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A cross-contextual analysis of boys' aggressiveness

Curtner, Mary Elizabeth, Ph.D.

The University of North Carolina at Greensboro, 1991

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A CROSS-CONTEXTUAL ANALYSIS OF BOYS' AGGRESSIVENESS

by

Mary Elizabeth Curtner

A Dissertation Submitted to
the Faculty of the Graduate School at
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Approved by

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APPROVAL PAGE

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The research undertaken for this investigation was an analysis of boys' aggressiveness across two contexts: family and peer. The sample included 96 mother-son pairs. The mothers and sons visited the research center where they completed semi-structured interviews designed to assess their negative attributions about each other. Additionally, mothers and sons were observed while engaging in a laboratory interaction task. Research assistants visited the classrooms of participating sons in order to obtain peer nominations and teacher reports of boys' problem behaviors.

Results of a one-way MANOVA revealed that maternal and child negative attributions and negative interactions did not vary by boys' aggressiveness as rated by their peers. Peer descriptions of appearing angry were strongly related to boys' aggressiveness as rated by their peers. Additionally, peer descriptions of shy and sad were unrelated to boys' aggressiveness. Teachers' reports of problem behaviors were strongly related to boys' aggressiveness as rated by their peers. Thus, there was discontinuity between boys' aggressiveness between family and peer, but a high degree of consensus among peers' and teachers' perceptions of boys' aggressiveness. The failure to find continuity between the two contexts of family and peer are discussed in terms of contextual differences in the situations that influence boys' aggressiveness.

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CHAPTER I
INTRODUCTION

Background

Peer relationships provide children with opportunities to get along with others, solve problems, and make friends. Some children are competent in their peer relationships; others are not. Implicit in the definition of social competence with peers is the notion that children who are competent are popular and perceived as nonaggressive, outgoing, and happy (Howes, 1988). In contrast, children who are incompetent with peers tend to be perceived as either aggressive and angry, or passive and withdrawn (Rubin, Mills, & Rose-Krasnor, 1989).

During the last decade, considerable attention has been directed toward the study of children's aggression with peers. Two reasons account for this trend. First, children's social competence with peers serves as an index of their current social-emotional development. That is, children who are aggressive tend to violate rules, and are disliked, disruptive, and uncooperative (Coie, Dodge, & Kupersmidt, 1990). Moreover, peer aggression has been found to persist across settings (i.e., from classroom to playgroup) (Dodge & Frame, 1982), and to relate to functioning in other domains such as academic achievement and truancy (Snyder, Dishion, & Patterson, 1986). The second reason peer aggression has received increased empirical attention is because it presages social adjustment in later life,

especially in adolescence. For example, Kupersmidt found that children's aggressiveness as perceived by peers in the fifth grade significantly predicted juvenile delinquency and school dropout 7 years later (Cited in Kupersmidt, Coie, & Dodge, 1990).

Social cognitive processes related to peer aggression have been a recent area of inquiry. Inferences of causality regarding one's own or another's behaviors are called attributions. Attributions enable one to make sense of and to reason about the social world (Kelley, 1973). The structure of attributions about individuals' interpersonal behaviors has been described as encompassing inferences of intentionality (Weiner, 1986). That is, individuals interpret their partner's behavior as either intentional or accidental when seeking to understand why their partner exhibited that behavior. Attributions have also been described as valenced in that they are associated with either negative or positive conceptions of the partner (Heider, 1958). Biases in attribution formation reflect the tendency to consistently perceive the partner's behavior as either intentional or accidental, and positive or negative. Negative attributional biases studied within the peer context have been defined as the tendency to make hostile causal inferences about a peer's intent, even when the intent is unclear (Dodge, 1986). Dodge (1986) and his colleagues suggest that aggressive children tend to engage in a hostile attributional bias in response to a peer's provocation. That is, aggressive children generally assume that a peer intentionally caused a provocation. Further, aggressive children are most likely to engage

in the hostile attributional bias in ambiguous situations that lack enough social cues necessary for correctly inferring the peer's intent. Dodge (1980) contends that a hostile attributional bias along with high rates of aggressive behaviors lead the aggressive child to be rejected by nonaggressive peers.

Given that children as young as age 3 are able to perceive peer popularity that is associated with aggressive peer interactions (Howes, 1988), and that the social cognitive processes of older children contribute to their aggressive peer interactions, one is led to question the role that parents play in the development of children's behaviors and social cognitions. These in turn might be related to children's peer interactions. The assumption that interactions and social cognitive processes within parent-child relationships influence children's peer interactions makes intuitive sense when considering that most children develop their first relationships and interactional skills (both behavioral and cognitive) within the family context. Nonetheless, few investigations have been conducted in this area (Putallaz, 1987).

Traditionally, the study of parent-child interactions has been based on social learning theory. Social learning theory posits that a child will imitate the behavior of salient models, and that reinforcements (rewards) for engaging in the imitated behavior increase the likelihood that the child will repeat the behavior. Gerry Patterson (1982) and his colleagues have studied family interactions, particularly coercive interactions of dysfunctional

families, from a social learning perspective. According to Patterson, all children engage in some aversive behaviors. Children in coercive families, however, have been found to exhibit more intense and higher rates of aversive behaviors than children in noncoercive families. Patterson has found that coercive children are rewarded for their aversive behaviors during coercive parent-child interchanges. A coercive parent-child interchange is one during which the parent acts (e.g., makes a negative command) and the child reacts aversively until the parent concedes to the child's wishes; or the child acts aversively (e.g., makes a negative command) and the parent reacts inappropriately.

Coercive parents also discipline inappropriately by responding to their child's aversive behaviors with inconsistent consequences, sarcasm, scolding, yelling, nattering (nagging), and physical punishment. Often, coercive parents ignore or do not attend to the child's antisocial behavior until that behavior becomes so aversive that some action must be taken. At that point, parental action tends to be very harsh and punitive. This type of parental response is referred to as a high amplitude coercive interchange. During high amplitude coercive interchanges, the child continues to counter-aggress until the parent escapes by giving in to the child's wishes. The use of parental escape increases the likelihood that another coercive interchange will occur in the future. This cyclical process involving coercive interchange, high amplitude, and parental escape trains the child in aggression. Thus, the child from a coercive

family enters the peer milieu already having acquired the stable tendency to engage in high rates of aggressive behaviors. The aggressive behaviors subsequently lead to rejection by nonaggressive peers and association with deviant peers. (Snyder, Dishion, & Patterson, 1986).

