the members of my dissertation committee from the University of North Carolina at Greensboro, Dr. Hyman Rodman and Dr. J. Allen Watson for their assistance and support.

To Dr. Edward Brooks, Associate Vice Chancellor for Health Affairs at the University of North Carolina at Chapel Hill for his willingness to serve on my committee and act as a liaison between my work at UNC Greensboro and UNC Chapel Hill.

To the 18 research assistants who provided countless hours of interviewing, observing, scoring, coding, transcribing, and entering data.

Finally, to my wife Gina for her unending patience on long nights and for her encouragement throughout my program. It is to her that this work is dedicated.

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CHAPTER I

INTRODUCTION

Statement of the Problem

Traditionally, investigations of aggressive parent-child interactions have been framed within a social learning model. While this approach provides an adequate explanation of the modeling and reinforcement of aggressive behaviors between parents and children (Patterson, 1982), it ignores the affective-cognitive components. Until recently, the affective-cognitive and behavioral areas of inquiry have remained separate (Pettit, Dodge, Brown, 1988). Yet, according to Dix and Grusec (1985), the most salient factor driving parenting is parents' attributions (cognitions) about children and children's behavior. They emphasize the critical import of people's inferences about the cause of events; that is, the motives and intentions of the actor who emits a behavior. Further, affect has the potential of influencing one's perceptions of others' behavior. Behavior that arouses anxiety, anger, or frustration is thought to elicit different attributions than behavior that is affectively neutral (Dix & Grusec, 1985). That is, those interactions that evoke negative affect are more likely to produce negative attributions of intent in the perceiver.

Adult-Child Attributions

Attempts to ascertain why an individual behaved in a particular way and whether or not that individual meant (made a conscious choice) to behave as they did, represents the thrust of attribution theory. Central to this theory is the issue of intentionality. Jones and Davis (1965) purport that attributions of blame are made when the effects of the other's behavior are intended. Inferences of intentionality involve consideration of three factors: ability, knowledge, and desire. That is, does the actor possess the skill to produce the effects desired? Can the actor foresee the consequences of the act? And, does the actor have the motivation to produce the effects? These factors contribute toward a judgment of intentionality for the enactment of a behavior.

Understanding how one draws inferences about another's behavior is complicated. Research on interpersonal inferences suggests that one's perception of another's behavior and their actual behavior are often contradictory (King, 1971; Shantz, 1983; Smith, 1978). These misperceptions may be based upon previous interactions and applied in the current context despite the current behavior. It may also be the case that, despite previous interactions, the perceiver holds an unfounded view of the other and applies it to their behavior. In either case, misperceptions can lead to inappropriate responses.

Numerous researchers have assessed parental cognitive processes as they influence parent-child interactions and suggested that parental perceptions influence subsequent behavior with their children (Dix & Grusec, 1985; Dix, Ruble, Grusec, Nixon, 1986; Sigal, 1985). However, if we believe that children also contribute to parent-child interactions, we must also consider children's social cognitions.

Are children's behaviors with others predicated upon the child's perception of other's intentions? This question has been addressed in a peer context by Dodge and his colleagues. Dodge (1980) has shown that aggressive children tend to be biased in their interpretation of their peers' intentions in provocation situations. Children who infer negativity about their peers' intentions are more likely to behave aggressively (Dodge, 1980). Clearly, it is children's perceptions of their peers' intentions, rather than the actual intentions, that contribute toward aggressive responses (Dodge, Murphy, & Buchsbaum, 1984). Further, negative interpretations of peers' intentions serve to not only establish, but also maintain hostile relationships (Dodge, 1985). Subsequent interactions, then, are not based solely upon the other's actual behavior, but on one's expectation of the other's behavior. Given that these processes contribute toward aggressive interchanges among peers, similar processes might be

expected to operate within families. One purpose of this study was to examine attributions of intent in a family context.

Dodge (1986) proposed a transactional social information processing model to understand individual differences in aggressive children. The model involves five steps or processes that are posited to occur in sequential temporal order and to transpire on a nonconscious level[1]. Briefly, the proposed model involves encoding social cues in the environment and integrating these with the past experiences in the child's memory in order to come to a meaningful understanding of these cues. Next, the child searches for possible behavioral responses followed by a cognitive evaluation of the potential consequences of each generated response. Finally, once a response is selected, the enactment phase is initiated and the child emits a response to the initiatory stimuli. This, then, is evaluated and acted upon by the other half of the dyad.

The current study is concerned primarily with the interpretation of the social cues received. Recent empirical findings suggest that deviant responses or biases in interpretations of others' intent are more likely to

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[1]According to Dodge (1986), "awareness of processing occurs only during highly novel or complex tasks, or when a cue is given to call the process into awareness (such as when a researcher asks a child what he or she is thinking)" (p. 83).

occur when ambiguous or conflictual information is available (Dodge, 1985; Kelley, 1973; Shantz, 1983). Thus, when presented with an ambiguous situation, one's response is based on one's own beliefs, expectations, or prior experiences, which if negatively biased can play a predominant role in maintaining and exacerbating hostile relationships.

It may be the case that an individual's interpretation is based on an accurate evaluation of previous interactions wherein negativity was predominant, and in those situations was not an attributional bias. That is, if the majority of exchanges with others have involved their initiation of conflict or aversive responses to one's positive or neutral advances, a negative evaluation is an accurate one. However, to the extent that negative interpretations in current situations are made of positive or neutral cues, a bias is operating. This study will examine which is the best predictor of one's current behavior, one's attributions about the other or the other's current behavior.

Relation Between Attributions and Life Stress

Numerous researchers have suggested that one's attributions of others' behavior are influenced by the degree of life stress experienced by the perceiver (Sarason, Johnson, & Seigal, 1978; Seligman & Peterson,

1986). That is, the perceived positivity or negativity and impact of events in one's life are related to one's perception of another's behavior (Sarason, et al., 1978). Individuals who have recently (within one year) experienced events that they perceive as both negative and salient tend to be externally oriented, feeling less capable of exerting control over events in their lives. Therefore, these individuals believe that others are responsible for negative events. That is, if when interacting with others the outcome is negative, they are likely to form negative attributions of intent. The current study sought to investigate these processes.

Investigations on the effects of life stress emphasize the important contribution of social support. Epidemiologist Berkman (1984) defines one's social network as the web of social ties that surround an individual. The development and maintenance of a support network mediates the damaging consequences of negative stressors (Berkman & Syme, 1979; Cassel, 1976). Conversely, absent or inadequate support systems exacerbate one's reaction to stressful life events. Thus, those individuals with a supportive network who experience negative life events are likely to experience less stress and thus would be less likely to manifest negative attributions of intent. Therefore, inquiries into the potential relation between life stress and attributions must take into consideration

the extent and utilization of social supports. It is important to note that no study to date has examined the moderating role of social support in children's experience of negative life events or attribution formation. The current study was designed to investigate these processes in both mothers and children.

Theoretical Foundations

Attribution Formation in Adults

Weiner (1979) posits that adults are influenced by a number of inferences concerning another's behavior. That is, the adult makes a cognitive appraisal of the actor's actions in order to better understand and react accordingly to the behavior. Four attributional dimensions thought to influence the assessment of an actor's behavior are loci, stability, globality (Abramson, Seligman, & Teasdale, 1978) and controllability (Dix & Grusec, 1985). If individuals perceive the outcome of an event as determined by the situation or chance (external), they are more likely to ignore the behavior than if effort or attitude (internal) plays a role. If factors causing the event are perceived as highly transient (unstable), blame will be less likely than if the factors are perceived as persistent over time (stable). The third factor, globality, refers to the expectation that the behavior occurs in a variety of situations. For negative outcomes, attributions of

globality are likely to elicit a negative response from the perceiver. Conversely, if the negative behavior is attributed to particular situations (specificity), it is less likely to elicit a negative response. Finally, if the actor is thought to have control over the negative behavior (controllability), which infers intent, a negative response is more likely than in situations where the behavior was out of control of the actor. Affective reactions to a given behavior, then, depend on whether the behavior is thought to be internal, stable, global, and controllable (Abramson, et al., 1978; Dix & Grusec, 1985; Weiner, 1979).

How attributions of intent are formed and how such attributions affect subsequent behavior continues to be a topic of current interest. Throughout the depression and learned helplessness literature, several researchers posit that a prevalence of life changes leads to feelings of helplessness (i.e., a lack of perceived control), as well as numerous physical and psychological difficulties (e.g., Abramson, et al., 1978; Constantini, Bruan, Davis, & Iervolino, 1973; Holmes & Rahe, 1967). It has been argued that undesirable events may have a more detrimental effect on individuals than positive events (Sarason, et al., 1978). Therefore, life stress may be characterized in terms of events that exert a negative impact, thereby causing one to feel out of control. Moreover, a

reformulation of the learned helplessness theory suggests that a strong relation exists between feelings of helplessness and attributions (Abramson, et al., 1978). It appears that the presence of negative events in one's life coupled with one's interpretation of those events as negative is related to subsequent feelings of helplessness. These feelings of helplessness, then, mediate the attributions one makes toward others' behavior.

In their attributional-transactional behavioral model, Bugenthal and Shennum (1984) highlight the interaction between locus of control, attributions, and expected parent-child behavior. Maternal perceptions of low self-perceived control were found to be linked to negative caregiving behaviors. These mothers exhibited a "learned helplessness" approach in their interactions with their "uncontrollable" children. That is, the adults with an external locus of control felt unable to manage their children and thus behaved as if they were powerless with the children. Conversely, adults who perceive that they are in control of events in their lives report greater control over their children. Clearly, adult attributions of internal/external control act as a mediator for caregiving behaviors.

Attribution Formation in Children

From the early research by Feshbach (1970) to more recent findings by Berkowitz (1977) and Dodge (1980), it appears that perceptions of hostile social cues play a salient role in the probability that a child will respond aggressively. There are, however, empirical contradictions concerning the developmental level at which children can accurately differentiate their behavior according to an intention cue. Feshbach (1970) posited that this ability emerges at the stage of cognitive decentration (ages 7-9). More recently, Darley, Klossen, and Zanna (1978) and Dodge (1980) have suggested that this ability has been demonstrated in children as young as five and six.

Once the child has received and recognized a social cue from the environment, this stimulus must be encoded. There appears to be a developmental progression in the capacity and inclination for encoding various features of the social cue. Dodge and Newman (1981) studied a group of 6 to 10 year-olds and found that 6-year-olds listened to only two thirds as many cues as did 10-year-olds before rendering a decision. Moreover, aggressive boys searched for 40% fewer cues prior to making an attributional decision than did nonaggressive boys (Dodge & Newman, 1981). Similar findings have been reported for hyperactive boys (Milich & Dodge, 1984) and impulsive boys (Montgomery, 1973). These findings suggest that aggressive,

hyperactive, and impulsive boys may not encode social cues as effectively as other children. The groundwork, then, is set for the formation of inaccurate attributions of intent.

Once social cues have been encoded, the child must integrate and interpret them. Consistent with the aforementioned findings on the encoding process and recognition of intention cues, numerous studies have reported developmental differences in children's ability to make inferences about these cues (e.g., Camras, 1980; Ruble & Rholes, 1982). Investigators report a developmental shift between the ages of 5-6 years and 9-10 years. Compared to older children, younger children fail to use intention cues in drawing inferences about another's behavior. At about ages 6-7, however, children begin to utilize intention cues in forming attributions. Therefore, assessments of children's attributions prior to the age of six would be premature and may not be the correct construct.

Dodge and his colleagues (Dodge, 1980; Dodge & Thomlin, 1983; Steinberg & Dodge, 1983) have reported in several studies that aggressive children display distinct biases in this inference-making process. Additionally, MacKinnon and Arbuckle (under review) found that compared to non-aggressive boys, aggressive boys tend to be particularly biased in their inferences about their mothers' behavior and motives. These biases, however, tend

to be restricted to specific kinds of social cues. All children can accurately interpret hostile cues. Aggressive boys, though, are more inclined to overattribute hostile intent when the actual intent was either prosocial or benign. The deficiencies in these boys cannot be accounted for by general intelligence deficits (Dodge & Frame, 1982).

Risk Factors

There is substantial theoretical and empirical evidence to suggest that certain demographic and personal-social characteristics, singularly and together, exist that may make some families more vulnerable (at risk) to coercive parent-child interactions (e.g., Conger, McCarty, Yang, Lahey, & Kropp, 1984; Elder, Liker, & Cross, 1984; Rubin & Lollis, 1988) and possibly negative attributions. The demographic variables socioeconomic status (occupation and education) and race and the personal-social variable, marital conflict have consistently been shown, across numerous samples, to be associated with measures of parent-child coerciveness (e.g., Conger, et al., 1984; Elder, et al., 1984; Rubin & Lollis, 1988). Moreover, interactions among these variables, for example between socioeconomic status and marital conflict, produce even more deleterious effects on the parent-child interaction than any one variable alone (Rubin & Lollis, 1988).

Socioeconomic Status. Socioeconomic status is expected to influence parent-child interactions. According to Elder et al. (1984), economic pressure is the best documented correlate of physical child abuse, the most graphic display of parent-child coerciveness. Concomitant with occupations that involve less skill is the potential for economic distress. Economic distress has been linked to more punitive parental behaviors directed toward children (Elder, et al., 1984; Lahey, Conger, Atkeson, & Treiber, 1984).

Moreover, as social status represents both occupation and education, parental education should be considered. Parents with less education are more likely than higher educated parents to use a narrower range of disciplinary techniques with their children. These techniques are often centered around more punitive forms of discipline (Ayoub & Jacewitz, 1982; Crittenden, 1981).

Race. Racial status is also associated with the quality of the mother-child interaction. In their study of children of six cultures, Whiting and Whiting (1975) found vast parenting differences across cultures. Families of African descent were somewhat more authoritarian and aggressive compared to other families, even after standardizing and controlling for education and social status. However, many studies finding racial differences in parenting and child behavior have failed to account for

potentially confounding variables, such as education and other socioeconomic variables (Whiting & Whiting, 1975). Additionally, many of these studies, including the present study, usė a common assessment of quality of parent-child interactions across racial groups. While this may be deemed necessary from a methodological standpoint, it is plausible that behaviors deemed coercive to white families may not be to black families, for example. Regardless of the rationale, the importance of considering the effects of race on parent-child interaction is obvious.

Marital Conflict. Marital conflict has been linked to negative mother-child interactions (Emery, 1982; Belsky, 1984), more severe and inconsistent discipline (Hetherington, Cox, & Cox, 1978; Rutter, 1972), and heightened aggression in children (Bandura, 1973; Patterson, 1977). Conflictual spousal relations create an environment of tension, which in turn is manifested in parent-child relations (Porter & O'Leary, 1980).

It is noteworthy that recent research implicates interparental conflict, not marital disruption (i.e, separation or divorce), to be the principal influence on coercive mother-child interactions and child behavior problems (Emery, 1982, Hetherington, et al., 1978). Several research efforts provide support for this conclusion. Children from broken, but conflict-free homes, exhibit fewer problems than children from intact,

conflictual homes (e.g., Gibson, 1969; Hetherington, Cox, & Cox, 1976; Power, Ash, Schoenberg, & Sorey, 1974). Further, children whose parents continue conflictual relations post-divorce have more negative interactions with their parents than those children whose divorced parents remain conflict-free (e.g., Hetherington, et al., 1976; Kelley & Wallerstein, 1976). Finally, results of two longitudinal studies suggest that couples with aggressive boys are more likely to experience greater conflict and ultimately divorce (Block, Block, & Gjerge 1986; Lambert, Essen, & Head, 1977).

Marital conflict affects parent-child relations both directly and indirectly (Belsky, 1984). The quality of the emotional relationship of the spouses is purported to have a direct influence on maternal negativity. Mothers in conflictual spousal relationships displace the aggressive feelings toward her spouse onto their children. Maternal negativity, in turn, elicits aggressive behavior from the child. A poor marital relationship can indirectly influence the parent-child relationship vis-a-vis stress experienced by the mother that manifests itself in her behavior. Regardless of the direction of influence, marital quality (the absence of marital conflict) has been clearly shown to affect parent-child relations.

Of particular relevance to the present study, several researchers have reported that boys, more so than girls,

exhibit behavior problems and are more conflictual with parents in environments of parental conflict (e.g., Emery, 1982; Emery & O'Leary, 1982; Rutter, 1983; Santrock & Warshak, 1979). Hetherington (1972) noted, however, that the deleterious effects of interparental conflict on girls may be delayed and might not manifest itself in ways that are detectible in the current methodologies. That is, while most studies are designed to assess the external manifestations of parent-child aggression or school behavior problems, girls may react to parental conflict by becoming withdrawn or anxious, constructs that are more difficult to assess. For this reason, only boys were included in the current study.

Risk associated with marital conflict is likely exacerbated by low socioeconomic status creating an environment ripe for coercive parent-child relations (Hetherington, et al., 1976; Rutter, 1979). Interspousal conflict that frequently precedes, accompanies, and follows divorce may be exacerbated by accompanying economic distress. This situation propagates an environment that is particularly receptive to parent-child conflict.

For the reasons outlined above, the mediating influence of these risk factors is considered in this investigation. That is, race, social status, and marital satisfaction effects, individually and interactively, are

accounted for prior to examining the hypothesized relations.

Summary

Previous attributional research has focused primarily on adult attributions about children or on children's attributions about their peers. In most cases, attributions about an actor's intent are correlated with behavior. It seems reasonable that these same processes operate in both parents and children as they interpret the other's behavior. These interpretations, however, are expected to be mediated by the prevalence, direction, and salience of life events experienced by the perceiver. Therefore, a study examining the interplay between mothers' and children's life events and attributions of intent should contribute to our understanding of coercive mother-child interactions. Further, the impact that social support has on the relation between life stress and attributions is also significant and is examined in this study.

Research Questions

The following research questions about mother-child intentions, coercive mother-child interactions, life stress, and social supports were addressed in this study:

1. Are biases in mothers' and children's interpretations of the other's behavior related to the coerciveness of their interactions?

2. Are mothers' or their children's attributions about intent more salient in affecting their dyadic interactions, and are there differences across tasks?

3. Are mothers who report experiencing negative and salient life events compared to mothers who report positive or low-impacting life events more likely to form negative attributions of intent?

4. Are children who report experiencing negative and salient life events compared to children who report positive or low-impacting life events more likely to form negative attributions of intent?

5. Do mothers' attributional biases about intent or children's negativity act as a better predictor of maternal negativity, controlling for life events?

6. Do children's attributional biases about intent or maternal negativity act as a better predictor of children's negativity, controlling for life events?

7. Does the use and kind of mothers' social supports mediate the relation between stressful life events and mother's attributions?

8. Does the use and kind of children's social supports mediate the relation between stressful life events and attributions?

Hypotheses

Based upon a review of the literature, it was hypothesized that mothers' and children's attributional biases would be predictive of the coerciveness of their interactions. That is, negative attributional bias will be positively related to the negativity of mothers' and children's interactions. This hypothesis lays the foundation for all subsequent hypotheses advanced in this study, as the relation between attributions and behavior is presupposed in each of them.

No hypothesis was proposed for the second research question. It is suspected, however, that the ability of mothers' or children's attributional bias to predict their behaviors will be different for each interaction task.

It was further hypothesized that: a) mothers who report experiencing negative and salient life events compared to mothers who report positive or low-impacting life events would be more likely to form negative attributions about their children's intent; b) children who

report experiencing negative and salient life events compared to children who report positive or low-impacting life events more likely to form negative attributions of intent about their mothers; c) mothers' attributions of intent will be more predictive of mothers' behavior than will be children's actual behavior, controlling for maternal life events; d) children's attributions of intent will be a better predictor of children's behavior than will the mothers' actual behavior, controlling for life events; e) the utilization of social supports by the mothers will act as a buffer between the deleterious effects of life stress and their attributions about their children; f) children's social support system will reduce the negative impact of life stress on the children's attributions about their mothers.

Definition of Constructs

Parent-Child Interaction Variables

The major outcome variable, quality of parent-child interaction, was assessed through the coding of two observation sessions. A real-time coding strategy was employed in order to allow the collection of data in the form of frequencies, densities, and sequences.

Altruistic Behaviors

Positive verbal. Any positive verbal expression that displays praise, reinforcement, or excitement.

Positive physical. Any positive physical contact extended toward the other person such as touching affectively.

Positive affect. Any facial expression denoting positive emotions such as smiling, laughing, giggling, or nodding in approval.

Agonistic Behaviors

Negative verbal. Any verbal expression such as threatening, quarreling, sarcasm, name-calling, teasing, insulting, whining, demanding, or responding in a demeaning tone.

Negative physical. Any negative physical contact such as grabbing, hitting, slapping, pushing, or attacking.

Negative affect. Any facial expression that denotes negative emotions such as frowning, crying, anger, upset, disgust, or making faces (other than positive).

Behavioral Transaction Sequences

Start-up. The likelihood (computed probability) that one member of the dyad will initiate conflict when the other is behaving in a neutral or positive fashion.

Counterattack. The likelihood that one member of the dyad will react immediately and aversively to an aversive behavior directed at him/her by the other.

Continuance. The likelihood that one member of the dyad will continue to act aversively following the first aversive episode.

Attribution Constructs

Attributions of Intent

An attribution of intent is defined as a cognitive appraisal of an incoming stimulus that helps one to describe and understand another's behavior. That is, intentional attributions are dispositional evaluations ascribed to another individual's behavior.

Attributional Bias/Misattribution

In the process of sorting through the complex array of stimuli in order to determine those aspects of the other's behavior that are salient, the intentions of the actor may be misperceived. Similarly, reliance upon previous interactions with the individual may bias one's current perception. When an observer misperceives the intent underlying another's behavior, the perceiver is said to have misattributed a cause to that particular behavior.