The social learning perspective provides an elegant explanation for how many children acquire aggressive behaviors. Nonetheless, it limits understanding and explanation of the phenomenon in question by ignoring the affective-cognitive components comprising interactional patterns (MacKinnon, Lamb, Belsky, & Baum, in press). Dix and Grusec (1985) agree with the importance of including social cognitions in an explanatory model of behavioral interactions. In fact, these authors contend that attributions fuel subsequent behaviors within the parent-child context.

Another line of research investigating the contribution of family experiences to children's peer relationships is based on attachment theory (Booth, Rose-Krasnor, & Rubin, in press). Attachment theory holds that a child possesses an innate tendency to form an attachment with a primary caregiver, thereby ensuring the satisfaction of survival needs. The quality of attachment is contingent upon the caregiver's sensitivity to providing care. Children who establish secure attachment relationships during infancy are more likely to evince competence with peers than children who establish insecure relationships (Rubin, Hymel, Mills, & Rose-Krasnor, in press).

Pettit, Dodge, and Brown (1988) argue that while an attachment approach to the study of how parents contribute to a child's peer relationships provides an overall picture of the continuity of the child's relationships across time and contexts, it does not address the processes by which a child acquires behaviors and social cognitions. Instead, the researchers advocate a social cognitive framework to the study of how children learn deviant cognitions (i.e., attributional biases) and behaviors within the parent-child context that may then generalize to the peer context. Findings from their recent study suggest that a child's exposure to deviant maternal social cognitions increases the likelihood that the child will engage in maladaptive information processing within the peer context.

Statement of the Problem

The overall purpose of the present study was to conduct a cross-contextual analysis of boys' aggressiveness as rated by their peers. First, the study specifically sought to determine whether patterns in social cognitions (attributional biases) and interactions within mother-son relationships vary with boys' aggressiveness as rated by their peers. A second focus was to explore the degree of consensus between various sources of information (i.e., peers and teachers) concerning boys' aggressiveness as rated by their peers by using a multi-method, multi-source research design.

This study was based on a social-cognitive theoretical framework. More specifically, the study was founded upon attribution theory which posits that individuals generally behave in ways that are consistent

with their attribution of cause about their own or another's behavior. Appropriate or correct attributions are expected to lead to more adaptive behaviors (Kelley, 1973). Attributions conceived within the framework of social information processing have recently been applied to the study of children's aggressive peer interactions (Dodge, 1986) and aggressive mother-son interactions (MacKinnon, Lamb, & Arbuckle, 1989). The thrust of the present study was to link mothers' and sons' attributions of intent and their observed interactions to boys' aggressiveness as rated by their peers. Thus, this study was to examine the cross-contextual generalizability of the affective-cognitive and behavioral components of aggressive mother-son interactional styles.

CHAPTER II
REVIEW OF THE LITERATURE

Establishing and maintaining friendships is a major task of children's social development. Central to this task is children's competence in peer relationships. Parental factors relating to how children interact with peers have only recently been investigated (Pettit, Dodge, & Brown, 1988; Putallaz, 1987). The focus of the present study was to further explore how mother-son interactions (transactions involving behaviors and social cognitions) vary with boys' aggressiveness as rated by their peers. The following review of related literature is organized into several sections. The first section will discuss the relation between peer rejection and aggression, and features of aggressive children. The second section will review literature related to aggressive children's social cognitive processes (hostile attributional biases) that operate within the peer context. Finally, the third section will report the findings from the few existing studies relating parent-child interactions to children's competence with peers.

The Relation Between Peer Rejection and Aggression, and
and Features of Aggression

One popular method of assessing children's peer relationships has involved collecting peer nominations for being liked most and liked least, and calculating the social status subgroups of rejected,

neglected, accepted and popular (Dodge, Coie, & Brakke, 1982). Studies comparing children across social status subgroups have generally concluded that peer rejection is connected with aggressive behavior, especially for children in middle childhood and adolescence when overtly aggressive behavior is less typical. This conclusion has frequently been based on multi-source, multi-methods of data collection which revealed a high consensus among peer reports, teacher reports, and direct observations of children who vary in social status. In general, peers have reported that rejected-aggressive children were likely to engage in verbal aggression and unprovoked aggression (start fights), and were described as uncooperative, disruptive, dishonest, and angry (Cantrell & Prinz, 1985; Coie & Dodge, 1988; Coie & Kupersmidt, 1983; Dodge, 1983; Pettit, Dodge, & Brown, 1988). Peer descriptions of shy and unhappy have sometimes been reported of rejected children, but most studies reporting those findings have failed to discriminate between children in the rejected-aggressive status and children in the rejected-neglected status. One study, however, did discriminate between children in each type of social status and found that rejected-aggressive children were perceived by their peers as unhappy (Coie, Dodge, & Kupersmidt, 1990). Additionally, peers have described rejected-aggressive children as being unable to give or receive help, having trouble sharing, and having difficulty with joining a group (Coie, Dodge, & Kupersmidt, 1990).

Teachers' reports of rejected-aggressive children have typically involved rating scales or checklists that yield factors. The factors most commonly associated with rejected-aggressive social status include hyperactivity, inattentiveness, and aggression (Coie & Dodge, 1988; Dodge, Coie & Brakke, 1982). Additionally in a study by Coie and Dodge (1983), teachers reported that rejected-aggressive children were unable to conform to rules and lacked interpersonal sensitivity. Dodge, McClaskey, and Feldman (1985) developed a teacher-completed instrument containing 44 items, each of which pertained to 6 situations believed to be problematic for socially incompetent children. The situations were: (a) entering a peer group; (b) responding to peer provocations; (c) responding to failure; (d) responding to success; (e) conforming to social expectations; and (f) conforming to teacher expectations. The instrument was based on the notion that children who are incompetent with peers vary in their social behaviors as a function of specific situations or tasks. For example, it was speculated that aggressive children would experience heightened difficulty when responding to peer provocation, whereas shy children would experience heightened difficulty when entering a new play group. The instrument was used in a study of 84 children who were either accepted or extremely rejected-aggressive as identified by peer nominations. Results indicated that the instrument successfully discriminated between accepted and rejected-aggressive children. Further, teachers reported that rejected-aggressive children experienced more difficulty than accepted children in all six

situations, but that the situations involving response to peer provocations, and meeting teacher expectations were especially problematic. The researchers concluded that the existence of variation in scores across all situations for the rejected-aggressive status underscores the need to consider the contexts in which maladaptive children experience peer conflicts. Direct observations of rejected-aggressive children's behaviors in the classroom and on the playground have revealed that rejected-aggressive children were very often off-task and disruptive (e.g, made inappropriate social approaches and engaged in aggressive verbalizations). They were, however, observed to make many social approaches toward peers, but peers very often met those approaches with refusals to reciprocate. Moreover, rejected-aggressive children were often the recipients of teacher reprimands (Dodge, Coie, & Brakke, 1982).

As previously mentioned, many studies have demonstrated a relation between social rejection and peer aggression; however, the strength of that relation was often only modest (Coie, Belding, & Underwood, 1989; Dubow, 1987). While aggression is highly characteristic of rejected children, it is not the case that all aggressive children are rejected, nor that all rejected children are aggressive. Studies examining children's social networks have found that even aggressive individuals have friends. Cairns, Cairns, Neckerman, Gest, and Gariepy (1988) reported that although aggressive children were rated as less popular by their teachers, they were named

by peers as being a best friend as many times as nonaggressive children. Patterson's model for the developmental progression of antisocial behavior shows that while aggressive children are rejected by nonaggressive peers, they join a deviant peer group by late middle childhood or early adolescence (Patterson, DeBaryshe, & Ramsey, 1989). It therefore appears that many aggressive children are disliked and rejected by nonaggressive peers, and are liked and accepted by aggressive peers. Thus, aggressive behavior may not preclude popularity within the individual's social network. For this reason, calculating peer rejection may not be the best method for identifying aggressive children.

One of the most distinguishing behaviors of aggressive children, irrespective of social status, is their tendency to initiate peer conflict. Cairns and Cairns (1984) reported that peer nominations for starting fights were highly predictive of children's aggression the following year as assessed by multiple sources and methods. Aggressive children's conflictual interactions with peers have also been documented by Hops and Greenwood (1981) and by Dodge (1985). Given that not all aggressive children are rejected, perhaps peer nominations for starting fights may be a more valid index for childhood aggression than rejected social status.

Other features of aggressive children in middle childhood include behaviors such as lying, stealing, truancy, and destructiveness (Kazdin, 1988). Many of these behaviors manifest during the normal course of development and decline with age. Highly aggressive

children, however, tend to evince relatively stable patterns of behavior across the childhood years, and into adulthood (Roff & Wirt, 1984). This stability is most pronounced for individuals who engage in high rates of aggressive behaviors (Loeber, 1982).

Race, Socioeconomic Status, and Children's Competence With Peers

Relatively few studies have examined the association between race and children's peer relationships. Coie, Dodge, & Coppotelli (1982), however, did examine the effects of race on the scores that children received for peer nominations. The results were that black children were viewed less positively by peers as indicated by their greater nominations for items pertaining to "dislike", "disrupts", "starts fights", and "seeks help." The researchers attributed this finding to the minority status of black children in the sample population. That is, the researchers contended that it is a minority standing that covaries with negative perceptions by peers rather than a particular race.

As with race, few studies have examined the relation between socioeconomic status (SES) and children's peer relationships. One study, however, did assess SES differences and found that popular children (those who received greater nominations for being liked and none for being disliked) were from families of higher SES (Hart, Ladd, & Burlison, 1990). Further, rejected children (those who received no nominations for being liked and greater nominations for being disliked) were from families of lower SES. Another finding from this study was that mothers' power assertive discipline style was related

to lower levels of SES. Mothers' power assertive discipline style was in turn statistically predictive of peer status, with mothers who endorsed power assertion discipline techniques being more likely to have children who are rejected by their peers.

Social Cognition and Peer Aggression

Knowledge of a child's patterns of processing social information has been found to predict that child's social behaviors with peers (Dodge, 1986). Dodge (1986) posed a cyclical model of social exchange in children which describes the relation between social behavior and social information processing. According to the model, a child (a) perceives a social stimulus, (b) interprets that stimulus, (c) actively searches for an appropriate response to that interpreted stimulus, (d) evaluates the outcome of the response, (e) engages in social behavior, (f) is judged by a peer who has engaged in steps a through e, and (g) is responded to by the peer based on the peer's social information processing abilities. The model assumes continuous encoding and interpretation of stimuli, and behavioral enactment based on those interpretations. Further, each behavioral enactment becomes a stimulus for the next cycle.

Interpretation of the stimulus reflects the child's attempt to ascertain whether or not a peer intentionally caused the occurrence of the social stimulus. This inference of causality and intentionality of another's behavior is commonly referred to as an attribution. Dodge (1980) posited that aggressive children are more likely to attribute hostile intention to a peer's behavior. To test this

hypothesis, videotaped vignettes involving hypothetical peer provocations that varied by intentionality (i.e., hostile, prosocial, accidental) were presented to popular, average, neglected and rejected children. It was found that rejected and neglected children were less able to interpret the intentions of the provocateur than children of either higher social status. Additionally, low-status children had the most difficulty with identifying accidental and prosocial intentions, but little difficulty with identifying hostile intentions. The judgements these children made in response to accidental and prosocial situations were most often misattributions of hostile intent (Dodge, Murphy, & Buchsbaum, 1984). The tendency to consistently attribute hostile intent to another's behavior in ambiguous situations is referred to as an attributional bias (Dodge, 1985). Dodge and Frame (1982) examined whether a hostile attributional bias reflects a global world view (i.e., everyone is out to get everyone else) or a personalized-paranoid view (i.e., everyone is out to get me). This was tested by presenting hypothetical stories to children in which they were to imagine that a provocation was directed either toward themselves or toward a second peer. It was found that rejected-aggressive children engaged in the hostile attributional bias only when the provocation was directed toward the self, not toward others. In regards to peer aggression, the central tenet in Dodge's explanation is that children's hostile attributional biases lead to aggressive peer interactions. Hostile attributional biases are the product of information processing mechanisms which may operate alone

or in combination (Dodge, 1985). Information processing mechanisms include: past experiences, selective attention to affectively valenced cues, attention to the most recently presented cues, heightened attention on the self, the importance and accessibility of alternative interpretations, perceptual readiness to perceive affectively valenced cues, deviant child goals, and biasing effects of one's emotional state.

Dodge and Feldman (1990) suggest that social status differences in social information processing (i.e., cue interpretation, response generation, response evaluation, and behavioral enactment) are found only in situations, contexts, or tasks that are relevant to children's social functioning. Further, the researchers contend that social cognitions vary by social status only when the situational context is stressful. Five kinds of stressful situations within the peer context were identified by Dodge as having been used in research paradigms. They are: (a) responding to threats, teasing, or insults; (b) responding to actual provocation; (c) being excluded from play; (d) initiating friendships; and (e) fulfilling peer group norms. Following this observation, much of Dodge's research uses the situation involving peer provocations because that situation is meaningful to aggressive children.