Negative Attributions of Intent

If the individual perceives the behaviors of another in a consistently negative way despite the other's actual behavior, a negative attributional bias is said to exist.

Attributional Style

By attributing a particular intention to an actor, an observer commits him/herself to accept a certain class of the actor's behavior. In doing so, the observer establishes a pivotal referent for interpreting the other's subsequent behavior. This propensity toward certain attributions of intent may occur across all situations for a given individual, or across all individuals in a given situation, and is termed attributional style.

CHAPTER II

REVIEW OF THE LITERATURE

Social-Cognitive Theory

How do people reason about their social worlds--the people they observe, relations between people, and the groups in which they participate? What effects does this reasoning have on the interactions they engage in? Investigations into the link between children's social cognition and social behavior have emerged only within the last decade. For adults, these investigations date back only 25 years. According to Shantz (1983), the reason for this relatively brief history may lie in the history of the field itself, as social development and cognitive development were studied largely in isolation from one another.

The social-cognitive theory depicts a confluence of two streams of research; Piagetian theory of cognitive development and Heider's attribution theory. Since the development of the social-cognitive theory, a plethora of research has been conducted examining not only the way individuals conceptualize and reason about others, but also how this affects their subsequent response to others.

One of the primary goals of both social-cognitive theory and the current study is to understand individual's conceptualizations and reasoning about others as they observe and interact with them. Parents and children are presumed to be active participants in their own experiences and, from this participation, develop their own perceptions which fuel subsequent experiences. The focus of this study was parent and child attributions of intent about the other as they relate to parent and child behavior.

Attribution Research in Adults

Dix and Grusec (1985) purport that adult's attributions about children occur amidst a social context composed of many factors. First, the adult must consider the developmental limitations that may constrain children's behavior. Additionally, the intentions of the child should be expected to vary with age (Dix, et al., 1986). Second, attributions about children are assumed to be less stable as the object of attribution is undergoing development. Third, children are usually under the influence of adults as a result of the child's inferior status and power. Some of their behavior, then, should be attributed to external causes. Finally, adults, particularly parents, are especially affected by children's behavior. Children's actions are viewed as reflective of the parent's competence as a parent. These factors make adults' attributions about

children, particularly parental attributions, unique.

Weiner and his colleagues developed a model detailing factors thought to influence attributions (Weiner, 1979, 1980; Weiner, Russell, & Lerman, 1978). Abramson et al. (1978) extended this model to parent-child interactions. Specifically, the model suggests that if a child's behavior is perceived as deriving from stable, general, internal, and controllable factors a parent is more likely to hold the child accountable, which will likely result in the parent experiencing negative emotions. Conversely, a parent may express support to a child whose behavior derives from unstable, specific, external, and controllable factors.

Attribution Research in Children

In children there exists a developmental progression where, at certain ages, the ability to form causal attributions is either absent, tenuous, or completely functional. This raises the question, "As children observe, do they distinguish between accidental acts and intentional acts--and if so, at what age?" According to Shantz (1983), this question is at the core of the processes involved in making others' behavior more meaningful and predictable. A chronology of studies that have attempted to provide some answers to this query is presented below.

King (1971) presented four short films showing two boys running to children of varying ages. One set of films showed one boy falling accidentally with either a neutral or negative consequence. The other set showed one boy falling from being pushed, coupled with a neutral or negative consequence. The subjects were questioned about the perceived intentionality that led to the boy's mishap. The results indicate that most four-year-old children did not distinguish between intentional and accidental acts. Five and one-half year-old children exhibited significantly greater differentiation, while most 9-year-olds were able to distinguish between intentional and accidental behaviors.

The results of King's (1971) study were essentially replicated by Berndt and Berndt (1975). Preschoolers, 8- and 11-year-olds viewed videotapes that displayed aggression, accidental damage, and altruism. A developmental trend similar to King's was found. However, additional analyses of the data suggest that young children recognize intended acts as intended, but they lag in their ability to recognize or infer accidental acts. These findings were confirmed by Smith (1978) who suggested that four-year-olds tended not to discriminate between intentional and unintentional acts. However, these preschoolers did tend to regard all acts as well as their effects as intended by the actor.

This assumed intentionality, according to Shantz (1983), is consistent with the Piagetian (1929) view which posits that young children may indiscriminately attribute purpose to others' behavior, as well as to nonsocial events. The five-year-olds in Smith's (1978) study clearly tended to discriminate between intentional and involuntary acts. However, desirable effects were often seen as intended, and undesirable effects as unintended. Between years 6 and 7, children were able to accurately differentiate voluntary from involuntary acts.

The predominant belief in the early to mid-1970s, then, was that the ability to make clear and accurate attributional differentiations in intention occurred at about the transition between preoperational and concrete operational thought (i.e., ages 6 to 8 years). This is the developmental level when children move from the tendency of 'centering' their attention on a limited perceptual aspect of a stimulus to the ability of 'decentering' and evaluating perceptual events in a coordinated way.

More recently. several investigators (e.g., Dodge, 1980; Rholes & Ruble, 1984, 1986) have reported evidence suggesting that children as young as 5 years can differentiate accidental behavior from intentional behavior. These researchers suggest that most preschoolers (age 2-4) assume that the behavior of others is intended, and that assumption (bias) produces a failure to recognize

or infer accidental acts as accidental. Further, most children show rapid improvement between preschool years and first grade in distinguishing acts of accident from acts of intent. The next cognitive developmental milestone of social cognition occurs in the early elementary school years (ages 6-8) as the tendency to attribute an intention to good outcomes and an accident to bad outcomes begins to wane.

Precursory Factors that Affect Attributions

Once a child is developmentally capable of distinguishing intentional acts from accidental acts, misperceptions still occur (Dodge, 1980; Dodge & Thomlin, 1983). Adults, too, form and act upon inaccurate attributions (Dix & Grusec, 1985; Dix et al., 1986). Efforts to understand these inaccurate attributions of intent have been undertaken by life stress researchers.

Sarason and his colleagues (1978) suggest that individuals who report high levels of negative change appear to differ in their perceptions of their environment. However, the correlation between life change and locus of control is significant only for negative life changes. Their appears to be no relation between positive life change and locus of control. Thus, the occurrence of events in one's life perceived as negative alter one's perceptions of their environment, including the behavior of others.

Relation between Attributions and Behavior

The major developmental theories of social behavior (i.e., Freud, Erikson, Mead, and Sullivan) are based on the assumption that interpersonal behavior and cognition are related (Shantz, 1983). However, the bulk of research on social behavior has remained at a behavioral level (cf. Patterson, 1982, 1986). Only recently have investigations been conducted that examine the theoretical link between adult's social cognition and social behavior and even more recently with children. These studies have focused more on aggressive behavior than prosocial.

Aggressive behavior. The primary question that has dominated inquiries concerning the association between cognition and subsequent aggressive behavior is: What role does an individual's ability to infer intentions play in their aggressive behavior? (Shantz, 1983). Numerous ex post facto designs have displayed a clear inverse relation between perspective-taking and aggressive behavior. Chandler (1973) found deficient perspective-taking in 11- to 13-year-old boys who were considered delinquent (i.e., lengthy police and court records). Burka and Glenwick (1975) also found a similar phenomenon in that children who were low in perspective-taking were rated by their teachers as aggressive, acting-out, and unpopular with peers.

Dodge (1980) sought to determine if the extent to which children attribute a peer's behavior to intentional

or accidental causes influences subsequent behavior. He compared the reaction of boys who were known as aggressive or nonaggressive (based on teacher and student ratings) in a situation where their half-completed puzzle was dropped by another child under three conditions: (a) stated hostile intent, (b) accidental, or (c) ambiguous intent. Only in the ambiguous condition was there a difference between aggressive and nonaggressive boys. The aggressive boys responded as if the peer had acted with hostile intent, whereas the nonaggressive boys responded as if the peer's behavior was an accident. It appears that in regard to aggressive behavior, children's social cognition affects their social behavior in some situations.

Prosocial behavior. According to a literature review by Shantz (1983), the ability to accurately take the perspective of another or empathize with another is central in the development of a variety of prosocial behaviors-cooperation, friendliness, generosity, and altruism. However, only studies involving actual peers (as opposed to a confederate adult) have shown significant positive results.

In the first of two studies involving actual peers, 7-year-old children were identified as good or poor at perspective-taking in an experimentally manipulated task (Hudson, Peyton, & Brion-Maisels, 1976). The results indicated that those children who were identified as

advanced on a variety of perspective-taking tasks were more helpful and friendly with younger peers. Poor perspective takers, on the other hand, failed to exhibit an equivalent number of prosocial behaviors with their peers.

In a second study, Buckley, Seigal, and Ness (1979) examined children ranging in age from 3 1/2 to 9 years in an experimental situation similar to Hudson, et al. (1976). The results indicated that children who tended to help and share with a peer in an experimental task, compared to those who did not, were significantly higher in both perspective-taking and empathy. Both of the aforementioned studies have yielded strong support for the positive relation between children's social cognition and prosocial behavior with peers.

Conclusion

An a priori assumption of this study posited an association between social cognition and social behavior in dyadic relationships other than those involving only peer or adult relations. That is, it is logical to assume that in interactions with significant others, such as parent-child relationship, the association between perceptions of intent and subsequent behavior would be similarly evident. A primary goal of this study was to ascertain if a relation between children's perception (attributions) of their mother's behavior is predictive of the quality of their

interactions. Likewise, mothers' attributions about their children were investigated as contributors to the quality of parent-child interaction.

The second major goal of the study was derived from findings in the life stress literature. That is, does the prevalence and directionality of events in mothers'/children's lives affect their attributions of the other's behavior? Previous research suggests that the occurrence of events that are perceived as both negative and salient would be predictive of feelings of helplessness and misperceptions of others' behavior.

The extent to which one's access to and utilization of social support systems affect behavioral attributions was also investigated. Previous findings suggest that a strong web of social relations would act as a buffer to the potentially debilitating effects of negative life events and thus would decrease the likelihood of misperceptions.

CHAPTER III

METHODOLOGY

Study Design

Sample

Sixty-three mother-son dyads, son's age 7-9 years (M=8.1), participated in this project. The impetus for including only boys in this study was predicated upon findings that suggest that the mother-son dyad is at particular risk for aggressive interactions (Elder, et al., 1984; MacKinnon & Arbuckle, 1988). The children's age range was chosen for two primary reasons. First, since the ability to accurately differentiate accident from intention emerges around age six (Darley, et al., 1978; Dodge, 1980; Gnepp & Chilamkurti, 1988; Rholes & Ruble, 1986), age 7 was selected to ensure that all subjects would possess this capability. Second, the 7-9 year age span was chosen because developmental differences were not expected across this period. Initial analyses (1-way MANOVA) revealed no significant differences in attributional bias, child life events, or child negativity across the three year age span.

The boys and their mothers were recruited from a list of children enrolled in the 2nd, 3rd, and 4th grades of the Guilford County Public School system. Children were from

both maritally intact (mother married to child's biological father) (N=40) and mother-custody, divorced families (mother divorced from child's biological father) (N=23). The socioeconomic status of the family was derived by standardizing, weighting, and summing the occupation and education of the residential parent(s) using Hollinghead's (1975) Four Factor Index of Social Status. Socioeconomic status ranged from major business/professional (highest strata) to machine operator/semiskilled worker (second lowest strata) with medium business/minor professional (second highest strata) being the mean, mode, and median category. No subjects in this sample fell into the lowest strata, unskilled/menial service workers. Finally, the racial composition of the sample was 71% (N=45) white and 29% (N=18) black. See Table 1 for a complete breakdown of demographic characteristics of the sample.

Table 1. Frequencies of Sample Characteristics (N=63)

Age of Children		Race		Mothers' Marital Status		Families Social Status	
Seven	20	White	45	Married	40	High	12
Eight	23	Black	18	Divorced	23	High Middle	20
Nine	20					Middle	19
						Low Middle	12

Procedures

During an initial telephone contact with the family, the researcher provided a brief description of the study (see consent form and telephone script Appendix A and Appendix B) and informed the mother about the procedures. The mother was informed of a monetary incentive of $20 (payable at the end of the second session) and the provision of surprises for her son at the conclusion of each session. These inducements were expected to encourage participation and insure the continued participation of the subjects who might otherwise discontinue prematurely. Given the sixty to eighty percent favorable response range (60% for the minority sample) compared to thirty to forty percent in similar studies conducted by this researcher (without use of subject payment) as well as the low dropout rate (one family discontinued prematurely), the monetary inducement appears to have been effective. The researcher obtained verbal consent from the mother for her and her son's participation and arranged a mutually agreed upon time for the dyad's first and second appointments, each separated by one week.

Upon the family's arrival at the **Family Research Center**, the mother and child were presented a written description of the study, informing them of their rights and the confidential nature of the data. The mother, son,

and researcher signed and dated the consent form (Appendix A).

In the first session, the mother and son were individually interviewed by trained interviewers using the Mother/Child Attribution Measures (MacKinnon, 1988) (Appendices C and D). Mothers also completed the Family History Inventory (Appendix E), which provided demographic information about the family. At the conclusion of the 30 minute interview, the mother and son met in an observation room where an experimenter explained the Etch-a-Sketch task (see Description of Measures). A pilot study by MacKinnon and Arbuckle (under review) confirmed the utility of this task for eliciting a range of prosocial and aggressive behaviors. The dyad was videotaped while they interacted on-task for 20 minutes. The entire session lasted approximately one hour and 15 minutes.

In the second session, the mother and child were individually interviewed with the Mother/Child Attribution Interviews (MacKinnon, 1988) (Appendices F and G) and the Parent/Child Life Events Scales (Appendices H and I). In addition, the mother responded to the Marital Conflict Scale (Appendix J). Married mothers also completed the Kansas Marital Satisfaction Scale (Appendix K). Following the 25 minute interviews, the dyad participated in a popular board game, Trouble (Gilbert Industries) (see Description of Measures) for 20 minutes. Previous studies

have demonstrated that this game is interesting for school-aged children and their parents as well as effective at eliciting a range of behaviors from both parent and child (Brody, Stoneman, & MacKinnon, 1982; MacKinnon, 1988).

Description of Measures

Multiple exemplars and data collection methods were employed so as to minimize the risk of either mono-operation bias or mono-method bias and to maximize generalizability across constructs.

Mother-son Coerciveness

Coerciveness was assessed while the dyads participated in two tasks. Both tasks (one competitive, one cooperative) have been employed in previous studies and shown to elicit the behaviors of interest (MacKinnon, 1988; MacKinnon & Arbuckle, under review). It was expected that direct observation of mother-son interaction would provide a valid means for differentiating aggressive from non-aggressive dyads.

In the first task, the mother and child were asked to reproduce a geometric figure[2] on an Etch-a-Sketch. The mother-child dyads were instructed to work together on this task with each controlling one knob (horizontal or vertical movement). The task required the mother and child to

[2]The figure is a circle enclosed in a square cut by two diagonals. These geometric shapes were chosen as they represent variations of difficulty on this task.

cooperate while attempting to duplicate the figure. For those dyads less skilled in cooperating, the task has been shown to elicit frustration and negativity, while other dyads display positive affect (MacKinnon & Arbuckle, under review). The dyads were on-task for 20 minutes. Dyads were instructed that if they completed the task early, to draw the figure again until the researcher stopped them.

The second task pitted the mother and son against each other in a game (Trouble) where there was a clear winner and loser. This task has been used in previous studies and shown to be effective in eliciting both prosocial and agonistic behaviors (Brody, et al., 1982; MacKinnon, 1988). The dyads were instructed on the rules of the game and given 20 minutes to play.

Interactions during both tasks were videotaped and later coded by trained observers. The training of the observers involved instruction and practice viewing videotapes of previous mother-child interactions. Only when interobserver reliability reached .90 were the observers allowed to code the observational data. Weekly sessions were held to reassess reliability and subsequently trained when reliability was computed to be less than .90. As a measure of overall reliability, 25% of the tapes were coded independently by two observers and their reliability subsequently assessed. Interobserver reliability ranged from .93 to .98 throughout the duration of the study.

Considering the number of codes in any given mother-son session (M=450), the reliability assessment is impressive.

Coding categories included both prosocial and agonistic behaviors emitted by the mother and child. A description of the variables in the coding system is outlined in Table 2 (MacKinnon, 1989). Sequences of interactions were derived from behaviors emitted by the mothers and their sons according to a procedure developed by Patterson (1982). Not only were aggressive dyads expected to display higher proportions of agonistic behaviors, but previous investigations suggest that patterns of aversive interchanges should appear (Patterson, 1979; Patterson & Reid, 1984).

The process used in this study to assess coercive transactions between mother and son is referred to as microanalytic or microsocial analyses. Three sequential measures were derived to describe the dyadic interchanges. The first, start-up, describes a situation wherein one member of the dyad initiates conflict when the other member is behaving in a neutral or positive manner. The second variable, counterattack, occurs when the mother or son reacts immediately and aversively to an aversive behavior directed toward him/her by the other. The third variable, continuance, describes an interaction wherein the mother orson continues to display aversive behaviors following an aversive behavior initiated by the other.

Table 2

Definition of Variables Coded in Interaction Tasks

Variable	Definition
Altruistic Behaviors	
Positive Verbal	Any positive verbal expression that displays praise, reinforcement, or excitement.
Positive Physical	Any positive physical contact extended toward the other person such as touching affectively.
Positive Affect	Any facial expression denoting positive emotions such as smiling, laughing, giggling, or nodding in approval.
Agonistic Behaviors	
Negative Verbal	Any verbal expression such as quarreling, sarcasm, threatening, teasing, insulting, whining, name-calling, demanding, or responding in a demeaning tone.
Negative Physical	Any negative physical contact such as grabbing, hitting, slapping, pushing, or attacking.
Negative Affect	Any facial expression that denotes negative emotions such as frowning, crying, anger, upset, disgust, or making faces (other than positive).
Neutral Behaviors	
Neutral Verbal	Any verbalization that does not by definition fit into one of the above categories.
Neutral Physical	Any physical contact that is not positive or negative in nature.

These data were converted to conditional probabilities. That is, analyses involved the computed probability that one member of the dyad behaved aggressively at $time_2$, given that the other member behaved in an aggressive (positive or neutral) manner at $time_1$ (i.e., subject 2_t2/subject 1_t1). When this condition is met, the subject receives one count on the appropriate variable (start-up, counterattack, or continuance). The total counts the subject receives throughout the session is entered as the numerator with the denominator being a sum of all times subject one responded to subject two. Thus, a proportion score results.

The use of proportions as the dependent variables in this study is important as they are not confounded with different activity levels of mothers and children across families. If simple frequency counts were used instead, those dyads displaying lower levels of activity may appear to be less coercive when in reality they may be proportionately more coercive. For example, mothers who emit high rates of behavior would likely demonstrate high frequencies of prosocial and agonistic behaviors. However, these mothers may emit proportionately fewer negatives than mothers who interact only infrequently with their children. Computation of proportions is especially important since many distressed parents tend to demonstrate lower rates of

activity with their children yet proportionately more behaviors are agonistic (Burgess & Conger, 1978).

Child Attributions

Two measures were utilized to assess children's attributions: the Child Attribution Measure and the Child Attribution Interview. The first measure was adapted by MacKinnon (1988) from Dodge's (1988) child protocol which examined children's attributions about their peers. The second measure, also developed by MacKinnon (1988), is consistent with the work by Dix and Grusec (1985) on parental attributions in a parent-child context.

While both of these instruments were utilized in the current study, only the Attribution Measure (for child and for mother) was included in the final analyses. This was because initial analyses conducted on these instruments revealed that the Attribution Measure was superior to the Attribution Interview in predicting mother/child negativity. Moreover, since the Attribution Measures involve seven individual attempts to assess attributional bias (as opposed to one), it was expected to be a more reliable measure.

Child Attribution Measure. Each child was presented a series of seven stories (supplemented by cartoons) representing a potentially conflictual mother-son situation (see Appendix D). In each story, the intentions of the mother are ambiguous, but the outcome for the child is

clearly negative. The child was asked to pretend that the actors are he and his mother. He was then interviewed in a semi-structured format. The session was audiotaped for later transcription. Interview questions were designed to tap into his perceptions of his mother's intentions. Interviewers were extensively trained to probe the child until a satisfactory response could be obtained. Scoring of the child's perception of his mother's intentions and his likely response was coded according to the following procedure: (a) perceived negative intent (scored a 5 for high, 4 for moderate), (b) benign intent (scored a 3), (c) perceived prosocial intent (scored a 2 for moderate, 1 for high).

The subjective coding of this instrument was conducted by two trained raters on 35% of the stories. Interrater reliability ranged from .90 to .95 throughout the study. At no time was interrater reliabililty permitted to drop below .90.

Child Attribution Interview. The interview began by asking the child to recall a conflict that he had with his mother in the previous week (see Appendix G). The child then discussed the situation, why he thought it happened, and his mother's role in the conflict during a semi-structured interview. An identical coding procedure was instituted as in question 1 of the Child Attribution Measure. The remaining questions were designed to tap into

the child's perception of internality, globality, and stability of his mother's behavior in the conflict. According to Dix and Grusec (1985), these dimensions are linked to perceived negative intentionality and ought to elicit negative responses in the recipient of the behavior.

Two trained raters conducted the subjective coding of this instrument on 35% of the stories. Interrater reliability ranged from .90 to .95 throughout the study. At no time was interrater reliabililty permitted to drop below .90.

Mother Attributions

There were two measures of mothers' attributions: the Maternal Attribution Measure (MacKinnon, 1988) and the Maternal Attribution Interview (MacKinnon, 1988) (Appendices C and F). The administration, scoring, and reliability assessment of these measures is identical to those described above for the child.