Dodge and his colleagues have gathered a vast amount of evidence demonstrating that the social cognitive processes of aggressive children within the peer context are characterized by a hostile attributional bias (Dodge, 1986). Further, findings from various

studies have indicated that aggressive children engage in the hostile attributional bias in response to both hypothetical peer interactions and to live peer interactions (Dodge & Frame, 1982). Additionally, peers were found to develop hostile attributional biases toward aggressive children as a result of their interactions (Dodge, 1985). This phenomenon was demonstrated by assigning aggressive and nonaggressive unfamiliar children to play groups. After the conclusion of the last play session, children were interviewed about their attributions and expectations of each other. The findings suggested that attributional biases toward aggressive peers emerge over time as children gain experience with each other. Further, the findings demonstrated that conflictual peer interactions for aggressive children persist even when they change peer groups.

Parental Influences on Children's Competence With Peers

To date, few studies have directly addressed parental influences on children's competence with peers, although a central principle in developmental theory is that children learn interactional skills within the context of their family that then generalize to their interactions in the peer context (Putallaz & Heflin, 1990). Studies focusing mainly on measures of parental disciplinary styles as predictors of competence with peers have suggested that punitive parents have unpopular children. Peer rejection (unpopularity) has been associated with parental factors such as the use of physical punishment, less use of inductive reasoning, and less acceptance of the child (Armentrout, 1972; Elkins, 1958; Kolvin et al., 1977).

Recently, two studies explored the link between the social behavior and cognitions of mothers and their children's competence with peers (Pettit, Dodge, & Brown, 1988; Putallaz, 1987). Putallaz (1987) observed the social behaviors of children who varied in likability while interacting with their mothers. Additionally, she observed mothers interacting with other mothers, and children interacting with other children. Furthermore, participants were presented with a series of hypothetical situations in which a child encountered a social dilemma (e.g., entering a new play group, observing a child being teased, being introduced to a new classmate, and encountering another child who changes the television channel while watching a favorite program). The children were asked what they would do if they were the child in each of the four hypothetical situations. The mothers were asked to indicate how they would advise their children to behave if their children encountered each of those four situations. Moreover, mothers were presented with analogous hypothetical situations appropriate for adults and were asked to indicate how they would respond if they were the adult in each of those situations.

Findings from this study revealed that less popular children spoke less while interacting with their mothers. Further, the statements made by less popular children tended to be more self-focused and disagreeable. Similar findings were reported for the kinds of statements made by mothers of less popular children. Results of the analyses examining mother-mother interactions suggested that

mothers of less popular children were less likely to discuss their opinions and feelings with another mother than mothers of more popular children. Moreover, support was found for the relation between mother-child interactions and child-child interactions. That is, maternal agreeableness during mother-child interactions was negatively correlated with child disagreeableness during the child-child interactions. Results of the analyses examining social problem solving, as measured by responses to the hypothetical situations, revealed that more popular children endorsed more appropriately assertive and relationship enhancing methods for solving social dilemmas, particularly for the situation involving play group entry. Child social problem solving was unrelated to the advice mothers would give to their children, and to mothers' choice for actions in a similar adult situation. Child social problem solving was, however, related to actual behavior during mother-child interactions and child-child interactions. Two competing explanations were posed for the failure to find a relation between child social problem solving and mother social problem solving. First, it was speculated that mothers are sufficiently socialized to give similar responses to social problems as assessed in the study; therefore, the lack of variability in the maternal social problem solving measure rendered the measure weak in its ability to predict child social problem solving. Second, it was suggested that children learn their actual interactional skills through observations and interactions with mothers rather than through direct mother to child teaching about how to interact with peers.

This latter explanation would fit with the notion that maternal behaviors during parent-child interactions indirectly lead to increments in child social problem solving skills that affect the child's social competence with peers.

Maternal social cognitive processes were found to contribute to children's social competence with peers in a different study (Pettit, Dodge, & Brown, 1988). In that investigation, maternal social cognitive processes were defined as a mother's tendency to make hostile attributions of intent during a hypothetical ambiguous child provocation, and maternal endorsements of aggression as a means for solving interpersonal problems. Maternal hostile attributional biases and endorsements of aggression were related to both children's social status and social problem solving skills. That is, less popular children who generated aggressive solutions as a means for obtaining an object were exposed to more deviant maternal biases and maternal endorsements of aggression. Results also suggested that maternal cognitions (hostile attributional biases and endorsements of aggression) influence child social cognitions (ability to generate prosocial responses to initiating friendship) which in turn influence children's social competence with peers.

Conclusions and Research Hypotheses

In conclusion, it appears that maternal social cognitions of hostile attributional biases toward the child are related to children's social cognitions concerning peer interactions. Limitations of the two previously mentioned studies merit attention.

First, measures of maternal social cognitions in the study conducted by Putallaz (1987) included advice mothers would offer to their children were their children experiencing a social dilemma with a peer. No relation was found between the two constructs. Perhaps maternal attributional biases, a more subtle form of maternal social cognitions, is a better predictor of child social cognitions which then generalize to the child's peer context. Indeed, maternal hostile attributional bias toward the child was predictive of children's social competence with peers in the study conducted by Pettit, Dodge, and Brown (1988). Yet, that study also had important limitations. First, observations of parent-child interactions were not assessed; and second, maternal retrospective reports of the child's early exposure to aggressive family models were used.

The present study sought to further explore differences in maternal and son social cognitions (i.e., negative attributional biases toward each other), and proportions of observed negative mother-son interactions as a function of boys' aggressiveness as rated by their peers. To date, few investigations have examined the role that parents play in their children's aggressiveness with peers. The inclusion of observed mother-son interactions overcomes one of the limitations of the study conducted by Pettit, Dodge, and Brown (1988). Moreover, the inclusion of maternal and child negative attributional biases toward each other as measures of social cognitions overcomes the limitation of the study conducted by Putallaz (1987). A second focus of the present study was to examine the degree of consensus

between boys' aggressiveness as rated by peers and teachers' reports of problem behaviors. The following hypotheses were tested:

1. There will be differences in patterns of maternal attributions, child attributions, and negative mother-son interactions among boys whose peer ratings vary in level of aggressiveness.

2. Boys' peer descriptions of "appears angry a lot" will be positively related to boys' aggressiveness as rated by their peers.

3. Boys' peer descriptions of shy and sad will be unrelated to boys' aggressiveness as rated by their peers.

4. Teachers' reports of boys' problem behaviors will be related to boys' aggressiveness as rated by their peers.

CHAPTER III

METHODS

This study was a cross-contextual analysis of boys' aggressiveness. Specifically, it investigated boys' aggressiveness across family and school settings. The study had two foci. First, it examined patterns of maternal attributions, sons' attributions and negative mother-son interactions associated with various levels of boys' aggressiveness as rated by their peers. Second, it examined the relations among boys' aggressiveness as rated by their peers and other peer descriptions (e.g., angry, shy, sad), as well as the relations among boys' aggressiveness as rated by their peers and teachers' descriptions of problem behaviors. The stated research questions were incorporated into a larger research project, the Mother-Son Attribution Study, initiated by Dr. Carol E. MacKinnon of the Department of Child Development and Family Relations in the School of Human Environmental Sciences at The University of North Carolina at Greensboro. This dissertation addressed only those areas of the Mother-Son Attribution Study that were pertinent to the stated foci of the research questions.

Procedures

The names, telephone numbers and addresses of parents of children enrolled in either the second, third, or fourth grade in seven elementary schools of the Guilford County North Carolina School System

were obtained from the school superintendent's secretary. Each mother having a son in one of those grades was contacted by phone. Sons enrolled in one of the previously mentioned grades were identified as potential subjects because children in these grades tend to range in age from 7 to 10 years. This age range was chosen for two reasons. First by limiting the age of the youngest children in the study to 7 years, the researcher hoped to ensure that all children in the study were likely to possess the necessary cognitive capacities required for inferring intentionality. The ability to differentiate accident from intention has been demonstrated to emerge at around age six (Dodge, 1980). Possessing this ability is central to the development of an attributional bias (Dodge, 1980). Second, the three year age span (7 to 10 years) was chosen because it represents children who are considered to be in the middle childhood years. Previous research (Rubin & Lollis, 1988) suggests that it is not until middle childhood that certain child behaviors become salient to peers and teachers.

During the initial telephone contact with the mother, the caller provided a brief description of the study and procedures (see Appendix A). Mothers were also told that they would be paid \$20.00 and that their sons would receive a small prize (a toy car) to compensate them for their time. Mothers who were interested in participating in the study were then asked about their marital status. Only mothers who were either married to their son's biological father, or who were divorced for the first time were recruited as participants in the study. Verbal consent from the mother for both her and her son's

participation was then obtained by the caller. In addition, the caller scheduled two appointments with the family at the Family Research Center at The University of North Carolina at Greensboro. Directions to the Family Research Center were also given to the mothers. Each appointment was separated by one week. The week between appointments gave mothers time to complete a battery of questionnaires assessing constructs relevant to the larger Mother-Son Attribution Study. The caller contacted each mother the night before the scheduled appointments to remind them of their visit. In the event that an appointment had to be canceled, another appointment was scheduled.

During the first appointment, mothers and sons were given a written description of the study that informed them of their rights and of the confidential nature of the data. The mother, son, and research assistant signed and dated the consent form (see Appendix B).

After signing the consent form, mothers and sons were interviewed in separate rooms by trained interviewers. Interviewers administered the Child Attribution Measure (MacKinnon, 1988b) to the sons and the Maternal Attribution Measure (MacKinnon, 1988a) to the mothers (see Appendices C and D). Sons took about 30 minutes to complete the Child Attribution Measure. Mothers took about 20 minutes to complete the Maternal Attribution Measure. Mothers were asked to complete the Family History Inventory, an instrument assessing demographic information, while they waited for their sons to complete the interviews (see Appendix E). At the conclusion of the interviews,

mothers and sons met in an observation room where they were videotaped while engaging in an interaction task. The interaction task engaged in during the first appointment was relevant to the Mother-Son Attribution Study, but not to the portion of the study described in this dissertation.

The family was called the night before their second appointment and reminded of their scheduled visit. At the beginning of the second appointment, mothers and sons were taken to separate rooms where they completed interviews pertinent to the Mother-Son Attribution Study. Following the 30 minute interviews, mothers and sons were reunited in the observation room where they engaged in a 20 minute interaction task. This second interaction task required mothers and sons to play a game together. The game, Trouble (Gilbert Industries), has been found to elicit a range of positive and antagonistic behaviors from players (MacKinnon, 1989). Further, the game is appropriate for both school-aged children as well as adults.

Later in the year, a team of research assistants visited the classrooms of the participating sons. The research assistants employed the peer nomination method for assessing peer ratings of aggressiveness and peer descriptions of social competence. Further, teachers completed an inventory of problem behaviors for each of their students, some of whom were subjects in the study. Teachers were not told which of their male students were subjects in the Mother-Son Attribution Study.

Demographic Characteristics of the Sample

Socioeconomic level (SES) was computed by using Hollingshead's (1975) Four-Factor Index of Social Status (see Appendix F). The four factors addressed were educational level, occupation, marital status and gender. However, gender was not included as a factor in the calculations. Education and occupation were scored and then weighted and summed to produce a single SES score. Higher scores reflected a higher SES. For dual-wage-earner couples, SES was calculated separately and then averaged to yield a single score. For married families with a single-wage-earner, only the wage-earner's education and occupation were used for the calculations. For families headed by a single mother, only the mother's education and occupation were used for the calculations.

SES scores were categorized into five indices of social status as identified by Hollingshead (1975). Social status I included individuals employed in a major profession; social status II included individuals employed in a minor profession or a technical occupation. Social status III included individuals employed as skilled craftsmen, or as clerical or sales workers. Social status IV included individuals employed as machine operators, or semiskilled workers; and finally, social status V included unskilled laborers or menial service workers.

The participants in this study were predominantly white (63%), and from a middle-class background as indicated by Hollingshead's Index of Social Status (77%). A large percentage of mothers had

completed high school (30%), and most had either some college training (33%) or a college degree (31%). The current annual income reported by a majority of the mothers ranged from \$30,000 to \$40,000. Over half of the mothers were married (77%), while the remainder were single (23%). Sons ranged in age from 7 to 10 years, with an average age of 8.08 years and a median age of 8 years. Table 1 presents the demographic characteristics of the sample in detail.