Child Life Events Scale

The prevalence, directionality, and impact of life events for the child was assessed with a structured interview using the Life Events Scale for Children (Hetherington, 1988) (Appendix I). This technique permits the child to indicate events that he has experienced within the last year. Moreover, the subjects designate the extent of positivity and negativity of the event on their life. This instrument was chosen not only because it was one of

the few life events scales that has parallel adult and child forms, but also because the scale assesses the person's perception of the amount of positivity and negativity generated by the event. This instrument is currently being used as a part of a large longitudinal study conducted by Hetherington and her colleagues and thus, no psychometric data are available at this time. However, the author of the instrument has confirmed its appropriateness with 7-9 year-old children (E. M. Hetherington, personal communication, September 12, 1988). Other life events scales are shorter and easier to administer but have been plagued with criticism as they tend to focus on simple counts of events that are weighted, a priori, as to their impact (Dohrenwend, Krasnoff, Askenasy, & Dohrenwend, 1978).

Maternal Life Events Scale

This instrument is a parallel form of the child version described above (Appendix H). The administration and scoring is identical. The major benefit of administering parallel forms is the ease in which the scores may be compared across subjects.

Marital Conflict/Satisfaction Scales

O'Leary-Porter Marital Conflict Scale. Two measures of the quality of the relationship between the child's biological parents were taken. The first instrument, the O'Leary-Porter Marital Conflict Scale (Porter & O'Leary,

1980) (Appendix J), was completed by married and divorced respondents. The instrument is composed of 10 items on which the subject responds in reference to the current degree of conflict between them and the child's other biological parent. Topics covered include arguing over financial matters, disciplinary matters, the other's personal habits, and general family problems in front of the child. Further, questions tap into the display of hostility (physical and verbal) and affection in front of the child. All items are answered on a 5-point Likert scale with a high score reflective of high conflict expressed in the child's presence. Porter and O'Leary (1980) report test-retest reliability to be .96 over a two-week period. As a measure of criterion-related validity, the authors report a correlation of .63 with the Short Marital Adjustment Test.

Kansas Marital Satisfaction Scale. The second assessment of the quality of the relationship between the child's biological parents measured their marital satisfaction. The instrument, the Kansas Marital Satisfaction Scale (Schumm, Scanlon, Crow, Green, Buckler, 1983) (Appendix K), is a three-item scale in which subjects were asked to respond to the questions, "How satisfied are (were) you with... (a) your (ex)husband as a spouse, (b) your (previous) marriage, (c) your relationship with your (ex)husband. The purpose of this assessment was to permit

the researcher to divide subjects into two categories; (a) conflictual marriage or conflictual pre-divorce, and (b) non-conflictual marriage or non-conflictual pre-divorce. Respondents circled one of seven categories ranging from extremely dissatisfied to extremely satisfied.

The internal consistency reliability of the instrument was reported to be .93 for wives. However, compared to a measure of social desirability (Marital Conventionalization Scale - Edmonds, 1967) moderate correlations were observed, $\underline{r} = .48$, $\underline{p} < .0001$.

Initial analyses revealed poor variability and poor predictability of maternal negativity for the O'Leary-Porter Scale and excellent variability and predictability for the Kansas Marital Satisfaction Scale for this sample. Thus, only the latter was used in subsequent analyses.

Maternal Social Support

The extent and utilization of social support available to mothers was assessed with a series of questions designed to tap into these aspects of her relations with family, friends, and community services. The mother was asked to respond to three open-ended questions[3] describing: a) the amount and kind of support she receives from her spouse/ex-spouse and children, b) the amount and kind of support she receives from her extended family, and c) the amount and

[3]These questions can be found on the last page of the Family History Inventory (Appendix E).

kind of support she receives from the community. The responses were scored on a 5-point Likert scale indicating the quality of social support available to the mother (a high score indicates high quality).

Child Social Support

Children's social support was assessed by examining the number of extracurricular activities (e.g., sports, hobbies, clubs) that the child participates in as well as the level of activity in each. Mothers were asked to list the activities that their sons engaged in for each of the three areas. She was then asked to compare to other children of the same age about how much time her son spends in each using a 3-point Likert scale (3 being high). A separate score for each area of social interaction was computed by multiplying the number of events by the sum of the amount of time spent in each. The three scores were summed to give an indication of the child's potential for social interaction and social support across the three areas.

CHAPTER IV

RESULTS

Preliminary Analyses

Once the data were collected, scored, coded, and entered into the computer, several initial analyses were conducted. All analyses were conducted using the Statistical Analysis System (SAS) (SAS Institute, Cary, NC). The purpose of these initial analyses was threefold; (a) to provide a statistical description of the data, (b) to determine if the basic assumptions of the subsequent statistical procedures were satisfied (e.g., a normal distribution of the dependent variables is required for Ordinary Least Squares [OLS] regression), and (c) to assess empirically the variables that were theoretically expected to act as covariates.

These initial exploratory analyses provided information pertaining to: (a) the range of data points for all variables (inspection of which afforded important information for the detection of input errors and outliers), (b) measures of central tendency to determine if the data for each construct were normally distributed or skewed, (c) the distribution of the data points via a plot of all continuous variables (for the entire sample and by group),

(d) the effect of data transformations, (e) the detection of missing variables, (f) the degree of error in the measurement of each construct, and (g) the detection of multicollinearity.

An examination of the data for the **Maternal/Child Attribution Measures** revealed that the attributional bias assessment (question # 1) in three of the seven stories had poor variability and thus would preclude discrimination between subjects in the subsequent analyses. As a result of this finding, the bias score for each subject was computed using the bias question from only four of the original seven stories (those in which the greatest variability was obtained). The four mother stories used were one, three, four, and six and the four child stories were two, three, four, and six (Appendices C & D). The mean, median, and range for all stories can be found in Table 3.

Maternal and child attributional bias was assessed using two measures, the **Maternal/Child Attribution Measure** and the **Mother/Child Interview.** Given that both of these assessments were significantly related to the subjects' negativity as well as being related to one another (Table 4), only the **Maternal/Child Attribution Measures** were utilized. Moreover, the mother and child versions of the **Attribution Measure** were expected to be a more reliable measure of attributional bias since bias was assessed with more questions.

Table 3

Mean, Median, and Range for Maternal/Child Attribution Measure Stories

	Mean	Median	Minimum	Maximum
Maternal Attribution Measure				
Story 1	3.4	3.0	1	5
Story 2	2.3	2.0	2	4
Story 3	3.5	3.0	2	5
Story 4	3.1	3.0	1	5
Story 5	3.2	3.0	3	4
Story 6	3.4	3.0	1	5
Story 7	2.3	2.0	2	4
Child Attribution Measure				
Story 1	3.3	3.0	3	4
Story 2	3.1	3.0	2	5
Story 3	3.3	3.0	1	5
Story 4	3.1	3.0	1	5
Story 5	4.2	4.0	3	5
Story 6	2.9	3.0	1	5
Story 7	2.8	2.0	2	4

Table 4

Means, Standard Deviations, and Intercorrelations for Selected Variables (N=63)

Variable	(1) CN1	(2) CN2	(3) MN1	(4) MN2	(5) CAM	(6) MAM	(7) CAI	(8) MAI	(9) CLE	(10) MLE	(11) KMSS	(12) CSS	(13) MSS	X	SD
(1) Child Negativity Task 1														.012	.016
(2) Child Negativity Task 2	.63****													.014	.017
(3) Mother Negativity Task 1	.63****	---												.006	.012
(4) Mother Negativity Task 2	---	.77****	.96****											.009	.008
(5) Child Attributional Bias (CAM)	.37**	.21°	---	---										2.91	.571
(6) Mother Attributional Bias (MAM)	---	---	.34**	.33**	.22°									3.11	.352
(7) Child Attributional Bias (Interview)	.21°	ns	---	---	.20°	---								2.78	.812
(8) Mother Attributional Bias (Interview)	---	---	.20°	.24*	---	.22°	---							3.35	.810
(9) Child Negative Life Events	ns	ns	---	---	.20°	---	---	---						26.0	18.1
(10) Mother Negative Life Events	---	---	ns	ns	---	ns	---	---	.26*					27.8	21.4
(11) Marital Satisfaction (KMSS)	.45***	.40**	.56****	.58****	ns	.19°	---	---	.29*	.20°				2.46	1.90
(12) Children's Social Support	ns	ns	---	---	ns	---	---	---	-.31**	---	---			34.9	10.1
(13) Mothers' Social Support	---	---	-.22°	-.20°	---	-.23°	---	---	---	ns	-.30*	ns		2.64	3.05

Variable	(1) CN1	(2) CN2	(3) MN1	(4) MN2	(5) CAM	(6) MAM	(7) CAI	(8) MAI	(9) CLE	(10) MLE	(11) KMSS	(12) CSS	(13) MSS	X	SD

Note. --- denotes relation not of interest.

$^{\circ}$ $p < .1$, * $p < .05$, ** $p < .01$, *** $p < .001$, **** $p < .0001$

Marital satisfaction was also assessed using two measures, the **O'Leary Porter Marital Conflict Scale** and the **Kansas Marital Satisfaction Scale (KMSS)**. Since the O'Leary Porter scale was not significantly related to either maternal bias or maternal negativity and the KMSS was significantly related to maternal negativity and moderately related to maternal bias, the O'Leary Porter scale was not used in subsequent analyses.

A check for multicollinearity was conducted to insure that the independent variables were not highly correlated with each other, a basic assumption of OLS regression. The absence of multicollinearity is critical when assessing the individual effect of different variables on the dependent variable (Chatterjee & Price, 1977). A Pearson Product Moment correlational analysis of the major independent variables was computed to detect multicollinearity. Since no correlation exceeded .30, all of the major constructs of interest were retained.

It was expected that race, social status, marital status, and marital satisfaction may mediate the relations between maternal/child attributions and negativity and thus potentially confound the results. In order to ascertain whether differences existed as a function of these factors, which would necessitate statistically equating the groups via analysis of covariance, a 2 (race: white or minority) X 4 (social status: major business/professional, medium

business/minor professional, skilled craftsmen/machine operators, semiskilled workers) X 2 (marital status: married or not married) X 2 (marital satisfaction: satisfied or dissatisfied) Analyses of Variance[1] (ANOVA) was computed for maternal and child negativity separately for each task. While no significant main effects or interaction effects were revealed for the child variables on either task, analyses of maternal negativity produced significant results.

In the cooperative task (Etch-A-Sketch), a significant main effect was found for race $F(1,62) = 4.71$ $p < .05$, social status $F(3,62) = 3.34$ $p < .05$, and marital satisfaction $F(1,62) = 6.39$, $p < .01$. Marital status was not significant. An examination of the means of the two marital satisfaction groups revealed that maritally satisfied mothers were less coercive with their children (mean negativity=.002) than were maritally dissatisfied mothers (M=.010). The significant main effects for race and social status were qualified by a significant race X social status interaction effect $F(5,62) = 5.86$, $p < .01$.

Post-hoc comparisons were made using a Duncan multiple-range test. Significant interaction effects revealed that minority professionals and minority minor professionals were

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[1] As a result of unequal cell sizes the ANOVA procedure was computed within the GLM (General Linear Models) procedure which controls for this condition.

less negative than minority skilled workers, white semiskilled workers (both p's < .05) and minority semiskilled workers (p < .01). Minority skilled workers were more negative than white professionals, minor professionals, and semiskilled workers (all p's < .05). Within white race, those subjects at the semiskilled worker level were significantly more negative than all other social status groups (all p's < .05). Refer to Table 5 for the mean proportion negativity scores and significance levels of all groups.

Similar results were found in the competitive task. Significant main effects were found for race $F(1,62) = 6.48$, $p < .01$, social status $F(3,62) = 2.96$, $p < .05$, and marital satisfaction $F(1,62) = 3.48$, $p < .05$. As in the cooperative task results, maternal negativity did not differ significantly across marital status. The significant main effect for marital satisfaction suggested that mothers' who were satisfied with their marriages were less negative (M=.004) with their children than mothers who were dissatisfied with their marital relationship (M=.014). The significant main effects for race and social status were qualified by a significant race X social status interaction effect $F(4,62) = 4.94$, $p < .01$.

Post-hoc comparisons of the race X social status interaction were computed using a Duncan's multiple-range test. The results indicated that minority semiskilled

Table 5

F Ratios, p Values, and Mean Proportion Negativity for Mother and Child on each Interaction Task

Effects	Mother				Child			
	Task 1		Task 2		Task 1		Task 2	
	F	M	F	M	F	M	F	M
RACE	4.71*		6.48**		.06		1.35	
White		.004		.005		.012		.017
Black		.010		.017		.011		.012
MARITAL STATUS	.26		.11		.10		.23	
Married		.007		.004		.014		.015
Divorced		.011		.009		.011		.012
MARITAL SATISFACTION	6.39**		3.48*		.83		.32	
Satisfied		.002		.007		.010		.012
Dissatisfied		.010		.012		.014		.015
SOCIAL[1] STATUS	3.34*		2.96*		.32		.90	
Professional		.002[a]		.001[a]		.008		.010
Minor Prof.		.004[a]		.004[a]		.010		.012
Skld Craftmn		.009[b]		.009[b]		.009		.012
Semiskd Wrkr		.012[b]		.011[b]		.012		.017
RACE X SOCIAL STATUS[1]	5.86**		4.94**					
Black Prof (3)[2]		.004[a]		.005[a]		.009		.014
Black Minor Prof (5)		.007[a]		.007[a]		.011		.017
Black Skld Crftmn (5)		.011[b]		.014[b]		.015		.020
Black Semisd Wrkr (5)		.023[c]		.027[c]		.014		.016
White Professional (9)		.001[a]		.000[a]		.012		.012
White Minor Prof (15)		.003[a]		.002[a]		.010		.015
White Skld Craftmn (14)		.008[a]		.004[a]		.013		.012
White Semiskd Wrkr (7)		.011[b]		.009[b]		.013		.010

*p < .05
**p < .01
[1] Means with different letters are significantly different.
[2] Number of subjects in each cell

workers were more negative than minority skilled workers and white semiskilled workers (both *p*'s < .05) as well as minority and white professionals, minority and white minor professionals, and white skilled workers (all *p*'s < .01). Within white subjects, semiskilled workers were significantly more negative than all other groups (*p* < .05). The statistically significant *F* and *p* values and mean proportions of negativity are presented in Table 5.

Primary Analyses

Relation between Attributional Bias and Negativity

Eight primary research questions were identified in this study. The first was to determine if biases in mothers' and children's interpretations of the other's intentions related to the coerciveness of their interactions. Using Pearson product-moment correlational analyses, the relations between mothers' and children's attributions and their coerciveness were examined. Maternal bias was significantly related to her coerciveness in the cooperative task ($r = .34$, $p < .01$) and the competitive task ($r = .33$, $p < .05$). Child bias was also significantly related to the coerciveness of his interactions in the cooperative task ($r = .37$, $p < .01$) as well as the competitive task ($r = .21$, $p < .1$). Results of the correlational analyses can be found in Table 4.

Predicting Dyad Negativity: Maternal vs. Child Bias

To address the question of whether maternal bias or child bias is more salient in determining the negativity of the dyadic interactions, ordinary least squares regressions were computed for the cooperative and competitive tasks separately. A dyad score reflecting maternal negativity and child negativity on each task was computed by summing mothers' and children's negative proportions and dividing by two to maintain the 0 to 1 range. For the cooperative task, the variables entered into the regression equation were child bias, maternal bias and the covariates race, social status, and marital satisfaction. The overall effect of the model produced an adjusted R^2 of .43 $F(5,58)=7.60$ $p < .0001$.

Once race, social status, and marital satisfaction were partialled out, the most significant predictor of dyad negativity in the cooperative task was child bias ($\beta=.023$, $p < .005$). Maternal bias was also a significant predictor of dyad negativity ($\beta=.017$, $p < .05$). See Table 6 for a complete list of the coefficients, standard errors, and p values.

For the competitive task, the variables entered into the regression equation were child bias, maternal bias and the covariates race, social status, and marital satisfaction. The overall effect of the model produced an adjusted R^2 of .38 $F(5,58)=5.92$, $p < .0005$).

Table 6

Results of Regressing Maternal Bias and Child Bias on Dyad Negativity

Independent Variables	Task One Coeff.	Task One SE[a]	Task Two Coeff.	Task Two SE[a]
Intercept	-.098**	.031	-.111**	.044
Child Bias	.022**	.008	.002	.007
Maternal Bias	.008*	.004	.031**	.013
Race[b]	.002	.006	.008	.009
Social Status[c]	.003	.003	.001	.005
Marital Satisfaction[d]	.007***	.001	.009***	.002

Note. * p < .1, ** p < .01, *** p < .001.

[a] Standard Error
[b] White=0 Minority=1
[c] High Social Status=1 - Low social status=4
[d] Satisfied=0 Dissatisfied=1

After controlling for the influence of race, social status, and marital satisfaction, the most significant dyad negativity predictor of dyad negativity in the competitive task was maternal bias (β=.030, $p < .01$). Child bias was not a statistically significant predictor of dyad negativity. See Table 6 for a complete list of the coefficients, standard errors, and p values.

Relation between Maternal Negative Life Stress and Attributions

To determine if mothers who report experiencing negative and salient life events compared to mothers who report positive, low-impacting life events were more likely to form negative attributions of intent a one-way ANOVA was computed. To prepare the data for this analysis, medians were computed for both maternal negative life events and maternal positive life events. A median split was then calculated for both categories. Thus, by pairing all possible median groups, four life event groups were created. The groups consisted of: (a) mothers above the median on negative life events and below[2] the median on positive life events, (b) mothers above the median on negative life events and above the median on positive life events, (c) mothers at or below the median on negative life events and above the

[2]In order to maintain sufficient sample size in each cell the below the median group included those at the median as well.

median on positive life events, and (d) mothers at or below the median on both negative and positive life events. Refer to Table 7 for the range of scores and sample size for each category.

While the results of the ANOVA were not statistically significant, the maternal attributional bias means were in the expected direction. That is, mothers who were above the median in their reports of negative and salient life events and below the median in positive life events had the highest (most negative) bias score ($\underline{M}$ = 13.17). Consistent with the notion that positive or negative life events are stressful (Abramson, et al., 1978; Seligman & Peterson, 1986) and that stress may contribute to a negative attributional style, those mothers who were below the median on both negative and positive life events had the lowest bias score ($\underline{M}$ = 12.33). Mean attributional bias for mothers above the median on both negative and positive life events was 12.42, while those mothers reporting high positive and low negative life events had a mean bias score of 12.76.

Relation between Children's Negative Life Events and Attributions

Similar results were found for the relation between children's report of life events and attributional bias. Medians were calculated for children's negative life events and positive life events. A median split was then calculated for both categories. By combining all possible

Table 7

Maternal/Child Life Event[a] Means, Median Values, Ranges and Median Split Group Cell Sizes

Variable	N	Mean	Median	Impact Score Minimum	Impact Score Maximum
Maternal Pos. Life Events Score	63	27.8	22	0	87
Maternal Neg. Life Events Score	63	27.8	24	0	85
Child Positive Life Events Score	63	25.6	21	5	71
Child Negative Life Events	63	26.0	23	0	74
Maternal Median Split Groups					
High Negative		53.5	49	27	85
Low Positive	14	10.3	12	0	22
High Negative		53.5	49	27	85
High Positive	16	52.0	40	24	87
Low Negative		11.7	12	0	24
Low Positive	17	10.3	12	0	22
Low Negative		11.7	12	0	24
High Positive	16	52.0	40	24	87
Child Median Split Groups					
High Negative		48.3	38	26	74
Low Positive	16	14.0	13	0	21
High Negative		48.3	38	26	74
High Positive	15	46.5	36	26	71
Low Negative		13.3	11	0	23
Low Positive	17	14.0	13	0	21
Low Negative		13.3	11	0	23
High Positive	15	46.5	36	26	71

[a] The mean, median, and range life event values represent a summation of the subjects' impact scores for each dimension, not a tally of the number of life events.

median groups into pairs, four life event groups were created. The groups were composed of; a) children above the median on negative life events and below[3] the median on positive life events, b) children above the median on negative life events and above the median on positive life events, c) children at or below the median on negative life events and above the median on positive life events, and d) children at or below the median on both negative and positive life events. The ranges of scores and number of children in each of the groups can be found in Table 7.

Again the ANOVA did not attain significance; however, those children who were above the median on negative life events and below the median on positive life events scored highest in their negative attributional bias toward their mother ($\underline{M}$ = 12.39). The mean attributional bias for those children reporting the fewest positive and negative life events was 11.15. The two remaining groups, high positive - low negative life events and high on both negative and positive life events had means of 11.24 and 11.97, respectively.

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[3]In order to maintain sufficient sample size in each cell the below the median group included those at the median as well.

Relation between Maternal Attributional Bias, Child Negativity, and Maternal Negativity

To determine the best predictor of maternal negativity, maternal attributional bias toward her child or the child's negativity, an OLS regression analysis was computed controlling for maternal life events, as well as the covariates race, social status, and marital satisfaction. For the cooperative task, maternal bias, child negativity, maternal negative life events, race, social status, and marital satisfaction together accounted for 48% of the variance in maternal negative behavior $F(7,62) = 10.14$, $p < .0001$. As can be seen in Table 8, the best predictor of maternal negativity was children's negativity. The coefficients, significance levels, and standard errors for the variables in the regression model can be found in Table 8.

On the competitive task, maternal bias, child negativity, maternal negative life events, race, social status, and marital satisfaction accounted for 64% of the variance in maternal negativity $F(7,62) = 17.4$, $p < .0001$. As is evident in Table 8, children's negativity is the best predictor of maternal negativity, followed by race. The relation between maternal bias and maternal negativity on this task approached statistical significance. See Table 8 for the coefficients, significance levels, and standard errors for the variables in the regression model.