Table 1

Demographic Characteristics of the Sample (N=96)

Characteristic	n	Percent
<u>Race</u>		
White	61	63.5
Black	35	36.5
<u>Social Status</u>		
I	10	11.0
II	38	41.8
III	32	35.2
IV	6	6.6
V	5	5.5
<u>Mother's Education</u>		
Less than 7th grade	5	5.2
High school graduate	29	30.2
Partial college or specialized training	32	33.3
College graduate	20	20.8
Graduate degree	10	10.4

Table 1 (Continued)

Demographic Characteristics of the Sample

Characteristic	<u>n</u>	Percent
<u>Annual Income</u>		
Under \$10,000	9	10.0
\$10-19,999	8	8.9
\$20-29,000	9	10.0
\$30-40,000	25	27.8
\$40-49,999	16	17.8
\$50-59,999	8	8.9
\$60-69,999	9	10.0
\$70-79,999	2	2.2
\$80-89,999	2	2.2
\$90-99,999	2	2.2
<u>Mother's Marital Status</u>		
Married	74	77.1
Single	22	22.9
	<u>M</u>	<u>SD</u>
Son's Age	8.09	0.69

Description of Measures

Family History Inventory. The Family History Inventory is a questionnaire that assesses demographic information. Several items on the questionnaire were used for the present study. Those items included questions asking mothers to indicate their race, income, educational level, occupation, and spouse's educational level and occupation.

Proportion of Observed Negative Mother-Son Interactions. Mothers and sons were asked to engage in a task which pits each against the other in a game ("Trouble," Gilbert Industries) where there is a clear winner and loser. This task has been used in previous studies and has been found to elicit positive and antagonistic behaviors in dyadic interactions (MacKinnon, 1989). The mother-son pair was instructed on the rules of the game and given 20 minutes to play.

The mother-son interactions were videotaped and later coded by trained observers. Observer training involved instruction and practice in coding videotapes of mother-son interactions that were taped for the pilot investigation. Observers began coding the videotapes for this study when interobserver reliability reached .90. Weekly practice coding sessions were held to reassess reliability. Those reliability scores ranged from .85 to .97. Overall coding reliability was assessed by coding 25% of the tapes twice and computing the interobserver agreement. The overall interobserver reliability score was .94.

Coding categories included prosocial, negative, and neutral behaviors (see Appendix G). Prosocial behaviors were positive verbal statements, positive affect (e.g., smiling), and positive physical behaviors (e.g., hug). Negative behaviors were negative verbal statements, negative affect (e.g., scowl), and negative physical behaviors (e.g., push). Neutral behaviors were any verbal statement or physical movement for which no affect could be inferred. These typically involved verbal requests and directives, and expressionless

behaviors (e.g., glance away). All behaviors were coded in sequence as they occurred in real time.

Total dyad negativity scores were derived by summing the number of negative behaviors exhibited by mothers and sons during the 20 minutes of interaction. Total dyad negativity was then divided by the total number of behaviors exhibited by both mothers and sons. This method yielded a proportional score of observed negative mother-son interactions.

Maternal Attribution Measure. The Maternal Attribution Measure was developed by MacKinnon (1988a) for use in the parent-child context, and was based on the work of Dodge (1985) who found children's attributional biases to predict their behavior with peers. Each mother was presented a series of five stories (supplemented by cartoons) during a semi-structured interview with a trained research assistant (see Appendix C). Each story represented a potentially conflictual mother-son situation in which the intention of the son was ambiguous, and the outcome for the mother was clearly negative. The mother was asked to pretend that she and her son were the characters in the stories. Interview questions were designed to assess the mother's attributions of her son's intentions, her feelings, and her likely response were she and her son in the situations described in the stories. The research assistants were trained to probe the mothers until an adequate response was obtained. Only the question asking the mother why she thought her son engaged in the behavior was used for this study. The mother's attribution about her son's

intention was coded on a 1 to 5 scale. A score of 1 represented a very positive intention; a score of 2 represented a moderately positive intention; a score of 3 represented a neutral intention; a score of 4 represented a moderately negative intention; and a score of 5 represented a very negative intention. Responses to this item were summed across all five stories and divided by 5 to yield an average score reflecting the mother's attributional bias toward her son (maternal attribution).

Assessments of internal consistency for the Maternal Attribution measure are reported in Table 2. A Cronbach alpha coefficient of .34 was computed. Other assessments of internal consistency include an average interitem correlation of .09, and an average item-to-total correlation of .52.

Child Attribution Measure. The Child Attribution Measure was developed by MacKinnon (1988b) for use in the parent-child context, and was adapted from Dodge's (1985) protocol designed to elicit children's attributional biases toward peers. Each son was presented a series of six stories (supplemented by cartoons) during a semi-structured interview with a trained research assistant (see Appendix D). Each story represented a potentially conflictual mother-son situation in which the intention of the mother was ambiguous, and the outcome for the child was clearly negative. The son was asked to pretend that he and his mother were the characters in the stories. Interview questions were designed to assess the son's attributions of his mother's intentions, his feelings, and his likely response were he

Table 2

Assessments of Internal Consistency for Maternal Attribution Measure
(N=96)

Interitem correlations and item-total correlations

	Story 1	Story 2	Story 3	Story 4	Story 5
Story 2 (p-value)	.08 (.45)				
Story 3 (p-value)	.28 (.006)	-.03 (.79)			
Story 4 (p-value)	.18 (.08)	.10 (.33)	.01 (.92)		
Story 5 (p-value)	.17 (.10)	.06 (.53)	.01 (.92)	.08 (.44)	
Total (p-value)	.67 (.0001)	.52 (.0001)	.52 (.0001)	.47 (.0001)	.43 (.0001)
Average Inter-item r		.09			
Average Item-total r		.52			
Cronbach alpha		.34			

and his mother in the situations described in the stories. The research assistants were trained to probe the sons until an adequate response was obtained. Only the question asking the son why he thought his mother engaged in the behavior was used for this study. The son's attribution about his mother's intention was coded on a 1 to 5 scale. A score of 1 represented a very positive intention; a score

of 2 represented a moderately positive intention; a score of 3 represented a neutral intention; a score of 4 represented a moderately negative intention; and a score of 5 represented a very negative intention. Responses to this item were summed across all six stories and divided by 6 to yield an average score reflecting the son's negative attributional bias toward his mother (child attribution).

Assessments of internal consistency for the Child Attribution measure are reported in Table 3. A Cronbach alpha coefficient of .58 was computed. Other assessments of internal consistency include an average interitem correlation of .20, and an average item-to-total correlation of .58.

Boys' Aggressiveness as Rated by Their Peers and Peer Descriptions. Later in the year, trained research assistants visited the classroom of each son participating in the study in order to collect information from peers and teachers about the sons' social competence. The procedure for collecting these data was developed by Coie, Dodge, and Coppotelli (1982) and is described in detail by Asher and Dodge (1986). Prior to visiting a classroom, a roster was prepared that listed an identification code corresponding to the name of each student in the class. Aggressiveness as rated by peers and peer descriptions for all children in each class were assessed by giving each student a copy of the class roster. Before requesting ratings from the children, the research assistants discussed the importance of confidentiality. The children were asked not to talk

Table 3

Assessments of Internal Consistency for Child Attribution Measure(N=96)

Interitem correlations and item-total correlations

	Story 1	Story 2	Story 3	Story 4	Story 5
Story 2 (p-value)	.13 (.20)				
Story 3 (p-value)	.03 (.76)	.08 (.42)			
Story 4 (p-value)	.20 (.05)	.23 (.03)	.04 (.72)		
Story 5 (p-value)	.23 (.02)	.37 (.0002)	.02 (.85)	.26 (.01)	
Story 6 (p-value)	.22 (.03)	.42 (.0001)	.17 (.10)	.38 (.0001)	.34 (.0006)
Total (p-value)	.51 (.0001)	.62 (.0001)	.46 (.0001)	.60 (.0001)	.57 (.0001)
<hr/>					
Average Inter-item r	.20				
Average Item-total r	.58				
Cronbach alpha	.58				

about their nominations during or after the survey. Children were then instructed to select from the class roster the identification numbers corresponding to three classmates who best fit the following descriptions: "starts fights a lot, is angry a lot, appears unhappy or sad a lot, and appears shy a lot" (see Appendix H).

Aggressiveness as rated by peers was calculated as follows. For each child, the number of times he or she were nominated for "starts fights a lot" was totaled. Each child's score for that item was then divided by the number of children within the classroom, reflecting the number of possible nominations a child could receive. Thus, this measure was the proportion of classmates who perceived the child as one who typically starts fights. Proportional scores were calculated so that this index of aggressiveness could be compared across classroom settings. Only the peer ratings of aggressiveness for sons participating in the Mother-Son Attribution Study were pertinent to this investigation.

Peer descriptions of angry, sad, and shy were calculated in the same manner as peer ratings of aggressiveness. That is, the number of nominations that each child received for each item were summed and divided by the number of possible nominations. This method yielded proportional scores for angry, sad, and shy. Only the peer descriptions pertaining to the boys who participated in the Mother-Son Attribution Study were used for this investigation.

Test-retest correlations of peer descriptions in other studies have been found to be high across a five year period, and have been found to predict social preference (likability scores) at any given year during those five years (Coie & Dodge, 1983). Further, Dodge (1986) found peer nominations to be stable even when children were assigned to play groups comprised of unfamiliar peers.

Teacher Descriptions of Problem Behaviors. Teachers completed the revised version of the Taxonomy of Problem Situations (TOPS) (Dodge, McClaskey, & Feldman, 1985) on each child in the classroom (see Appendix I). A research assistant met with the teacher to explain how to complete the instrument while another research assistant administered the peer nominations to the children in the classroom. Teachers were given two weeks to complete the instruments. At the end of the second week, a research assistant returned to each school to pick up the completed instruments. Only the TOPS completed on the sons participating in the Mother-Son Attribution Study were relevant to the present investigation.

The original TOPS contained 44 items, each of which refers to a potentially problematic social situation (e.g, peers call target child a bad name). For each item, teachers rated on a 1-5 scale how much of a problem (i.e., likelihood of responding inappropriately) that situation would be for the child were he or she to encounter that situation. A score of 1 represents "never a problem" while a score of 5 represents "almost always a problem." Teachers were instructed to base their answers on how appropriately or inappropriately they think the child would respond to each situation, regardless of the frequency that situation typically occurred for the child.

Results of a previous investigation in which the researchers conducted a factor analysis on the item scores indicated that the 44 items yielded six factors (Dodge, McClaskey, & Feldman, 1985). Those factors and the child's task corresponding to those factors were:

(a) peer group entry, in which the child is to initiate inclusion into the peer group; (b) response to peer provocations, in which the child is to maintain both integrity and peer status; (c) response to failure, (no child task was specified for this factor); (d) response to success, (no child task was specified for this factor); (e) social expectations, in which the child is to adhere to clear social norms; and (f) teacher expectations, in which the child is to adhere to behavioral norms clearly established by the teacher.

A total score for the Taxonomy of Problem Situations was derived by summing the 44 items. Six subscale scores were derived by summing those items which were found to load on the previously mentioned factors. Peer group entry was scored by summing items 9, 17, 21, 22, and 23. Response to provocation was scored by summing items 4, 6, 16, 18, 19, 20, 24, 34, 36, and 40. Response to failure was scored by summing items 2, 5, 7, 8, 10, 11, 13, 15, and 44. Response to success was scored by summing items 3, 12, and 14. Social expectations was scored by summing items 1, 25, 32, 33, 35, 37, 38, 39, 41, 42, and 43. Finally, teacher expectations was scored by summing items 26, 27, 28, 29, 30, and 31.

Recently, additional items were added to the instrument in order to yield factors that distinguish reactive aggression from proactive aggression (Dodge, 1988, personal communication with MacKinnon). Reactive aggression refers to aggressive behavior in response to provocation whereas proactive aggression refers to aggressive behavior initiated in an attempt to obtain an object. Reactive aggression was

scored by summing items 45, 46, 47, 48, 49, 50, 51, and 52. Proactive aggression was scored by summing items 53, 54, 55, 56, 57, 58, 59, and 60. Total aggression was scored by summing the Reactive aggression and Proactive aggression subscales.

Internal consistency for the total score and each of the subscale scores was demonstrated in a previous study (Dodge, McClaskey, & Feldman, 1985). Dodge et al. (1985) reported a Cronbach's coefficient alpha of .98 for the total score. Cronbach's coefficient alphas for the subscale scores ranged from .89 to .97. Interitem correlations were computed for each of the 44 items and ranged from .31 to .73. In addition, test-retest correlations demonstrated that the instrument yielded fairly stable responses over time. Subscale test-retest correlations were reported to range from .57 to .72, and the total score test-retest correlation was .79. Further, this instrument was found to significantly discriminate between aggressive and nonaggressive children.

Assessments of internal consistency for the TOPS in the present study are reported in Table 4. The Cronbach's coefficient alpha for the total score was .97. Cronbach's coefficient alphas for the subscale scores ranged between .87 and .97. Interitem correlations were computed for each of the 60 items and ranged from .32 to .95. Average interitem correlations for each of the subscales ranged between .71 and .83. Further, average item-to-total correlations for each subscale were computed and ranged from .85 to .92.