Table 8

Results of Regression Equation of Predictors of Maternal/Child Negativity

	Maternal Negativity				Child Negativity			
	Task One		Task Two		Task One		Task Two	
Independent Variables	Coeff.	SE[a]	Coeff.	SE[a]	Coeff.	SE[a]	Coeff.	SE[a]
Intercept	-.031*	.015	.04*	.020	.013	.012	.007	.012
Maternal Measures								
Bias	.01*	.004	.009*	.005	----	----	----	----
Life Events	.001	.001	.001	.001	----	----	----	----
Negativity	----	----	----	----	.873****	.144	.776****	.094
Child Measures								
Bias	----	----	----	----	.012*	.001	.001	.001
Life Events	----	----	----	----	.001	.001	.001	.001
Negativity	.420****	.073	.745****	.090	----	----	----	----
Race[b]	.007*	.003	.009*	.004	-.004	.004	-.002	.002
Social Status	.002	.002	.003	.002	.002	.001	.002	.003
Marital Satisfaction[c]	.003	.001	.002	.002	.001	.001	.002	.001

Note. * $p < .05$ **** $p < .0001$.
[a] Standard Error
[b] White=0 Minority=1
[c] Satisfied=0 Dissatisfied=1
--- denotes variables not included in regression model

As these findings were contrary to the hypothesized relations, an additional analysis for each task was conducted. Only maternal negative responses to child positive or neutral behaviors were used as the dependent variable in each analysis as this might better represent maternal attributional bias. Thus, only maternal and child start-up behaviors were included in these post-hoc analyses. As some mothers and children did not emit negative behaviors immediately following a neutral or positive behavior by the other (the definition of a start-up) and thus had a proportion score of zero, ordinary least squares regression could not be utilized.

Regression analyses where several subjects score a zero on the dependent variable require the use of a Tobin (1958) estimator via Tobit analyses. Tobit analyses are preferential to OLS regression when a significant percentage of the sample (i.e., 30%-40%) have zero data and the remaining observations above zero vary widely (Maddala, 1988). Twenty-three (36.5%) of the 63 mothers on this task had a proportion score of zero. Thus, the regression model was being computed for a dependent variable with over one-third of the sample scoring zero. The data are, in effect, censored at zero with no scores below. In cases such as this, the regression model is referred to as a censored regression model. Ordinary Least Squares regression would

yield biased estimates that generally underestimate the true effect (Maddala, 1988).

A tobit analysis was conducted for each task with the same variables that were included in the OLS regression. The only variation was in the definition of negativity. Rather than maternal and child negativity representing a sum of start-ups, counterattacks, and continuances, the negativity variable included only maternal or child start-ups.

While the results of neither the cooperative task nor the competitive task were statistically significant, maternal negative attributional bias (β=.131, p=.14) was a better predictor of maternal negativity than was child negativity (β=.113, p=.23) on the cooperative task as well as on the competitive task (maternal bias β=.176, p=.13; child negativity β=.009, p=.27). These post-hoc findings are consistent with the hypothesis. Maternal attributional bias better predicted maternal negativity than did child negativity.

Relation between Child Bias, Maternal Negativity, and Child Negativity

In order to examine the relative contribution of mothers' negativity and children's attributional bias to children's negativity, a regression analysis was conducted controlling for children's life events, race, social status,

and marital satisfaction[4]. Taken together, these variables accounted for 46% of the variance in children's negativity on the cooperative task $F(7,62) = 9.11$, $p < .0001$. Only maternal negativity and children's bias produced significant coefficients (Table 8). Neither race, social status, nor marital satisfaction were significant predictors of children's negativity.

On the competitive task, children's bias, children's life events, maternal negativity, race, social status, and marital satisfaction accounted for 57% of the variance in children's negativity $F(7,62) = 13.08$, $p < .0001$. As in the cooperative task, maternal negativity was the best predictor of children's negativity. Children's bias did not reach statistical significance but was the second best predictor of their behavior. Neither race, social status, nor marital satisfaction were significant predictors of children's negativity on this task. Refer to Table 8 for the coefficients, significance levels, and standard errors for the variables in the regression model.

Once again, since the results were not as expected, an additional analysis was run for each task. Post-hoc Tobit analyses similar to those computed for maternal negativity

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[4]While the initial ANOVA on group differences in race, social status, and marital satisfaction for children's negativity did not detect significant results, these covariates are included in this analysis due to the inclusion of maternal negativity as an independent variable.

were computed for the relation between child negative attributional bias, maternal negativity, and child negativity.

On the cooperative task, child negative attributional bias was superior to maternal negativity in predicting child negativity. In fact, child bias was a statistically significant predictor of child negativity (β=.302, p=.04) while maternal negativity was not (β=.082, p=.18). While the beta coefficients in the tobit analysis for the competitive task were not statistically significant, child bias was a better predictor of child negativity than was maternal negativity (child bias β=.015, p=.23; mother negativity β=.009, p=.27).

Maternal Social Support as a Mediator between Negative Life Events and Negative Attributions

To determine if mothers' social supports (spousal, family, and community supports) mediate the relation between their experience of stressful life events and negative attributions, an Analysis of Covariance (ANCOVA) procedure was conducted. The relation between negative life events and attributional bias was not statistically significant. However, after controlling for maternal social support, the relation approached significance ($F(4,62) = 2.33$, $p < .12$). More revealing perhaps was the marked improvement in the ability of maternal report of negative life events to

predict variability in negative attributions once social support was statistically controlled. The R^2 without the mediating variable social support was .15, and with mothers' social support added to the equation, R^2 =.44.

Child Social Support as a Mediator between Negative Life Events and Negative Attributions

Investigation of the relation between children's negative life events and attributional bias with children's social support as a mediator revealed findings similar to the maternal findings. Without children's social support (activity in sports, clubs, and organizations) as a mediating variable, the relation between negative life events and children's attributional bias was not significant. Once social support was entered into the equation as a covariate, negative life events became a statistically significant predictor of bias ($F(4,62) = 3.98$, $p < .05$). Without controlling for social support, life events predicted 15% of the variability in children's attributional bias. Following the addition of children's social support as a mediating variable, the R^2 increased to .59.

CHAPTER V

DISCUSSION

Preliminary Analyses

It was expected that several demographic and personal-social variables would mediate the relation between attributions and mother-child aggression. The aggression literature points to two basic theories of mother-child aggression. One theory implicates demographic variables (e.g., economic stress, low education) as influential in the development and maintenance of aggression between mothers and their children (e.g., Conger, et al., 1984; Garbarino, 1976; Parke & Collmer, 1975; Friedman, 1976). A second theory points to personal-social variables as contributors to coercive mother-child interactions (e.g., marital dissatisfaction/conflict) (e.g., Emery, 1982; Gelles, 1973; Helfer & Kempe, 1974; Hetherington, et al., 1978). The initial analyses supported both of these complementary views.

Marital Dissatisfaction and Mother-Child Coerciveness

First, it was postulated that marital dissatisfaction, not marital disruption, would be related to the quality of the parent-child interaction. Several researchers have

shown that once the level of marital conflict (assessed in this study as dissatisfaction) is controlled, differences in maternal negativity between married and divorced groups do not emerge (e.g., Emery, 1982; Hetherington, et al., 1978). Thus, differences in maternal negativity toward the child were expected to exist between maritally satisfied and dissatisfied mothers while no differences were expected between married and divorced mothers. The data in this study supported that assertion. Significant differences in maternal negativity were found between maritally satisfied and dissatisfied mothers, while no significant differences in maternal negativity were revealed between married and divorced subjects.

The data indicated that mothers in dissatisfying marriages were more apt to engage in less positive and more negative mother-child interactions, a finding that is consistent with other reports across varying samples (Arbuckle & MacKinnon, 1988; Belsky, 1984; Rubin & Lollis, 1988). For example, examining parent-child interaction in a semi-structured task with children aged 7-9, Arbuckle and MacKinnon (1988) found maritally dissatisfied mothers to engage in less positive interactions with their children than mothers reporting satisfaction in their marriage. Moreover, Belsky's (1984) literature review that led to the development of a process model of parenting clearly

implicates the marital relationship as a potent factor affecting parenting.

Belsky's (1984) literature review on the determinants of parenting nicely demonstrates both direct and indirect influences of the marital relationship on parenting. The direct effect of marital relations on parent-child relations has been submitted by numerous researchers and suggests that the quality of the emotional relationship between the spouses directly and positively influences maternal negativity which, in turn, leads to aggressive behavior on the part of the child (e.g., Olweus, 1980). Further, children who are exposed to conflictual (aggressive) models (i.e., parental conflict) are more likely to be aggressive in their interactions. Indirectly, marital quality impacts the psychological well-being of parents and thus influences parental behavior (e.g., Johnson & Libitz, 1974). Considered together, the extant literature provides clear support for the effects of the marital relationship on parent-child interactions.

It is important to note two caveats that Emery (1982) discusses in his review of interparental conflict, parent-child interaction, and child behavior problems. First, he warns against methodologies where experimenters rating parent and child behavior are cognizant of (i.e., not blind to) the marital relationship of the parent. This situation risks eliciting an expectation bias where knowledge of

marital turmoil affects the ratings of parent-child interactions. Second, Emery suggests that the same process can operate within parents. Mothers, for example, who are experiencing conflictual relations with a spouse or ex-spouse may judge their child's behavior as being more negative than it actually is--creating an expectation biased toward negativity. The present study was designed to overcome these drawbacks by utilizing coders who were blind to the marital relationship of the mothers and by assessing mothers' perceptions of child behavior.

Social Status and Mother-Child Coerciveness

As expected, maternal negativity varied significantly across social status groups. This finding is consistent with results of previous studies that found economic distress to be associated with more authoritarian parenting and harsher discipline (e.g., Conger, et al., 1984; Elder, et al., 1984). These researchers offer two plausible explanations for the differences in negativity as a function of social status. First, low income is often construed as a proxy for chronic life stress. Many studies have shown strong relations over several decades between low income and mental and physical distress (for a review, see Voydanoff, 1983). Life stress is a principal reason for why family relations deteriorate as well as becoming more authoritarian. Life stress, then, is positively

related to parent-child negativity. Second, occupational position bears directly upon one's child rearing values and conceptions about what is a desirable child outcome (e.g., blue-collar workers stress compliance while white-collar workers stress independence). For blue-collar workers, emphasis on the job is placed on compliance from others' directions, whereas for white collar workers, emphasis is to be self-motivated (Kohn, 1969). Thus, parental behavior would be expected to differ across occupational status with blue-collar workers being more coercive with their children.

Moreover, social status in the current study represented not only the subjects' occupation score, but also an education score (Hollingshead, 1974). Parents with less education are more likely than higher educated parents to use a more narrow range of disciplinary techniques with their children. These techniques are often centered around more punitive forms of discipline (Ayoub & Jacewitz, 1982; Crittenden, 1981). It is not surprising that social status was so strongly associated with maternal negativity and thus a powerful mediating variable.

Racial Status and Mother-Child Negativity

As anticipated, maternal negativity also differed as a function of racial status. The findings suggest that black mothers are more negative with their children than white

mothers. Yet, no significant differences emerged between the two groups on attributional bias. There are several plausible explanations for these findings. It might be that some other factor or factors not measured in this study account for the racial difference in maternal negativity. One frequently cited mediating variable is maternal depression.

Maternal depression has been found to affect mothers' perceptions of their children as well as their parenting behaviors (Panaccione & Wahler, 1986). Examining a sample similar to that of the current study with comparable measures of parent-child interaction, Panaccione and Wahler found depressed mothers to be more negative with their children than non-depressed mothers. These authors intimate maternal depression as a potent predictor of mothers' perception of their children and maternal negativity. Unfortunately, a maternal depression measure was not included in the present study and thus the effects of depression can not be examined.

It is also possible that the objective criteria used to assess negativity might be different across racial status. That is, the criteria established to define coercive interactions may be assessing white subjects differently than black subjects. One possible reason for this lies in the documented cultural differences between whites and blacks (Whiting & Whiting, 1975). Black

families have been shown to display more aggressive interactions and behave in a more authoritarian manner than white families. However, some behaviors that would be considered coercive in white families may not be considered coercive in black families (e.g., raising one's voice) (Whiting & Whiting, 1975). Thus, it is possible that some behaviors coded as coercive in black dyads may not, in actuality, be considered coercive behaviors by the families themselves.

As a result, coerciveness should be considered within, not across, racial groups or the effects of race should be statistically covaried. In the current study, coerciveness was assessed identically for white and black dyads. However, the effects of racial status were controlled to permit more accurate analyses of the constructs under investigation.

It is also important to note that in a stepwise regression analysis on the dependent variable maternal negativity, if all independent variables are allowed to enter in order starting with the best predictor and terminating once a specified significance level has been reached, race enters before social status. However, if social status is forced to enter first, followed by race, the predictive power of race is substantially decreased--but still significant. This suggests that much of the variation between whites and blacks in the present study

can be explained by social status differences. This finding is consistent with those of several others asserting that the apparent racial differences in many studies may be accounted for by social status differences (Pearce & McAdoo, 1981; Whiting & Whiting, 1975). Unless methodologically controlled, it is likely that black families will have a lower social status than white families, an obvious confound (McAdoo, 1983; Pearce & McAdoo, 1981).

Primary Analyses

Relation between Attributional Bias and Negativity

The paucity of investigative work on the relations between attributions and behavior within the family, particularly parent-child relations, stimulated this study. The results obtained provided support for the major overarching hypothesis that mothers and children whose attributions are negatively biased would be more coercive in their interactions. Both maternal bias and child bias were significantly related to the coerciveness of their interactions in both interaction tasks. This finding was critical as many of the subsequent research questions presupposed this relation. A previous study examining these relations produced similar findings with an all white, divorced sample (MacKinnon & Arbuckle, under review). The current findings extend the previous ones

into black families and across divorced and married family structures.

These results clearly support the assertions posited by Dix and Grusec (1985) that parents' attributions about children are a salient factor driving the parents' behavior. While Dix and Grusec studied 4-, 8-, and 12-year-old children, their assertions were supported only for the 8- and 12-year-old children. The younger children were thought to lack the intentionality and controllability of their actions that the parents perceived present in the older children. As discussed earlier, no differences were found in the present study between 7-, 8-, and 9-year-old children on the major constructs of interest.

Moreover, the findings of the current study extend those of Dodge and his colleagues (Dodge, 1980, 1985; Dodge, et al., 1984) wherein negative interpretations of peers' intentions elicited hostile responses in school-aged children. It appears that, as hypothesized, these processes operate within families, between parents and children, as well. Interactions between mothers and their children are controlled, in part, by the perception that each has of the other.

The rather modest significance level of the relation between attributional bias and negativity for children in the competitive task was a consistent finding throughout the analyses. It might be that the competitive task failed

to provide as many opportunities for the children to respond negatively if they were inclined to do so. In fact, inspection of the mean number of maternal and child responses across the two tasks suggests that children were generally less responsive (and less negative) on the competitive task than on the cooperative task. Conversely, while both tasks elicited numerous responses from the dyads, mothers were more actively involved in the competitive task.

One possible reason for these findings lies in the varying nature of the tasks themselves. That is, the cooperative task involved a novel approach to a familiar child toy (Etch-A-Sketch) permitting a variety of strategies and appeared to be more attractive and engrossing to the children. The competitive task, on the other hand, required the subjects to adhere to the standard rules of the game (Trouble) and perhaps limited response variability of the children. Mothers, however, seemed to take greater control of the interaction in this task permitting greater opportunities for negative behavior. Because of these task differences, analyses were conducted separately for each task.

Investigations into perceived power and its effects on communication patterns provide some insight into these maternal and child behavioral differences across tasks (Bugenthal & Shennum, 1984). It is argued that in

situations where one perceives that the other lacks control (or power), there exists a tendency to behave in a more authoritarian manner than if the converse is true. Such was the case for both maternal and child behavior patterns in the interaction tasks in this study. The children appeared to assume the controlling position in the cooperative task and, as a result, tended to behave more assertively and coercively than in the competitive task. The opposite was true in the competitive task. The mothers were placed in a situation where specific rules were to be followed and perhaps perceived that it was up to them to enforce them, placing the mothers in a position of control. The situation was ripe, then, for negative attributional biases to operate. As noted, the competitive task was more effective in discriminating between mothers who held negative attributional biases and those who were less negative.

Predicting Dyad Negativity: Maternal vs. Child Bias

While no hypothesis was advanced to predict whether maternal bias or child bias was more salient in determining dyad negativity, in light of the discussion above, the findings are not surprising. After partialling out the effects of race, social status, and marital satisfaction, child bias was more predictive of dyad negativity than maternal bias in the cooperative task. For the competitive

task, however, maternal bias far exceeded child bias in predicting the negativity of the dyad. These task differences illuminate the importance of considering the properties of the interaction task and its ability to evoke the behaviors of interest.

Relation between Life Stress and Attributions

While the results of the analyses examining the relation between maternal and child life stress and attributional bias were not statistically significant, the data are compatible with the direction of the hypotheses and previous findings. According to Sarason et al. (1978), adults' negative attributions are positively related to their experience of negative life events, particularly highly impacting ones. In the current study, mothers and children who were above the median on negative life events and below the median on positive life events had the most negative bias scores. These findings extend those of Sarason et al. (1978) in several ways.

First, while the previous study examined the relation between life stress and attributions, the measure of attributions was actually a measure of locus of control of events. The current study employed a measure that was specifically designed to tap into attributions. Further, Sarason and his colleagues assessed this relation in a college sample. The present study extends those findings

to not only parents of varying education levels, but also to young school-aged children. It seems that negative life stress exacerbates the negativity of one's interpretation of another's intentions in older adults and school-aged children.

Moreover, as both negative and positive life events produce stress and stress influences one's perception of another's behavior (Abramson, et al., 1978; Sarason, et al., 1978; Seligman & Peterson, 1986), it seems logical that the absence of these stressful events would promote less negative attributions. Given that mothers who were below the median on both negative and positive life events had the least negative attributional bias scores, the data in this study support that assertion for adults.

Of equal importance is that similar processes appear to operate within young school-age children. Those children who were below the median on both negative and positive life events had the least negative attributional bias compared to the children in the other three median split groups (i.e., low negative-high positive, low positive-high negative, and high positive-high negative life events).

There might be a factor that mediates the relation between life events and attributions and thus, if controlled, would permit the relation between attributions and life events to emerge more strongly. One factor is the

use of available social supports. Utilization of social supports and their impact upon both mothers' and children's attributions was examined in this study and will be discussed subsequently. Another possible mediating variable is depression. Seligman and his colleagues have consistently found that adults who experience negative and salient life events are at greater risk for depression (Abramson, et al., 1978; Klein & Seligman, 1976; Seligman & Peterson, 1986). Similar results have been reported for children (Seligman & Peterson, 1986). Depression has been linked to negative attributional biases as well (Craighead, Kazdin, & Nahoney, 1981). While the direction of this relation has been questioned, the importance of considering maternal and child depression as mediating variables is apparent; the exclusion of these variables represents a limitation of the current study.

Another potential reason for the moderate relation between life events and attributions, at least for children, lies in the applicability of the instrument itself. While the children included in this study were within the age ranged deemed appropriate for administration of the Child Life Events Scale (E. M. Hetherington, personal communication, September 12, 1988), the validity of the instrument for this age children is questionable for a couple of reasons. First, the instrument requires children to report on life events that have occurred over

the previous year. According to Piaget, 7-year-old children are just beginning to grasp the abstract concept of past and future time (Wadsworth, 1989). Thus, the accuracy of their responses may be questionable. Further, requiring children to provide an assessment of the impact of an event happening 10 months earlier, may exceed the cognitive abilities of "normal" 7-year-olds. Moreover, in the assessment of the impact of an event, children are expected to rate its positive and negative effects. The level of cognitive development of young children as well as prior socialization would likely prevent children from considering a single event as possessing both positive and negative characteristics. To young children, an event is either good or bad, not both. Therefore, the lack of a statistically significant finding for children in this study may reflect poor reliability and validity of this instrument with young children rather than some third for variable.

Relation between Maternal Bias, Child Negativity, and Maternal Negativity

It was hypothesized that maternal bias would be a better predictor of maternal negativity than would child negativity after controlling for maternal negative life events. While the data did not support this hypothesis on either interaction task, the results nevertheless are

supportive of the assertion that attributional bias is predictive of negativity. In the cooperative task, after partialling out the effects of race, social status, and marital satisfaction, the variables maternal bias, child negativity, maternal negative life events, explained nearly half of the variance in maternal negativity. Contrary to the hypothesis, child negativity was more predictive of maternal negativity than was maternal attributional bias. However, after controlling for child negativity, the relation between maternal bias and child negativity was statistically significant.

Similar results were found in the competitive task. Child negativity was the best predictor of maternal negativity. Taken together, maternal bias, child negativity, maternal negative life events, race, social status, and marital status accounted for nearly two-thirds of the variability in maternal negativity. Controlling for the effects of child negativity, maternal bias was a statistically significant predictor of maternal negativity. Thus, negative attributional biases escalate maternal negativity.

It might be that many mothers respond negatively to a child's negativity, irregardless of attributional bias. The ability of attributional bias to predict maternal negativity, however, might emerge if maternal negative responses to child negativity are removed from the

equation. That is, examining only maternal negative responses to child positive or neutral behaviors might better represent negative attributions in mothers.

In order to investigate this relation, only maternal and child start-up behaviors were included in post-hoc analyses. Since some mothers and children did not emit negative behaviors immediately following a neutral or positive behavior by the other (the definition of a start-up) and thus had a proportion score of zero, ordinary least squares regression could not be utilized. The appropriate statistical technique is a tobit analysis.

Although the tobit analysis was not statistically significant for either task, the results support the assertion that maternal negative attributional bias is a better predictor of maternal behavior than is child negativity. While several previous studies have posited and reported that maternal attributions are related to maternal negativity (e.g., Dix & Grusec, 1985; Dix, et al., 1986), no study to date has simultaneously considered the child's actual behavior. The inclusion of child negativity into the equation is both theoretically and empirically important as mothers who behave coercively with their children may not manifest a negative attributional bias, but rather are responding to the child's negative advances.

It should be noted, however, that cross-sectional designs are unable to to illuminating causal relations. When factors likely co-occur, such as is the case with negative attributional bias and coerciveness, it may be futile to attribute causal priority unless the relationships are examined longitudinally from the point of their etiology. While it is true that child negativity predicts maternal negativity, it may also be that child negativity predicts maternal negative attributions subsequently. It is only with a longitudinal study that these processes can be teased apart and causal relations established.

Relation between Child Bias, Maternal Negativity, and Child Negativity

Given the findings discussed above, it is not surprising that, contrary to the hypothesis, the ability of child bias to predict child negativity was superceded by maternal negativity. On the cooperative task, child bias, maternal negativity, child negative life events, race, social status, and marital satisfaction explained 47% of the variability of child negativity. Maternal negativity was a better predictor of child negativity than was child negative bias. However, after controlling for maternal negativity, child bias was a significant predictor of child negativity. Despite rejection of the hypothesis, the

results implicate negative attributional bias as a potent force in determining negative behaviors.

On the competitive task, while maternal negativity was significantly related to child negativity, child bias was not. Since there were observed task differences, with children being less responsive and less negative in their interactions on the competitive task, it is not surprising that child bias became non-significant once maternal negativity was included in the regression model.

In order to further examine this finding and the one above, post-hoc Tobit analyses similar to those computed for maternal negativity were computed for the relation between child negative attributional bias, maternal negativity, and child negativity. On the cooperative task, child negative attributional bias was more predictive of child negativity than was maternal negativity. In fact, child bias was a statistically significant predictor of child negativity. While the beta coefficients in the tobit analysis for the competitive task were not statistically significant, child bias accounted for more of the variation in child negativity than did maternal negativity.

In the relation between child attributional bias and child negativity, it is important that maternal negativity is also considered. A previous investigation examining these variables reported child attributional bias to be related to child negativity after covarying the effects of

maternal negativity (i.e., using an Analysis of Covariance) (MacKinnon & Arbuckle, 1988). The current study improves upon these previous findings by determining which variable, child attributional bias or maternal negativity, best predicts child negativity, rather than simply controlling for the effects of the latter.

Once again, the cross-sectional design of the current study precludes cause-effect relations from being established. It may be that maternal negativity leads to child negativity. It may also be that maternal negativity fosters child negative attributional biases which, in turn, promote child negativity. Only a longitudinal study can adequately assess these cause-effect relations as they emerge.

Maternal Social Support as a Mediator between Negative Life Events and Negative Attributions

As hypothesized, maternal social support mediated the relation between negative life events and negative attributions. An examination of the relation between negative life events and negative attributions produced non-significant results. However, once social support was added to the regression equation, the model accounted for a considerable amount of the variation in negative attributional bias. The coefficient for social support in the equation was negative which suggests that as maternal

social support increases negative attributional bias decreases.

It appears that, congruent with previous findings, a supportive social network mediates the damaging consequences of negative stressors (Berkman & Syme, 1979; Cassel, 1976). It should be noted, however, that this is the first study to assess the mediating influence of social support in the relation between life stress and the formation of negative attributions. A network of social support, then, appears to temper the impact of life stress on attributions. Given the established relation between negative attributions and coercive behavior, the importance of establishing and maintaining a web of social ties to reduce the incidence of negative behavior is clear.

These data contribute significantly to previous research that shows a relation between maternal social support and coercive maternal behavior by considering affective cognitive processes. Using open-ended interviews with low- and middle-income mothers, Colletta (1979) demonstrated that social support from spouse, relatives, and friends was negatively associated with maternal punitiveness. The findings in the present study illustrate the importance of social support on attributions and incorporates a social cognitive component into the established link between social support and parenting.

Child Social Support as a Mediator between Negative Life Events and Negative Attributions

Literature on the effects of children's social support is sparse as most of the work on support systems has been done on adults (Hetherington, 1984). The hypothesis advanced for the relation between children's negative life events, social support, and negative attributions was predicated solely upon the extant findings in the adult literature (e.g., Berkman & Syme, 1979; Cassel, 1976). The hypothesis was partially supported in that the relation between negative life events and negative attributions improved markedly when children's social support was added to the regression equation. Moreover, the coefficient for social support was in the expected direction. A negative relation between social support and negative attributions suggests that as social support increases, attributions become more positive.

Commensurate with the implications for adult social support discussed above, children's social support appears to act as a buffer to the deleterious effects of life stress. Work by Rutter (1979, 1983) suggests that children's social networks act as a mitigating factor against the effects of life stress. He reports that socially supportive networks serve a protective function which counter either acute or chronic stressors. It appears critical, then, that children who may be

predisposed to experiencing negative life events (e.g., children of divorce, chronically ill children, children in dysfunctional families) develop and maintain a social support network.

Conclusions

The findings in this study establish a clear link between maternal and child negative attributional biases and coercive mother-child interactions. Mothers and sons who are negatively biased in their perceptions of the other are prone toward negativity in their interactions. Previous research has documented the relation of attributions and behavior in adult-adult relations and child peer-peer relations, but no study to date has demonstrated the importance of maternal and child attributions in affecting their interactions. Further, these negative attributional biases seem to be intensified by the experience of negative life events. However, a socially supportive network appears to buffer to the deleterious effects of life stress (the experience of negative life events) and negative attributional bias.

As discussed earlier, certain contextual conditions (e.g., marital dissatisfaction, economic distress) exacerbate one's propensity toward negative attributions. Both marital dissatisfaction and economic distress were shown to be potent mediating variables in the relations

between several predictor variables and coerciveness. One factor not investigated in this study that likely contributes to the formation of negative attributions is maternal depression. The literature is replete with examples of a strong association between maternal depressive state and maternal parenting behaviors. The absence of an assessment of maternal depression in this study represents a limitation.

Additionally, child depression would be expected to be related to both negative attributional bias and agonistic child behaviors. Seligman and his colleagues (1984) have suggested that child depressive state is related to child attributional style, although a causal path has yet to be established. These investigators, however, did not examine the interrelations between depression, attributions, and behavior among children. Both maternal and child depression indices should be incorporated into subsequent studies.

Another relation illuminated in the present study was between negative life events and negative attributional bias for mothers and children. Due to the cross-sectional nature of this study, it is unclear whether life events affect attributions or attributions affect one's experience of life events. Once again, only a longitudinal study could adequately tease apart the causal relations between these variables.

Several recent studies in the child maltreatment literature have reported nonsignificant differences between the number of negative life events experienced by maltreating and non-maltreating mothers (e.g., Johannson, 1987). It might be that if an assessment of maternal attributions was taken and served as a control variable, differences between these two groups would emerge. This suggestion is based on findings of the present study that highlight the importance of considering social cognitive factors when examining relations between particular predictor variables (e.g., life stress) and maternal coerciveness.

Whence Negative Attributional Biases?

While negative attributional biases were linked to coercive maternal and child behavior, it might be argued that these attributions are not, in actuality, biases. That is, the negative perception that one member of a dyad holds of the other may be reflective of previous interactions where hostility was characteristic. This idea brings into question the origin of attributions.

Beginning with the seminal work of Bowlby (1969), attachment theorists have stressed the importance of early interactions in subsequent relationships. The individual is thought to bring to every relationship an affective-cognitive set from which interactions are predicated.

Ainsworth and her colleagues (Ainsworth, 1979; Ainsworth, Blehar, Waters, & Wall, 1978) have consistently shown that insecurely attached children have mothers who respond inconsistently and are emotionally unavailable. These children, then, are characterized by poor relations with their mothers and their peers later in life. Negative attributional biases, then, may have their foundation in the early attachment relations established between mothers and their children. It is only with a longitudinal study that these processes and causal paths may be revealed.

Conceptual Overlap between Social-Cognitive and Symbolic Interaction Theories

It is interesting to note the conceptual overlap between social cognitive theory and symbolic interaction theory. Family theorists suggest that a basic premise of symbolic interaction theory is that man purposefully selects the stimuli to which he will respond during interactions with others (Burr, Leigh, Randall, Constantine, 1979). This purposeful selection is predicated on previous interactions and the meaning attributed to the other's behavior. Consistent with research in social cognition, one's interpersonal competence is, in part, contingent upon one's developmental level. That is, infants have limited abilities to role take and gradually become more proficient with maturity.

Further, the ability to take the role of others varies between adults as does their interpersonal competence. Burr and his colleagues (1979) suggest, however, that there is a paucity of empirical research attempting to test these assertions in family studies.

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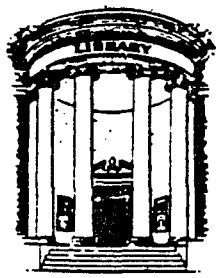
APPENDIX A

CONSENT FORM



THE UNIVERSITY OF NORTH CAROLINA
AT GREENSBORO

SCHOOL OF HUMAN ENVIRONMENTAL SCIENCES

Department of Child Development–Family Relations
(919) 334-5307

As you recall from our telephone conversation, we are interested in mother-son interactions and what mothers and their sons think of each other. The purpose of our study is to determine why some parent-child relationships are positive, while others are negative--even within the same family. We have designed a study to investigate how mothers and their sons view previous conflictual interactions. This research has been approved by the Department of Child Development and Family Relations, however, we must have written permission to include you and your son in this study.

Briefly, this study consists of two phases, each separated by one week. In the first phase, you and your son will be interviewed about your views concerning hypothetical (make believe) interactions with each other and will engage in a game-playing situation. You will also be asked to fill out a brief questionnaire. When you return the next week, you and your son will complete an issues checklist, will be interviewed about your feelings regarding a recent interaction with each other, and then participate in a discussion. You will be paid $20.00 for your participation in the study.

In the past, children and their parents have enjoyed participating in projects such as this one. However, if at any time you or your child indicate that you no longer wish to continue, we will honor that wish. All portions of the study will be kept strictly confidential. Neither your name nor your son's will appear on any of the recording sheets or surveys that we use.

Please indicate in the portion below whether or not you and your child wish to participate.

I, _____, am familiar with the purpose and methods of this research, and understand that my and my child's responses will be kept strictly confidential. Further, I have been informed that I or my son may choose to stop the research at any time or refuse to respond to any question, and the researcher will support that wish.

Understanding the above conditions, I

AM WILLING **AM NOT WILLING**

for my child and I to participate in this research.

_____

mother's signature

I have also been told about this study and understand that I don't have to answer if I don't want to and may quit anytime I want.

_____

child's signature

Regardless of your willingness to participate, if you would like a group-summary report of the overall findings of the project sent to you, please print your name and address below.

Name_____

Address_____

_____

Thank you very much.

APPENDIX B

TELEPHONE SCRIPT

Telephone Script/Initial Contact

Hello, I am (research assistant's name) a Research Assistant in the Department of Child Development and Family Relations at the University of North Carolina at Greensboro (UNCG). We received your name from the Guilford County School system Following the submission of a proposal describing our research to the superintendent. The school system then provided us with a list of the names and telephone numbers of children enrolled in the 2nd through 4th grades.

Dr. Carol MacKinnon, a professor at UNCG, is conducting a research project investigating how mothers and their children interact in two game-playing situations and we'd like you to take part. The study involves two appointments of one hour each separated by one week.

In the first appointment, you and your son (child's name) will be observed while you play a game together. After that, we will assist you in completed a couple of surveys. Before you leave, your child will receive a treat.

The second appointment will be very similar to the first except that a different game will be played and different questionnaires will be used. The surveys that we use are designed to find out how you and your son feel about certain things as well as things that you have experienced in the last year.

It is important for you to know that if you choose to participate, all of your and your son's responses will be kept strictly confidential and that at no time will your name appear on any data sheets. Further, you may refuse to answer any question that we ask and may decline to participate at any time and your wish will be supported. Finally, if you choose not to participate, it will in no way affect your child's standing at school.

Mrs./Ms. (mother's last name), if you agree to participate in our study, you will be paid $20.00 at the end of the second visit. Your child will receive another prize at this time also.

Can we include you in our study?

{Give directions to the mother and tell her that an interviewer will greet her upon her arrival.}

APPENDIX C

MATERNAL ATTRIBUTION MEASURE

Date _____ Interviewer _____ Family ID# _____ Page 1

MATERNAL ATTRIBUTION MEASURE

1. Suppose you have a friend visiting in your home and you are relating a story. While you are talking, (child's name) tells you that you are not telling the story right.

a) Why did (child's name) interrupt you in the middle of your story?

_____

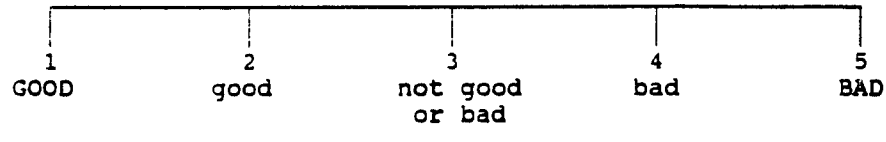
_____

b) How did it make you feel when (child's name) interupted you in the middle of your story?

_____

c) Was (child's name) being good, bad, or neither good nor bad? (Counterbalance order of presentation)

Real (good or bad) or a little (good or bad)?

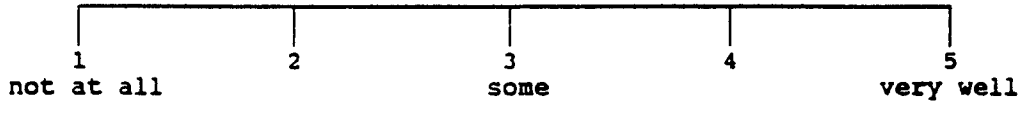


d) What would you do after (child's name) said that in the middle of your story?

_____

_____

e) How well do you think (behavior identified in [d]) would work?



f) Which of these two things would you most like to see happen in this situation?

A. You can continue relating your story without further interruption. ___

B. (child's name) is happy with you. ___

Date _____ Interviewer _____ Family ID# _____ Page 2

g) Since you would most like (mother's choice on [f]), here are three ways you might respond to what (child's name) said/did to you. Tell me which of these three things you might say.

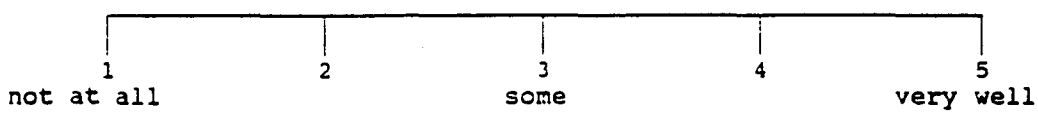
A. You say, "I don't like for you to interrupt me." (neutral)

B. You say, " **Get out of the room and let me talk to my friend**!" (negative)

C. You don't respond to (child's name).

First Choice_____

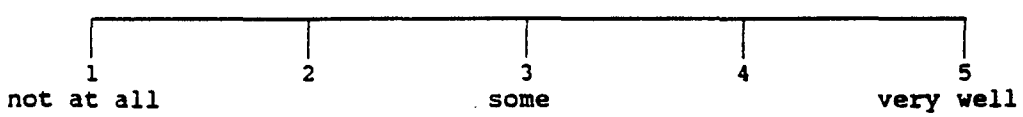
Since you would most like (mother's choice on [f]), how well do you think (mother's first choice on [g]) would work?



Let's pretend it did not work, what would your second choice be (repeat remaining two choices)?

Second Choice_____

Since you would most like (mother's choice on [f]), how well do you think (mother's second choice on [g]) would work?



Date _____ Interviewer _____ Family ID# _____ Page 3

2. Suppose you told (child's name) not to play with his watercolors in the living room. When you leave the room, he gets into them and spills them on the carpet.

a) Why did (child's name) get into the watercolors and spill them on the living room carpet?

_____

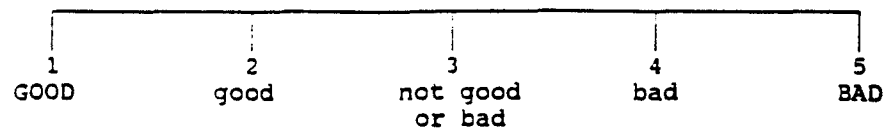
_____

b) How did it make you feel when (child's name) got into the watercolors and spilled them on the floor?

_____

c) Was (child's name) being bad, good, or neither good nor bad? (counterbalance order of presentation)

Real (good or bad) or a little (good or bad)?

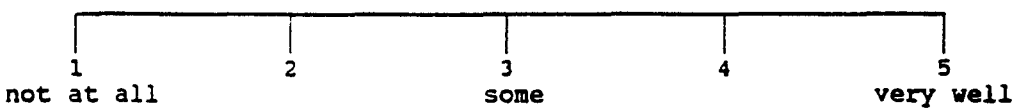


d) What would you do after (child's name) spilled the watercolors on the carpet?

_____

_____

e) How well do you think (behavior identified in [d]) would work?



f) Which of these two things would you most like to see happen in this situation?

A. (child's name) feels good about himself and you. _____

B. (child's name) cleans up and vows never again to spill paint. ____

Date _____ Interviewer _____ Family ID# _____ Page 4

g) Since you would most like (mother's choice on [f]), here are three ways you might respond to what (child's name) did. Tell me which of these three things you might say.

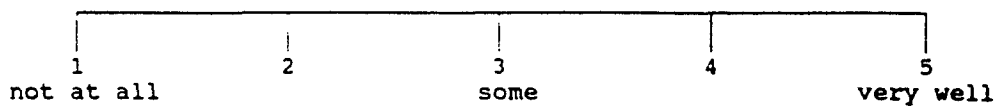
A. You say, "You never do what I tell you!" (negative)

B. You walk away and do nothing.

C. You say, "(Child's name), I think we need to talk about the need for you to listen to me."

First Choice_____

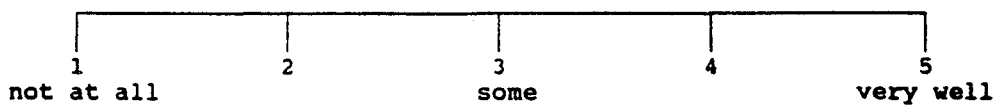
Since you would most like (mother's choice on [f]), how well do you think (mother's first choice on [g]) would work?



Let's pretend it did not work, what would your second choice be (repeat remaining two choices)?

Second Choice_____

Since you would most like (mother's choice on [f]), how well do you think (mother's second choice on [g]) would work?



Date _____ Interviewer _____ Family ID# _____ Page 5

3. Suppose you had bought (child's name) a new toy. You pick it up to look at it and he takes it out of your hands.

a) Why did (child's name) take the toy out of your hands?

_____

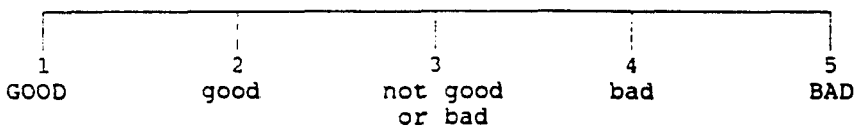
_____

b) How did it make you feel when (child's name) took the toy from your hands?

_____

c) Was (child's name) being bad, good, or neither bad nor good? (counterbalance order of presentation)

Real (good or bad) or a little (good or bad)?

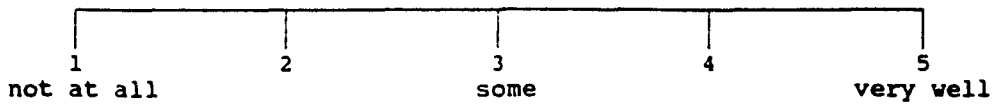


d) What would you do after (child's name) took the toy from your hands as you were looking at it?

_____

_____

e) How well do you think (behavior identified in [d]) would work?



f) Which of these two things would you most like to see happen in this situation?

A. You get to look at the toy. _____

B. (child's name) is happy with you. _____

Date _____ Interviewer _____ Family ID# _____ Page 6

g) Since you would most like (mother's choice on [f]), here are some ways you might respond to what (child's name) said to you. Tell me which of these three things you might say.

A. You let the child have the toy.

B. You say, "Stop, I bought this toy and I can return it as well." (negative)

C. You say, "I think it would be good if you'd let me look at your toy."

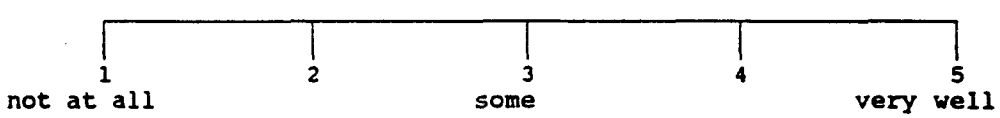
First Choice_____

Since you would most like (mother's choice on [f]), how well do you think (mother's first choice on [g]) would work?

Let's pretend it did not work, what would your second choice be (repeat remaining two choices)?

Second Choice_____

Since you would most like (mother's choice on [f]), how well do you think (mother's second choice on [g]) would work?



Date _____ Interviewer _____ Family ID# _____ Page 7

4. Suppose you are about to sit in a chair. (Child's name) walks by the chair and bumps it, and you fall to the floor.

a) Why did (child's name) bump the chair that caused you to fall to the floor?

_____

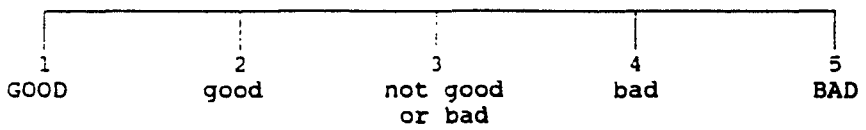
_____

b) How did it make you feel when (child's name) bumped the chair and you fell to the floor?

_____

c) Was (child's name) being good, bad, or neither good nor bad? (counterbalance order of presentation)

Real (good or bad) or a little (good or bad)?

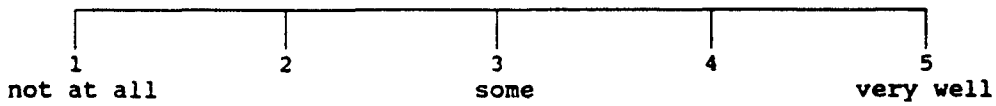


d) What would you do after (child's name) bumped the chair that caused you to fall to the floor?

_____

_____

e) How well do you think (behavior identified in [d]) would work?



f) Which of these two things would you most like to see happen in this situation?

A. (child's name) likes you. ____

B. (child's name) apologizes and vows never to do it again. ____

Date _____ Interviewer _____ Family ID# _____ Page 8

g) Since you would most like (mother's choice on [f]), here are some ways you might respond to what (child's name) said to you. Tell me which of these three things you might say.

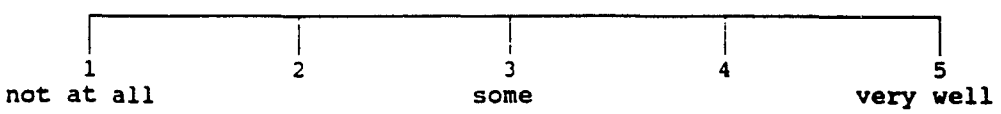
A. You say, "I think we need to talk about how painful it could be to fall to the floor."

B. You say, "**You meant to do that!!**" (negative)

C. You get back up into the chair and say nothing.

First Choice_____

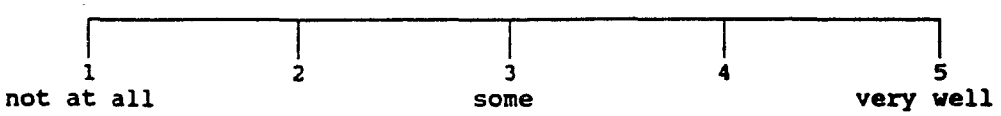
Since you would most like (mother's choice on [f]), how well do you think (mother's first choice on [g]) would work?



Let's pretend it did not work, what would your second choice be (repeat remaining two choices)?

Second Choice_____

Since you would most like (mother's choice on [f]), how well do you think (mother's second choice on [g]) would work?



Date _____ Interviewer _____ Family ID# _____ Page 9

5. Suppose you are playing catch with (child's name). He throws the ball very hard and hits you in the face.

a) Why do you think (child's name) threw the ball hard and hit you in the face?

_____

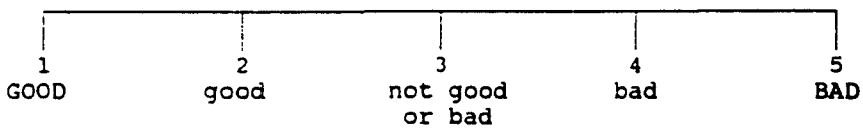
_____

b) How did it make you feel when (child's name) threw the ball and hit you in the face?

_____

c) Was (child's name) being good, bad, or neither good nor bad? (counterbalance order of presentation)

Real (good or bad) or a little (good or bad)?

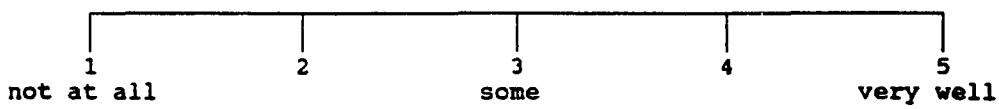


d) What would you do after (child's name) threw the ball hard and hit you in the face?

_____

_____

e) How well do you think (behavior identified in [d]) would work?



f) Which of these two things would you most like to see happen in this situation?

A. You continue playing catch with (child's name). _____

B. (child's name) does not get mad at you. _____

Date _____ Interviewer _____ Family ID# _____ Page 10

g) Since you would most like (mother's choice on [f]), here are some ways you might respond to what (child's name) said to you. Tell me which of these three things you might say.

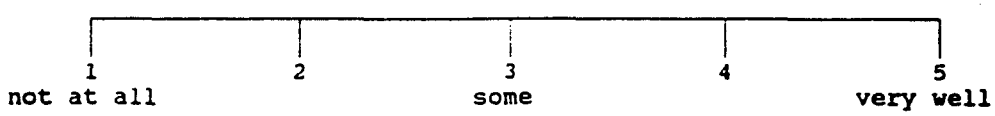
A. You say, "That really hurt me, please be more careful when you throw the ball." (neutral)

B. You continue playing with the child and say nothing about the hard throw.

C. You say, "I'll just hit you in the face with the ball and see how you like it!" (negative)

First Choice_____

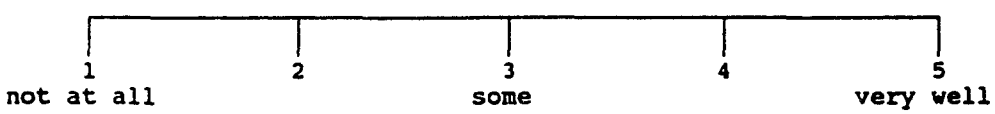
Since you would most like (mother's choice on [f]), how well do you think (mother's first choice on [g]) would work?



Let's pretend it did not work, what would your second choice be (repeat remaining two choices)?

Second Choice_____

Since you would most like (mother's choice on [f]), how well do you think (mother's second choice on [g]) would work?



Date _____ Interviewer _____ Family ID# _____ Page 11

6. Suppose you are dressed to go to work and you are late. As you are about to walk out the door (child's name) gets peanut butter on your clothes.

a) Why do you think (child's name) got peanut butter on you?

_____

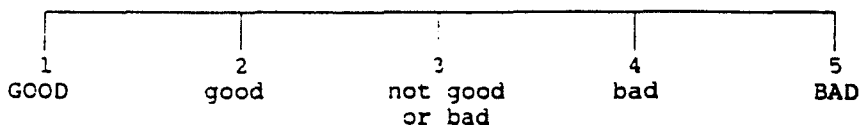
_____

b) How did it make you feel when (child's name) got peanut butter on you?

_____

c) Was (child's name) being good, bad, or neither good nor bad? (counterbalance order of presentation)

Real (good or bad) or a little (good or bad)?

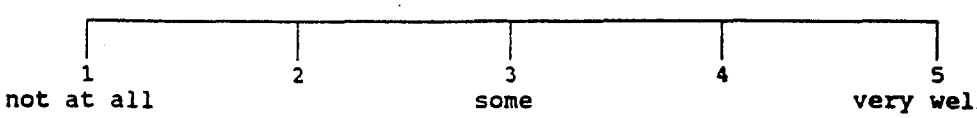


d) What would you do after (child's name) got peanut butter on you?

_____

_____

e) How well do you think (behavior identified in [d]) would work?



f) Which of these two things would you most like to see happen in this situation?

A. You get to work on time _____

B. (child's name) is happy with you. _____

Date _____ Interviewer _____ Family ID# _____ Page 12

g) Since you would most like (mother's choice on [f]), here are some ways you might respond to what (child's name) said to you. Tell me which of these three things you might say.

A. You say nothing.

B. You say, "This really upsets me because I am late. What do you think we should do about it?" (neutral)

C. You say, "You did this on purpose, you didn't want me to work." (negative)

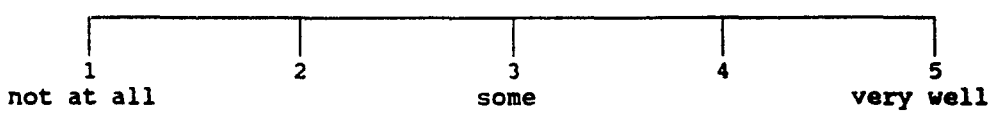
First Choice_____

Since you would most like (mother's choice on [f]), how well do you think (mother's first choice on [g]) would work?

Let's pretend it did not work, what would your second choice be (repeat remaining two choices)?

Second Choice_____

Since you would most like (mother's choice on [f]), how well do you think (mother's second choice on [g]) would work?



Date _____ Interviewer _____ Family ID# _____ Page 13

7. Suppose you have cooked a new dish for dinner that you are very proud of. (Child's name) sits down at the dinner table and says, "I don't want to eat."

a) Why do you think (child's name) said "I don't want to eat."

_____

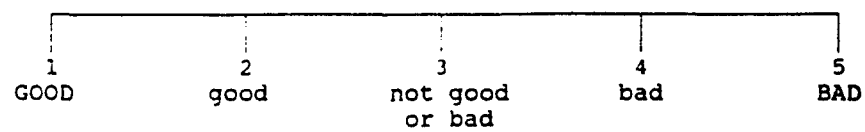
_____

b) How did it make you feel when (child's name) said "I don't want to eat."

_____

c) Was (child's name) being good, bad, or neither good nor bad? (counterbalance order of presentation)

Real (good or bad) or a little (good or bad)?

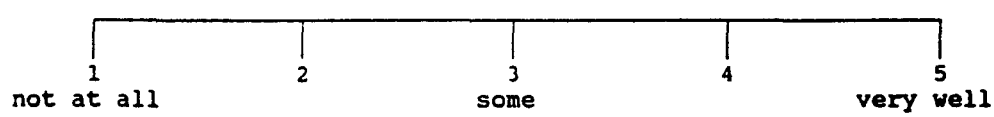


d) What would you do after (child's name) sat down at the table and said, "I don't want to eat"

_____

_____

e) How well do you think (behavior identified in [d]) would work?



f) Which of these two things would you most like to see happen in this situation?

A. (child's name) eats the food that you have prepared. _____

B. (child's name) feels that he can tell you what he wants. _____

Date _____ Interviewer _____ Family ID# _____ Page 14

g) Since you would most like (mother's choice on [f]), here are some ways you might respond to what (child's name) said to you. Tell me which of these three things you might say.

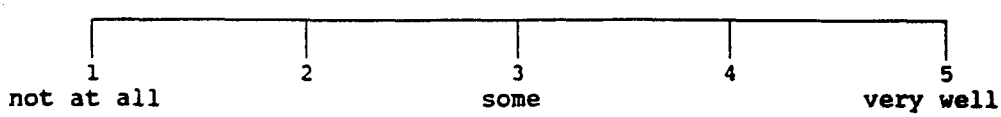
A. You say, "Then don't eat anything for dinner." (negative)

B. You sit down and eat your dinner.

C. You say, "I spent a lot of time preparing this, I would like for you to try it."

First Choice_____

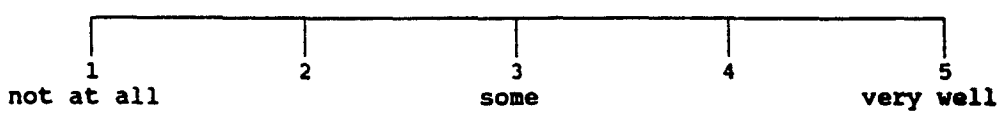
Since you would most like (mother's choice on [f]), how well do you think (mother's first choice on [g]) would work?



Let's pretend it did not work, what would your second choice be (repeat remaining two choices)?

Second Choice_____

Since you would most like (mother's choice on [f]), how well do you think (mother's second choice on [g]) would work?



APPENDIX D

CHILD ATTRIBUTION MEASURE

Date _____ Interviewer _____ Family ID# _____ Page 1

CHILD ATTRIBUTION MEASURE

1. Pretend that you and your mom are shopping at a grocery store and that you reach for a candy bar that you want to look at. Your mother tells you that you cannot have it.

a) Why do you think your mother told you that you could not have the candy bar?

_____

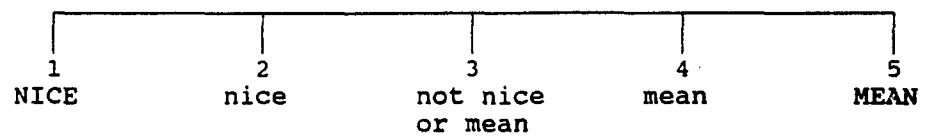
_____

b) How did it make you feel when your mother told you that you could not have the candy bar?

_____

c) Was your mother being mean, nice, or neither mean nor nice? (counterbalance order of presentation)

Real (nice or mean) or a little (nice or mean)?

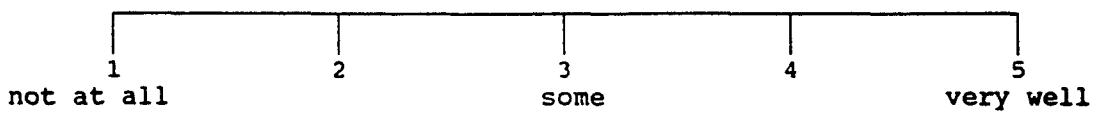


d) What would you say or do about your mother after she said that you could not have the candy bar?

_____

_____

e) How well do you think (behavior identified in [d]) would work?



f) Which of these two things would you most like to see happen in this situation?

A. You get the candy bar. _____

B. Your mother is happy with you. _____

Date _____ Interviewer _____ Family ID# _____ Page 2

g) Since you would most like (child's choice from [f]), here are three things you might do or say to what your mother said to you. Tell me which of these three things you might do.

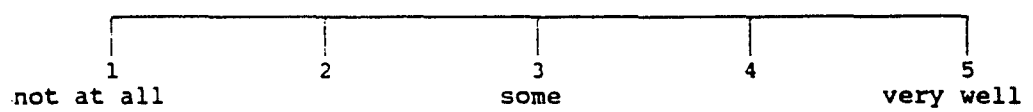
A. You say, "Could we buy this candy bar?"

B. You say, "I want to look at it." (stated in a negative affective tone)

C. You put the candy bar down and say nothing.

First Choice_____

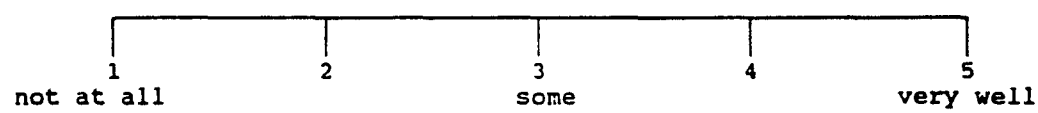
Since you would most like (child's choice on [f]), how well do you think (child's first choice on [g]) would work?



Let's pretend it did not work, what would your second choice be (repeat remaining two choices)?

Second Choice_____

Since you would most like (child's choice on [f]), how well do you think (child's second choice on [g]) would work?



Date _____ Interviewer _____ Family ID# _____ Page 3

2. Pretend that you are working on your school work. You have a problem that you can't figure out. You ask your mother if she will help you. She says "I can't."

a) Why do you think your mother can't help you with your homework?

_____

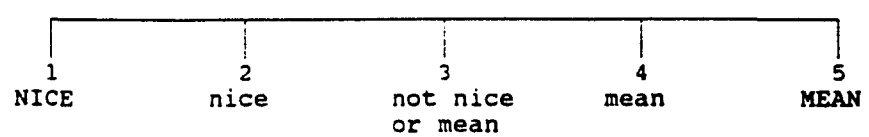
_____

b) How did it make you feel when your mother said that she can't help you with your homework?

_____

c) Was your mother being mean, nice, or neither mean nor nice? (counterbalance order of presentation)

Real (nice or mean) or a little (nice or mean)?

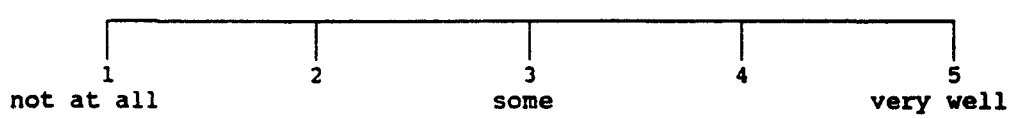


d) What would you say or do about your mother after she said that she couldn't help you with your homework?

_____

_____

e) How well do you think (behavior identified in [d]) would work?



f) Which of these two things would you most like to see happen in this situation?

A. Your mother doesn't get upset with you. _____

B. Your mother helps you with your homework. _____

Date _____ Interviewer _____ Family ID# _____ Page 4

g) Since you would most like (child's choice from [f]), here are three things you might do or say to what your mother said to you. Tell me which of these three things you might do.

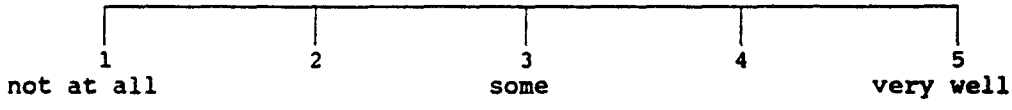
A. You say, "**You never help me with my homework**." (negative affective tone)

B. You walk out of the room.

C. You say, "Could you help me when you have time?"

First Choice_____

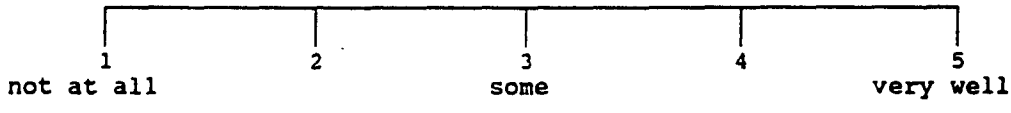
Since you would most like (child's choice on [f]), how well do you think (child's first choice on [g]) would work?



Let's pretend it did not work, what would your second choice be (repeat remaining two choices)?

Second Choice_____

Since you would most like (child's choice on [f]), how well do you think (child's second choice on [g]) would work?



Date _____ Interviewer _____ Family ID# _____ Page 5

3. Pretend you and your mother are playing a board game. You are almost to the finish line and you are winning. Your mother bumps the board and knocks the pieces off the board onto the floor.

a) Why did your mother bump the board and knock the pieces to the floor?

_____

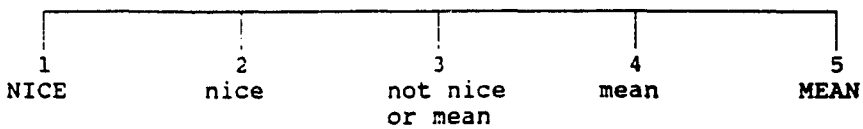
_____

b) How did it make you feel when your mother bumped the board and knocked the pieces to the floor?

_____

c) Was your mother being mean, nice, or neither mean nor nice? (counterbalance order of presentation)

Real (nice or mean) or a little (nice or mean)?

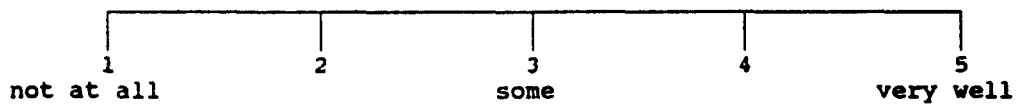


d) What would you say or do after your mother bumped the board and knocked the pieces to the floor?

_____

_____

e) How well do you think (behavior identified in [d]) would work?



f) Which of these two things would you most like to see happen in this situation?

A. To play again and be the winner. _____

B. Your mom is happy to play games with you. _____

Date _____ Interviewer _____ Family ID# _____ Page 6

g) Since you would most like (child's choice from [f]), here are three things you might do or say to what your mother did. Tell me which of these three things you might do.

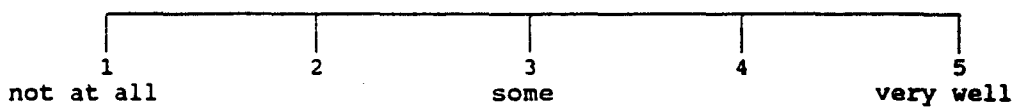
A. You walk away from the table.

B. You say, "**You did that on purpose**!" (negative)

C. You say, "Could we play the game again?"

First Choice_____

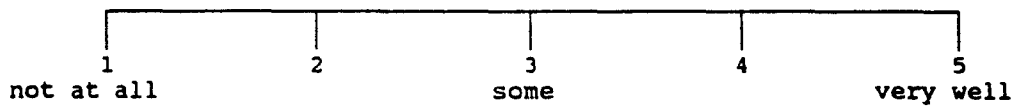
Since you would most like (child's choice on [f]), how well do you think (child's first choice on [g]) would work?



Let's pretend it did not work, what would your second choice be (repeat remaining two choices)?

Second Choice_____

Since you would most like (child's choice on [f]), how well do you think (child's second choice on [g]) would work?



Date _____ Interviewer _____ Family ID# _____ Page 7

4. Pretend the ice cream man is driving by your house. You run in and ask your mother for money. She doesn't answer.

a) Why do you think that your mother didn't answer you?

_____

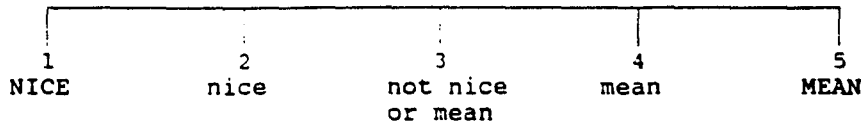
_____

b) How did it make you feel when your mother didn't answer you?

_____

c) Was your mother being mean, nice, or neither mean nor nice? (counterbalance order of presentation)

Real (nice or mean) or a little (nice or mean)?

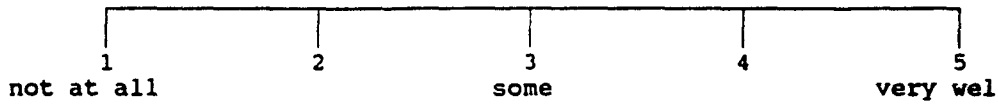


d) What would you do if you asked your mom for money and she didn't answer you?

_____

_____

e) How well do you think (behavior identified in [d]) would work?



f) Which of these two things would you most like to see happen in this situation?

A. Your mother is happy with you. _____

B. You get the money for the ice cream. _____

Date _____ Interviewer _____ Family ID# _____ Page 8

g) Since you would most like (child's choice from [f]), here are three things you might do or say to what your mother said to you. Tell me which of these three things you might do.

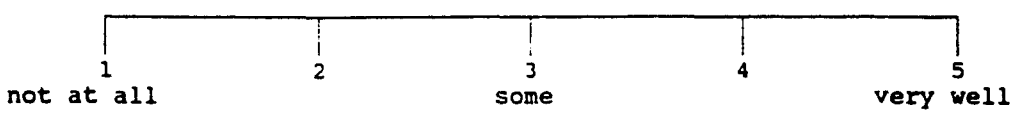
A. You yell, "**Give me the money now**!" (negative)

B. You walk out of the room.

C. You say, "Could I please have the money fast for ice cream, the ice cream truck is leaving."

First Choice_____

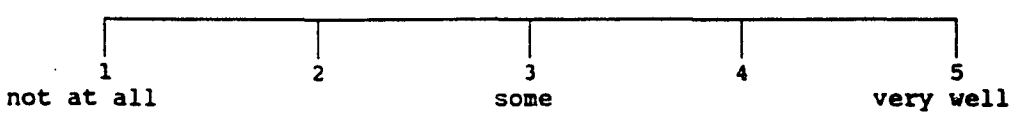
Since you would most like (child's choice on [f]), how well do you think (child's first choice on [g]) would work?



Let's pretend it did not work, what would your second choice be (repeat remaining two choices)?

Second Choice_____

Since you would most like (child's choice on [f]), how well do you think (child's second choice on [g]) would work?



Date _____ Interviewer _____ Family ID# _____ Page 9

5. Pretend it is your birthday. There is a new toy that you have been wanting for a long time. All of your friends already have it. Your mother told you to wait for your birthday to get it. The day before your birthday she says "I will not be able to get the toy you wanted."

a) Why do you think your mother said that you were not going to get the toy you wanted?

_____

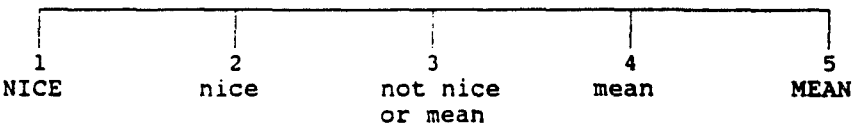
_____

b) How did it make you feel when your mother said that you were not going to get the toy you wanted?

_____

c) Was your mother being mean, nice, or neither mean nor nice? (counterbalance order of presentation)

Real (nice or mean) or a little (nice or mean)?

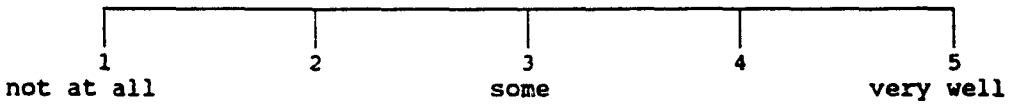


d) What would you do if your mother said that you were not going to get a toy that you wanted?

_____

_____

e) How well do you think (behavior identified in [d]) would work?



f) Which of these two things would you most like to see happen in this situation?

A. You get the toy that you want. _____

B. Your mother is happy with you. _____

Date _____ Interviewer _____ Family ID# _____ Page 10

g) Since you would most like (child's choice from [f]), here are three things you might do or say to what your mother said to you. Tell me which of these three things you might do.

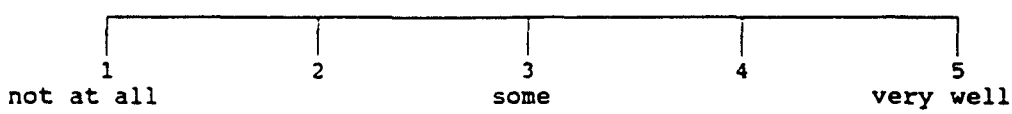
A. You yell, "I want that toy!" (negative)

B. You don't say anything.

C. You say, "Can I choose another toy?"

First Choice_____

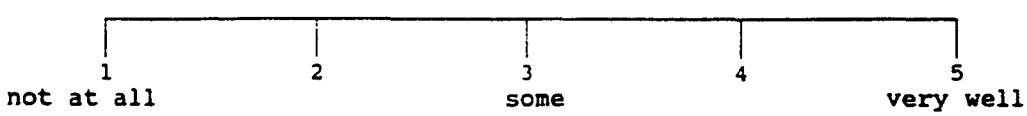
Since you would most like (child's choice on [f]), how well do you think (child's first choice on [g]) would work?



Let's pretend it did not work, what would your second choice be (repeat remaining two choices)?

Second Choice_____

Since you would most like (child's choice on [f]), how well do you think (child's second choice on [g]) would work?



Date _____ Interviewer _____ Family ID# _____ Page 11

6. Pretend that it is a special day at school. Moms are invited and there is going to be cake and ice cream. When you left for school in the morning you thought your mom would be coming for the special day. She didn't show up.

a) Why do you think your mom didn't show up at school?

_____

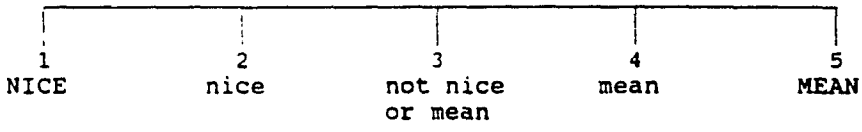
_____

b) How did it make you feel when your mother didn't show up at school?

_____

c) Was your mother being mean, nice, or neither mean nor nice? (counterbalance order of presentation)

Real (nice or mean) or a little (nice or mean)?

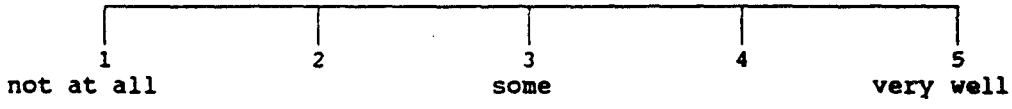


d) What would you do if your mom did not show up at school when she said that she would?

_____

_____

e) How well do you think (behavior identified in [d]) would work?



f) Which of these two things would you most like to see happen in this situation?

A. Your mother is happy with you. _____

B. Your mother comes to the party. _____

Date _____ Interviewer _____ Family ID# _____ Page 12

g) Since you would most like (child's choice from [f]), here are three things you might do or say to what your mother did. Tell me which of these three things you might do.

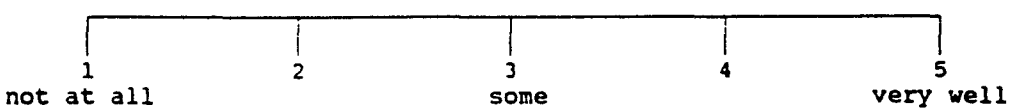
A. When you get home, you yell, "**Why weren't you at my special day at school**?" (negative)

B. You don't say anything to your mother.

C. When you get home you say, "I wish you could have come to school, it was fun."

First Choice_____

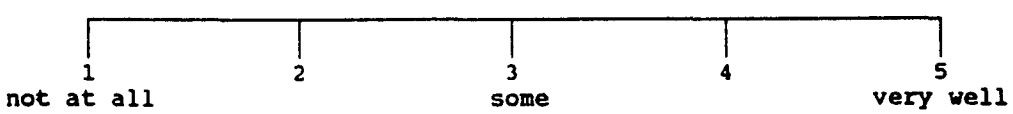
Since you would most like (child's choice on [f]), how well do you think (child's first choice on [g]) would work?



Let's pretend it did not work, what would your second choice be (repeat remaining two choices)?

Second Choice_____

Since you would most like (child's choice on [f]), how well do you think (child's second choice on [g]) would work?



Date _____ Interviewer _____ Family ID# _____ Page 13

7. Pretend that while you are at school you get sick. The school nurse calls your mother to tell her. You feel very bad and would rather be in your own bed than in the nurse's office. Mom calls the nurse's office and tells the nurse that she won't be able to pick you up.

a) Why do you think your mother cannot come to pick you up from school?

_____

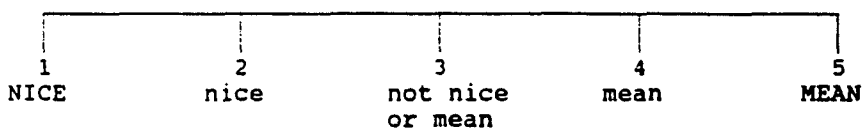
_____

b) How did it make you feel when your mother said she couldn't pick you up from school?

_____

c) Was your mother being mean, nice, or neither mean nor nice? (counterbalance order of presentation)

Real (nice or mean) or a little (nice or mean)?



d) What would you do about your mother if she said that she could not come to pick you up from school when you were sick?

_____

_____

e) How well do you think (behavior identified in [d]) would work?

f) Which of these two things would you most like to see happen in this situation?

A. Your mother comes to school to pick you up. _____

B. Your mother doesn't get mad at you. _____

Date _____ Interviewer _____ Family ID# _____ Page 14

g) Since you would most like (child's choice from [f]), here are three things you might do or say to what your mother said to you. Tell me which of these three things you might do.

A. You just sit there in the nurse's office.

B. You say, "You don't care about me." (negative affective tone)

C. You say, "I'll lie in the nurses office until you can come."

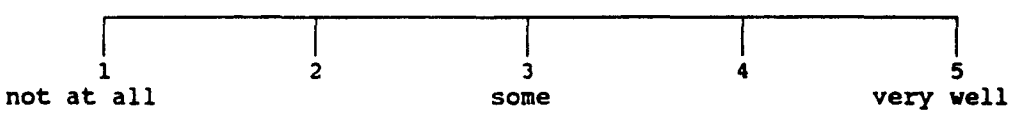
First Choice_____

Since you would most like (child's choice on [f]), how well do you think (child's first choice on [g]) would work?

Let's pretend it did not work, what would your second choice be (repeat remaining two choices)?

Second Choice_____

Since you would most like (child's choice on [f]), how well do you think (child's second choice on [g]) would work?



APPENDIX E

FAMILY HISTORY INVENTORY

Fam. ID _____
Date _____

Family History Inventory

This questionnaire is designed to collect information about you and your family. Please circle the number beside the most appropriate response or fill in the blank. In recognition of the personal nature of the following questions, we would like to emphasize our commitment to preserving total confidentiality in this study. Thank you for your participation.

Family Background

1. Please write the name and age of each of your children.

Male child(ren)	Female child(ren)

2. How would you describe your ethnic background or race?
   1. White American, Caucasian
   2. Black Mexican, Negro
   3. Native American, American Indian
   4. Spanish Surnamed American, Chicano, Puerto Rican
   5. Oriental American, Asian
   6. Other (please specify) _____

3. What is your religious affiliation?
   1. Protestant
   2. Catholic
   3. Jewish
   4. Mormon
   5. None
   6. Other (please specify) _____

4. What is the highest level of education you have completed?
   1. Grade school
   2. High school or G.E.D.
   3. Vocational, technical, or certificate program
   4. Some college work, but no degree
   5. Two-year college degree
   6. Bachelor's degree or equivalent
   7. One or two years of graduate or professional school study, but no degree
   8. Master's degree
   9. M.D., Ph.D., Ed.D.
   10. Other (please specify) _____

5. What is your occupation? _____

6. Where do you work? _____

7. What is your present marital status?
   1. Married--first marriage
   2. Separated
   3. Divorced
   4. Remarried
   5. Widowed

8. How long have you been in your present marital status? _____

9. If currently married, what is the highest level of education your spouse completed?
   1. Grade school
   2. High school or G.E.D.
   3. Vocational, technical, or certificate program
   4. Some college work, but no degree
   5. Two-year college degree
   6. Bachelor's degree or equivalent
   7. One or two years of graduate or professional school study, but no degree
   8. Master's degree
   9. M.D., Ph.D., Ed.D.
   10. Other (please specify) _____

10. If divorced, remarried, widowed, or never married, what is the highest level of education the father of your son completed?
   1. Grade school
   2. High school or G.E.D.
   3. Vocational, technical, or certificate program
   4. Some college work, but no degree
   5. Two-year college degree
   6. Bachelor's degree or equivalent
   7. One or two years of graduate or professional school study, but no degree
   8. Master's degree
   9. M.D., Ph.D., Ed.D.
   10. Other (please specify) _____

11. If currently married, what is your spouse's occupation? _____

12. Where does he work? _____

13. If you are divorced, remarried, widowed, or never married, what is the occupation of your son's father? _____

14. Where does he work? _____

15. What is your current yearly household income?

___Under 10,000	_____60,000 to 69,999
_____10,000 to 19,999	_____70,000 to 79,999
_____20,000 to 29,999	_____80,000 to 89,999
_____30,000 to 39,999	_____90,000 to 99,999
_____40,000 to 49,999	_____100,000 and above
_____50,000 to 59,999	

16. What is your son's relationship with his father? (Even if his father does not live in your home) (Please describe in detail) _____

_____

_____

_____

_____

17. If your are remarried, what is your son's relationship with your spouse? (Please describe in detail) _____

_____

_____

_____

18. My relationship with my son is (please describe in detail) _____

_____

_____

_____

19. My relationship with my spouse (or former spouse) is _____

_____

_____

20. Please describe in detail the amount of support and kind of support you receive from your spouse/ex-spouse and children.

21. Please describe in detail the amount of support and kind of support you receive from extended family (parents, other relatives) and friends.

22. Please describe in detail the amount of support and kind of support you receive from the community (church, social service agencies, doctor, etc.).

APPENDIX F

MOTHER ATTRIBUTION INTERVIEW

Date _____ Interviewer _____ Family ID# _____ Page 1

Mother's Interview

I would like to talk with you for a few minutes about (issue identified) that you identified as leading to conflict between you and your son in the past week. There are a couple of questions I would like you to respond to regarding your's and your son's responses to each other.

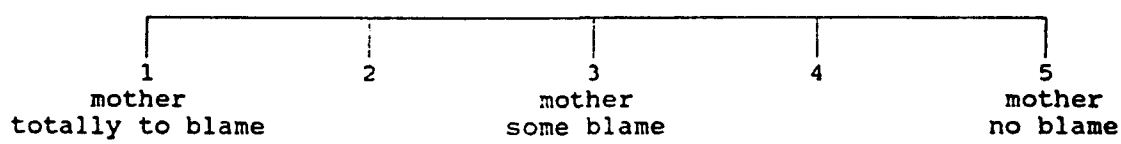
1. Can you talk for a few minutes about what happened between you and your son.

2. Why do you think (conflict identified) happened?

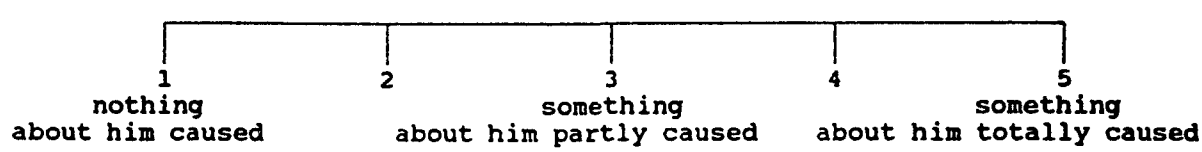
3. How did your son behave during (conflict identified)? (Probe until mother identifies child's behavior.)

4. When you and (child's name) were involved in (conflict identified) and he (son's behavior), would you tell me why you think he behaved that way?

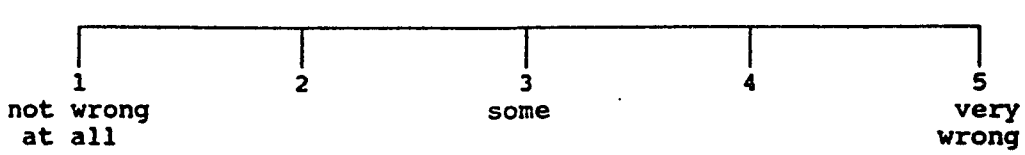
5. How much do you think you were to blame for (child's name) (behavior identified)?



6. How much do you think something about (child's name) (e.g., his personality, the kind of person he is) caused him to (behavior identified)?



7. To what extent do you think (behavior identified) is wrong?



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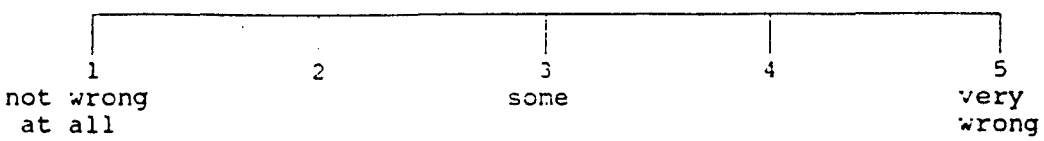
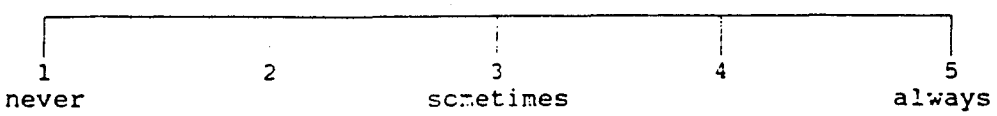
Date _____ Interviewer _____ Family ID= _____ Page 2

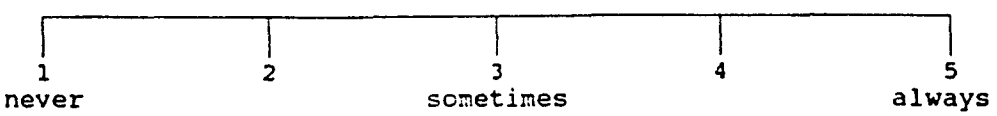
8. To what extent do you think (child's name) thinks (behavior identified) is wrong?



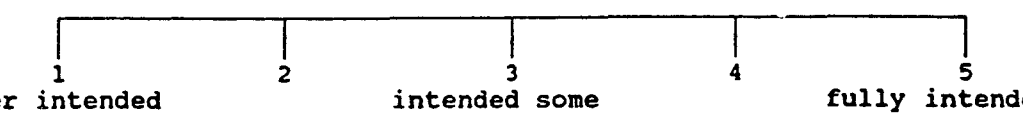
9. To what extent do you think (child's name) would likely (behavior identified) at another time under the same circumstances?



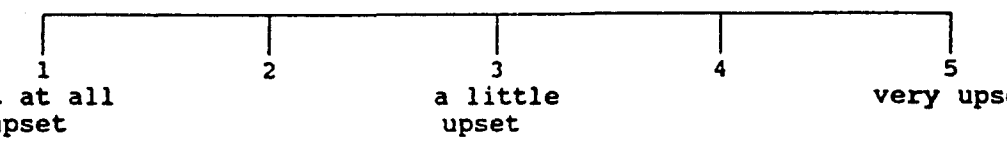
10. To what extent do you think (child's name) would (behavior identified) in other situations?



11. To what extent do you think (child's name) intended to (behavior identified)?



12. How upset did it make you when he (behavior identified)?



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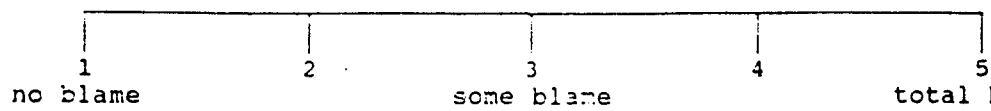
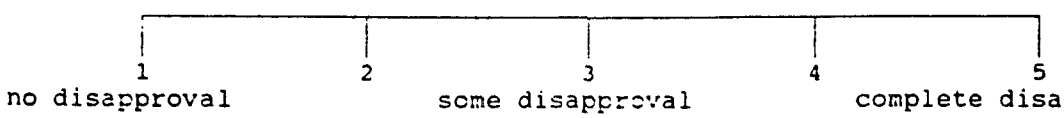
Date _____ Interviewer _____ Family ID# _____ Page 3

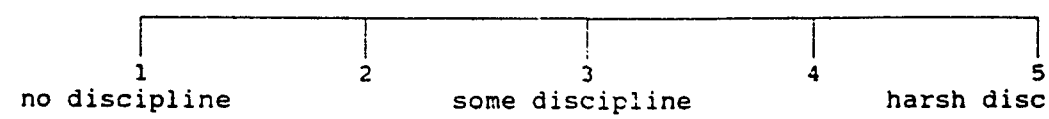
13. If (child's name) (behavior identified) again, how much blame do you think he would deserve?



14. How much disapproval would you show if he (behavior identified) again?



15. How much would you discipline him if he (behavior identified)?



16. If you and your son were having difficulty over (issue selected) in the future, how do you think he would behave?

Why do you think he would behave that way?

APPENDIX G

CHILD ATTRIBUTION INTERVIEW

Date _____ Interviewer _____ Family ID# _____ Page 1

Child's Interview

I would like to talk with you for a few minutes about the problem that you told me you had with your mother last week. There are a couple of questions I would like to ask you.

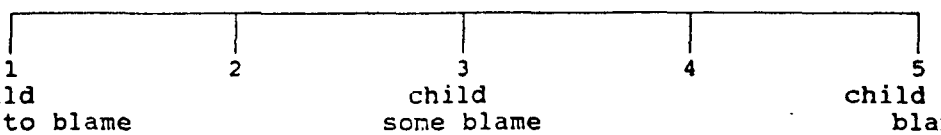
1. Can you talk for a few minutes about what happened between you and your mother.

2. Why do you think (conflict identified) happened?

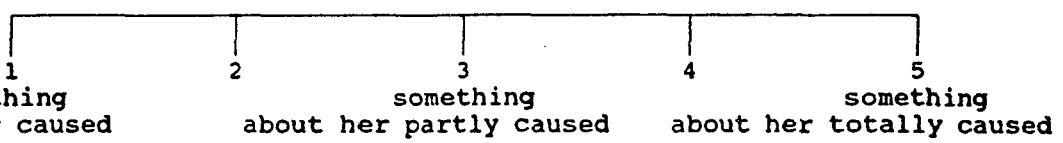
3. How did your mother behave during the (conflict identified)? (Probe until child identifies mother's behavior.)

4. When you and your mother were involved in (conflict identified) and she (mother's behavior), would you tell me why you think she behaved that way? (Probe until you get intent.)

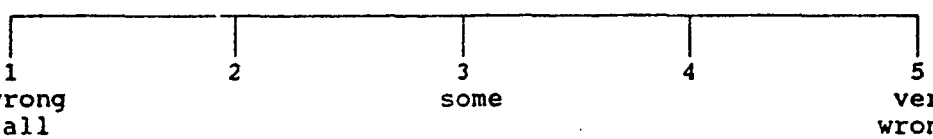
5. How much do you think you were to blame for your mother's (behavior identified)?



6. How much do you think something about your mother (e.g., her personality, the kind of person she is) caused her to (behavior identified)?



7. How much do you think your mother's behavior is wrong?



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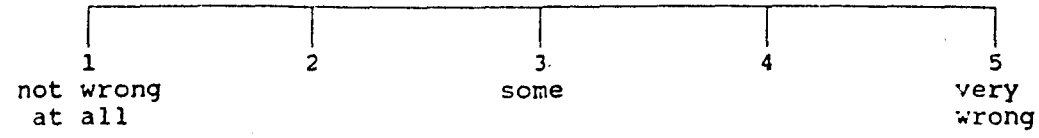
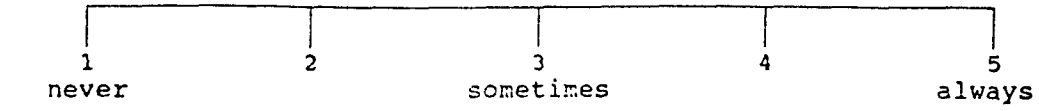
Date _____ Interviewer _____ Family ID# _____ Page 2

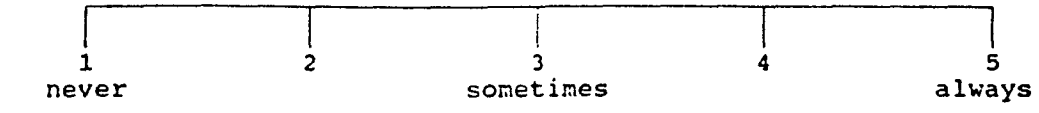
8. How much does your mother think her (behavior identified) is wrong?



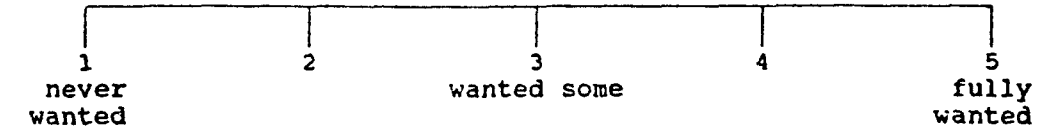
9. How much do you think your mother would behave the same way if (problem identified) happened again in the future?



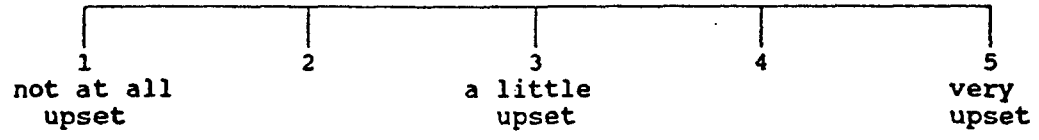
10. How much do you think your mother would behave the same way with other problems?



11. How much do you think your mother wanted to (behavior identified)?



12. How upset did it make you when she (behavior identified)?



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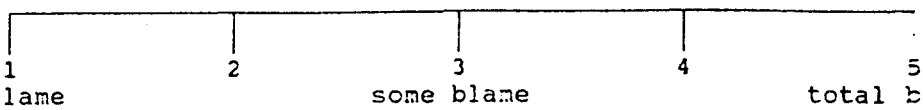
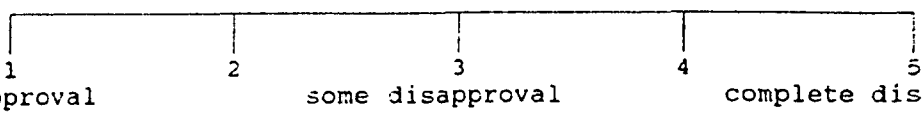
Date _____ Interviewer _____ Family ID# _____ Page 3

13. If your mother (behavior identified) again, how much blame do you think she would deserve?



14. How much disapproval would you show if she (behavior identified) again?



15. If you and your mother were having a problem over (issue selected) in the future, how do you think she would behave?

Why do you think she would behave that way?

APPENDIX H

PARENT LIFE EVENTS SCALE

Listed below are a number of things that may have happened to you during the last year. Some things that happen affect you in a negative **(bad)** way. Some things affect you in a positive **(good)** way. Some things can even affect you in both a positive **(good)** way and a negative **(bad)** way at the same time. For example, you may feel good when you move to a new house because you will have a bigger house with more room but you may also feel bad because you are leaving friends behind.

Read each event and:

1. Circle "yes" if event described has happened to you during the last year. Circle "no" if it has not.
2. Each time you circle "yes", write in a 0, +1, +2, or +3 under the "Positively Affected" column to indicate how positive (good) an affect the event had on you.
3. Then write in a 0, -1, -2, or -3 under the "Negatively Affected" column to indicate how negative (bad) an affect the event had on you.

	Extremely	Moderately	Slightly	No Impact
POSITIVE EFFECT	+3	+2	+1	0
NEGATIVE EFFECT	-3	-2	-1	0

Examples:			Positively Affected	Negatively Affected
21.	Change of residence	**YES** no	+3	-2
22.	Separation from mate (due to conflict)	yes **NO**		
23.	Major charge in church activities (increased or decreased attendance)	**YES** no	+1	

In event 21, you would be indicating that you have moved sometime during the last year and that the move had both a positive (good) effect and a negative (bad) effect on you.

In event 22, you would be indicating that you and your spouse did not separate due to conflict.

In event 23, you would be indicating that you have either increased or decreased your attendance at church activities and that the change in attendance affected you in only a positive (good) way.

LEC-P

		Positively Affected	Negatively Affected
1.	Marriage ..... yes no	_____	_____
2.	Detention in jail or similar place ..... yes no	_____	_____
3.	Major change in sleeping habits (much more or much less sleep).. yes no	_____	_____
4.	Death of a close family member		
	a. mother..... yes no	_____	_____
	b. father..... yes no	_____	_____
	c. brother..... yes no	_____	_____
	d. sister..... yes no	_____	_____
	e. grandmother..... yes no	_____	_____
	f. grandfather..... yes no	_____	_____
	g. other (specify)..... yes no	_____	_____
5.	Major change in eating habits (much more or much less food intake)..... yes no	_____	_____
6.	Foreclosure on mortgage or loan. yes no	_____	_____
7.	Death of a close friend..... yes no	_____	_____
8.	Outstanding personal achievement..... yes no	_____	_____
9.	Minor law violations (traffic tickets, disturbing the peace, etc.)..... yes no	_____	_____
10	a. Male: Wife/girlfriend's pregnancy. b. Female: Pregnancy..... yes no	_____	_____
11.	New job ..... yes no	_____	_____
12.	Serious illness or injury of close family member:		
	a. father..... yes no	_____	_____
	b. mother..... yes no	_____	_____
	c. sister..... yes no	_____	_____
	d. brother..... yes no	_____	_____
	e. grandfather..... yes no	_____	_____
	f. grandmother..... yes no	_____	_____
	g. spouse..... yes no	_____	_____
	h. other..... yes no	_____	_____
13.	Sexual difficulties..... yes no	_____	_____

			Positively Affected	Negatively Affected
14. Trouble with employment (in danger of losing job, being fired, demoted, etc.).....	yes	no	_____	_____
15. Changed work situation (not including changes described in #14) (different work responsibility, major change in working conditions, working hours, etc.).....	yes	no	_____	_____
16. Trouble with in-laws.....	yes	no	_____	_____
17. Major change in financial status (a lot better off or a lot worse off).....	yes	no	_____	_____
18. Spouse or boy/girlfriend having and affair.....	yes	no	_____	_____
19. Major change in closeness of family members (increased or decreased closeness).....	yes	no	_____	_____
20. Gaining a new family member (through birth, adoption, family member moving in, etc)...	yes	no	_____	_____
21. Change of residence.....	yes	no	_____	_____
22. Separation from mate (due to conflict).....	yes	no	_____	_____
23. Major change in church activities (increased or decreased attendance).....	yes	no	_____	_____
24. Got back together with mate.....	yes	no	_____	_____
25. Major change in number of arguments with spouse or boy/girlfriend (a lot more or a lot less arguments).....	yes	no	_____	_____
26. Change in work outside the home of spouse (or boy/girlfriend, if living together) (beginning work, stopping work, changing to a new job, retirement, etc.).	yes	no	_____	_____

			Positively Affected	Negatively Affected
27. Major change in usual type and/ or amount of recreation.....	yes	no	_____	_____
28. Borrowing more than $10,000 (buying home, business, etc.)...	yes	no	_____	_____
29. Borrowing less than $10,000 (buying car, TV, getting school loan, etc.).....	yes	no	_____	_____
30. Being fired from job.....	yes	no	_____	_____
31 a. Male: Wife/girlfriend having abortion.....	yes	no	_____	_____
31 b. Female: Having abortion.....	yes	no	_____	_____
32. Having an affair.....	yes	no	_____	_____
33. Major personal illness.....	yes	no	_____	_____
34. Major change in social activities for example, parties, movies, visiting (increased or decreased participation).....	yes	no	_____	_____
35. Major change in living conditions (building new home, remodeling, deteriorations of home, neighborhood, etc.).....	yes	no	_____	_____
36. Divorce.....	yes	no	_____	_____
37. Serious injury or illness of close friend.....	yes	no	_____	_____
38. Retirement from work.....	yes	no	_____	_____
39. Son or daughter leaving home....	yes	no	_____	_____
40. Ending of formal schooling.....	yes	no	_____	_____
41. Separation from spouse or boy/girlfriend due to work, travel, etc.).....	yes	no	_____	_____
42. Engagement.....	yes	no	_____	_____
43. Breaking up with boy/girl-friend.....	yes	no	_____	_____

			Positively Affected	Negatively Affected
44. Getting back with boy/girlfriend.....	yes	no	_____	_____
45. Starting school at a higher level (college, graduate school, professional school, etc.).....	yes	no	_____	_____
46. Spouse or boy/girlfriend making sexual advances to child.....	yes	no	_____	_____
47. Changing to a new school, at same academic level (undergraduate, graduate, etc.....	yes	no	_____	_____
48. Academic probation.....	yes	no	_____	_____
49. Failing an important exam.....	yes	no	_____	_____
50. Changing a major.....	yes	no	_____	_____
51. Failing a course.....	yes	no	_____	_____
52. Dropping a course.....	yes	no	_____	_____
53. Financial problems concerning school (in danger of not having enough money to continue).....	yes	no	_____	_____
54. Conflict with former spouse over custody.....	yes	no	_____	_____
55. Former spouse involved in a new emotional relationship.....	yes	no	_____	_____
56. Remarriage of former spouse.....	yes	no	_____	_____
57. Major change in physical appearance.....	yes	no	_____	_____
58. Major personal injury or "close call" (for example, care accident).....	yes	no	_____	_____
59. Victim of property crime (theft, vandalism, etc.).....	yes	no	_____	_____
60. Victim of crime against self (beating, rape, abuse, etc.)....	yes	no	_____	_____

			Positively Affected	Negatively Affected
61. Family member was a victim of property crime.....	yes	no	_____	_____
62. Family member was a victim of crime against their self.....	yes	no	_____	_____

Other recent experiences which have had an impact on your life. List and rate:

63._____	yes	no	_____	_____
64._____	yes	no	_____	_____
65._____	yes	no	_____	_____

APPENDIX I

CHILD LIFE EVENTS SCALE

Listed below are a number of things that may have happened to you during the **last year**. Some things that happen affect you in a negative **(bad)** way. Some things affect you in a positive **(good)** way. Some things can even affect you in both a positive **(good)** way and a negative **(bad)** way at the same time. For example, you may feel good when you start a new school because you will have new experiences and new friends, but you may also feel bad because you are leaving old friends behind.

Read each event and:

1. Circle "yes" if event described has happened to you during the last year. Circle "no" if it has not.
2. Each time you circle "yes", write in a 0, +1, +2, or +3 under the "positively Affected" column to indicate how positive (good) an effect the event had on you.
3. Then write in a 0, -1, -2, or -3 under the "negatively Affected" column to indicate how negative (bad) an effect the event had on you.

	Extremely	Moderately	Slightly	No Impact
POSITIVE EFFECT	+3	+2	+1	0
NEGATIVE EFFECT	-3	-2	-1	0

Examples:			Positively Affected	Negatively Affected
11. You start a new school	**YES**	no	+3	-2
12. You liked someone who didn't like you	yes	**NO**		
13. You began a serious relationship	**YES**	no	+2	0

In event 11, you would be indicating that you have started at a new school during the last year and that it had both a positive (good) effect and a negative (bad) effect on you.

In event 12, you would be indicating that you did not meet anyone you liked in the last year who didn't like you.

In event 13, you would be indicating that you have begun a serious relationship and that the relationship has affected you in only a positive (good) way.

			Positively Affected	Negatively Affected
1.	Family member started a new business or got a new job	yes no	_____	_____
2.	You quit or lost a job	yes no	_____	_____
3.	Family member quit or lost a job	yes no	_____	_____
4.	Parents separated	yes no	_____	_____
5.	Parents divorced	yes no	_____	_____
6.	Boy/Girl)friend of parent moves in	yes no	_____	_____
7.	Other children move in	yes no	_____	_____
8.	Parent you live with remarried...	yes no	_____	_____
9.	Parent you do not live with remarried	yes no	_____	_____
10.	Stepparent adopted you	yes no	_____	_____
11.	You started at a new school	yes no	_____	_____
12.	You liked someone who didn't like you	yes no	_____	_____
13.	You began a serious relationship	yes no	_____	_____
14.	You didn't have a boyfriend/ girlfriend	yes no	_____	_____
15.	You had a major change in your physical appearance	yes no	_____	_____
16.	You did much better in school than you expected	yes no	_____	_____
17.	You did much worse in school than expected	yes no	_____	_____
18.	You had a major personal injury or "close call" (for example, had a car accident).....	yes no	_____	_____
19.	Parent of stepparent started school	yes no	_____	_____

			Positively Affected	Negatively Affected
20. Brother or sister moved away from home	yes	no	_____	_____
21. Stepbrother or stepsister moved away from home	yes	no	_____	_____
22. Parent moved away from home	yes	no	_____	_____
23. Stepparent moved away from home .	yes	no	_____	_____
24. Birth of a brother or sister	yes	no	_____	_____
25. Damage or loss of family property	yes	no	_____	_____
26. Death of a family member	yes	no	_____	_____
27. Death of close friend	yes	no	_____	_____
28. Family member attempted suicide..	yes	no	_____	_____
29. Close friend attempted suicide...	yes	no	_____	_____
30. You had a serious illness.....	yes	no	_____	_____
31. Family member had a serious illness or injury.....	yes	no	_____	_____
32. You had emotional problems.....	yes	no	_____	_____
33. Family member had emotional problem	yes	no	_____	_____
34. You were separated from your family for two weeks or more	yes	no	_____	_____
35. Family had more money problems...	yes	no	_____	_____
36. Major changes in living conditions of family (building new home, remodeling, deterioration of home, neighborhood, etc.)	yes	no	_____	_____
37. Family had fewer money problems..	yes	no	_____	_____
38. Fewer arguments between residential parents	yes	no	_____	_____
39. Fewer arguments between residential parent and non-residential parent	yes	no	_____	_____

			Positively Affected	Negatively Affected
40. More arguments between residential parents	yes	no	_____	_____
41. More arguments between residential parents and nonresidential parent	yes	no	_____	_____
42. You have fewer arguments with your siblings	yes	no	_____	_____
43. You have more arguments with your siblings	yes	no	_____	_____
44. You have fewer arguments with your residential parent	yes	no	_____	_____
45. You have more arguments with your residential parent	yes	no	_____	_____
46. You have fewer arguments with your non-residential parent	yes	no	_____	_____
47. You have more arguments with your non-residential parent	yes	no	_____	_____
48. You had problems with drugs	yes	no	_____	_____
49. Family member had problems with drugs	yes	no	_____	_____
50. Close friend had problems with drugs	yes	no	_____	_____
51. You had problems with alcohol...	yes	no	_____	_____
52. Family member had problem with alcohol	yes	no	_____	_____
53. Close friend had problems with alcohol	yes	no	_____	_____
54. You got into trouble at school..	yes	no	_____	_____
55. Family member got into trouble at school	yes	no	_____	_____
56. You had a minor law violation ..	yes	no	_____	_____
57. Family member had a minor law violation	yes	no	_____	_____

			Positively Affected	Negatively Affected
58. You were the victim of a personal crime (assault, beating, rape, etc.....	yes	no	_____	_____
59. Friend or family member was a victim of personal crime	yes	no	_____	_____
60. You were the victim of a crime against your property (theft, vandalism, etc.)	yes	no	_____	_____
61. Family member was a victim of property crime	yes	no	_____	_____
62. You went on a date with boyfriend/ girlfriend	yes	no	_____	_____
63. You had a fight with boy/ girlfriend	yes	no	_____	_____
64. You had a major success at an extracurricular activity	yes	no	_____	_____
65. You had a major failure at an extracurricular activity	yes	no	_____	_____
66. You have more friends or made a new friend	yes	no	_____	_____
67. You have fewer friends	yes	no	_____	_____
68. A good friend moves away	yes	no	_____	_____
69. You lost a pet, or a pet was ill, injured, or killed	yes	no	_____	_____
70. You got a new pet	yes	no	_____	_____
71. You contracted a venereal disease.....	yes	no	_____	_____
72. Physical abuse between parents..	yes	no	_____	_____
73. Physical abuse between children.	yes	no	_____	_____
74. Physical abuse by parent(s)/ stepparent(s)	yes	no	_____	_____

Other recent experiences which have had an impact on your life. List and rate:

			Positively Affected	Negatively Affected
75._____	yes	no	_____	_____
76._____	yes	no	_____	_____
77._____	yes	no	_____	_____

APPENDIX J

MARITAL CONFLICT SCALE

OP Scale

Please answer all of the following questions to the best of your ability. If you are separated or divorced, please complete this questionnaire in reference to you and your child's biological parent at the present time (NOT when you were living together).

1. It is difficult in these days of tight budgets to confine financial discussions to specific times and places. How often would you say you and your spouse/ex-spouse argue over money matters in front of this child?

Never _____ Rarely _____ Occassionally _____ Often _____ Very Often _____

2. Children often go to one parent for money or permission to do something after being refused by the other parent. How often would you say this child approaches you or your spouse/ex-spouse in this manner with rewarding results?

Never _____ Rarely _____ Occassionally _____ Often _____ Very Often _____

3. Husbands and wives often disagree on the subject of discipline. How often do you and your spouse/ex-spouse argue over disciplinary problems in this child's presence?

Never _____ Rarely _____ Occassionally _____ Often _____ Very Often _____

4. How often has this child heard you and your spouse/ex-spouse argue about the wife's role in the family? (Housewife, working wife, etc.)

Never _____ Rarely _____ Occassionally _____ Often _____ Very Often _____

5. How often does your spouse/ex-spouse complain to you about your personal habits (drinking, nagging, sloppiness, etc.)?

Never _____ Rarely _____ Occassionally _____ Often _____ Very Often _____

6. How often do you complain to your spouse/ex-spouse about his/her personal habits in front of this child?

Never _____ Rarely _____ Occassionally _____ Often _____ Very Often _____

7. In every normal marriage there are arguments. What percentage of the arguments between you and your spouse/ex-spouse would you say take place in front of this child?

Less than 10% _____ 10-25% _____ 26-50% _____ 51-75% _____ More than 75%_____

8. To varying degrees, we all experience almost irrestible impulses in times of great stress. How often is there physical expression of hostility between you and your spouse/ex-spouse in front of this child?

Never _____ Rarely _____ Occassionally _____ Often _____ Very Often _____

9. How often do you and your spouse/ex-spouse display verbal hostility in front of this child?

Never _____ Rarely _____ Occassionally _____ Often _____ Very Often _____

10. How often do you and your spouse/ex-spouse display affection for each other in front of this child?

Never _____ Rarely _____ Occassionally _____ Often _____ Very Often _____

APPENDIX K

KANSAS MARITAL SATISFACTION SCALE

CODE _____

HUSBAND-WIFE RELATIONSHIP

People feel many different ways about their marriage and relationship with their spouse. The following 3 questions refer to your feelings of satisfaction/dissatisfaction about aspects of your marriage relationship. Carefully consider your answer and respond on the following scale describing how you feel at the present time.

How satisfied are you with your husband as a spouse?

Extremely Dissatisfied						Extremely Satisfied
7	6	5	4	3	2	1

How satisfied are you with your marriage?

Extremely Dissatisfied						Extremely Satisfied
7	6	5	4	3	2	1

How satisfied are you with your relationship with your husband?

Extremely Dissatisfied						Extremely Satisfied
7	6	5	4	3	2	1