Table 4

Assessments of Internal Consistency for the Taxonomy of Problem Situations (TOPS)

	Average Inter-item r	Average Item-total r	Cronbach alpha
Peer group entry	.82	.92	.96
Response to provocation	.75	.88	.97
Response to failure	.71	.85	.95
Response to success	.70	.89	.87
Social expectations	.77	.85	.96
Teacher expectations	.81	.89	.95
Total TOPS score	.73	.88	.99
Reactive aggression	.83	.92	.97
Proactive aggression	.76	.89	.96
Total aggression	.73	.87	.98

Data Analyses

The four hypotheses tested were as follows:

Hypothesis #1: There will be differences in patterns of maternal attributions, child attributions, and negative mother-son interactions among boys whose peer ratings vary in level of aggressiveness. Specifically, boys who were rated by their peers

as most aggressive will: (a) have mothers who form more negative attributions toward their sons; (b) form more negative attributions toward their mothers; and (c) engage in a higher proportion of negative interactions with their mothers.

Hypothesis #2: Peers' descriptions of "appears angry a lot" will be positively related to boys' aggressiveness as rated by peers. Specifically, boys nominated by a higher percentage of their peers for appearing angry will be nominated by a higher percentage of their peers for being aggressive than boys nominated by a lower percentage of their peers for appearing angry.

Hypothesis #3: Peers' descriptions of shy and sad will be unrelated to boys' aggressiveness as rated by their peers.

Hypothesis #4: Teachers' reports of boys' problem behaviors will be related to boys' aggressiveness as rated by their peers. Specifically, boys who receive a higher proportion of peer nominations for aggressiveness will be rated by their teachers as: (a) having more difficult entries into peer group situations; (b) more likely to respond to provocation with aggression; (c) more likely to

respond to failure with anger; (d) more likely to respond inappropriately to success; (e) less likely to meet social expectations; (f) less likely to meet teacher expectations; and (g) more aggressive than boys who receive a lower proportion of peer nominations for aggressiveness.

To examine hypothesis #1, a one-way (boys' level of aggressiveness as rated by their peers) multiple analysis of variance (MANOVA) was performed. The independent variable, proportional scores of boys' aggressiveness as rated by their peers, was based on peer nominations for starting fights and was categorized into the following four groups: (a) boys who received no nominations by their peers for starting fights; (b) boys who were nominated by 3.3 to 12% of their peers for starting fights; (c) boys who were nominated by 14.3 to 32.1% of their peers for starting fights; and (d) boys who were nominated by 34.5% or more of their peers for starting fights. The dependent variables were maternal attributions, child attributions, and proportion of negative mother-son interactions. The MANOVA was chosen because it tests simultaneously differences among groups on multiple dependent measures. This analysis was followed by three separate univariate analyses of variance (ANOVA).

Hypotheses #2 and #3 were examined by computing Pearson correlation coefficients between proportional scores of boys' aggressiveness as rated by their peers and peer descriptions of angry,

shy, and sad. The correlations were examined for direction, magnitude, and statistical significance.

Hypothesis #4 was examined by computing Pearson correlation coefficients between proportional scores of boys' aggressiveness as rated by their peers and teachers' ratings on the following: (a) having difficult entries into peer group situations; (b) responding to provocation with aggression; (c) responding to failure with anger; (d) responding inappropriately to success; (e) not meeting social expectations; (f) not meeting teacher expectations; and (g) exhibiting aggressive behaviors. The correlations were examined for direction, magnitude, and statistical significance.

CHAPTER IV

RESULTS

The overall purpose of this study was to conduct a cross-contextual analysis of boys' aggressiveness. Specifically, this study examined differences in maternal attributions, child attributions, and observed negative mother-son interactions among boys who vary in aggressiveness as rated by their peers. Further, this study examined the relation between boys' aggressiveness as rated by their peers and other peer descriptions, as well as teacher reports of problematic behaviors.

To address these research aims, 96 mother-son pairs visited the Family Research Center where they were interviewed about their attributions, and observed while engaging in an interaction task. Later in the year, a team of research assistants visited the classrooms of the participating sons and obtained peer and teacher reports.

The results are presented in four sections. The first section presents the descriptive findings pertaining to maternal attributions, child attributions, proportion of observed negative mother-son interactions, and boys' aggressiveness as rated by their peers. The second section presents the results of the MANOVA, and the three separate ANOVAS which tested for differences in patterns of maternal attributions, child attributions, and negative mother-son interactions

among boys with various levels of aggressiveness as rated by their peers. The third section presents the relations between boys' aggressiveness as rated by their peers and other peer descriptions. Finally, the fourth section presents the relations between boys' aggressiveness as rated by their peers and teacher reports of problem behaviors.

Descriptive Findings Pertaining to Maternal Attributions, Child Attributions, Negative Mother-Son Interactions, and Boys' Aggressiveness as Rated by Their Peers

Maternal attributions were measured by presenting mothers with a series of stories representing potentially conflictual situations involving a hypothetical mother and her son. Each story presentation was followed by a semi-structured interview. Mothers imagined that they and their sons were the characters in the stories when they answered the interview questions. The interview question asking the mother why she thought her son engaged in the behavior was used for this study. Responses for each answer could range from (1), reflecting a maternal attribution of very positive intent to (5), reflecting a maternal attribution of very negative intent. Answers to the question assessing a maternal attribution were summed across all five stories and divided by 5 to yield an average maternal attribution score with a possible range of 1 to 5. The findings presented in Table 5 show that the maternal attribution scores ranged from 2.8 to 4.4, and had a mean of 3.28 and a standard error of .31.

Table 5

Ranges, Means, and Standard Errors of Selected Variables (N=96)

	Range	<u>M</u>	<u>SE</u>
Maternal Attribution	2.8 - 4.40	3.28	.31
Child Attribution	1.7 - 3.83	2.76	.51
Observed Negative Mother-son Interactions	0.0 - 0.56	.05	.07
Boys' Aggressiveness As Rated By Their Peers	0.0 - 0.77	.14	.16

Child attributions were measured in a manner similar to maternal attributions. That is, sons were presented with a series of stories representing potentially conflictual situations involving a hypothetical mother and her son. Each story presentation was followed by a semi-structured interview. Sons imagined that they and their mothers were the characters in the stories when they answered the interview questions. The interview question asking the son why he thought his mother engaged in the behavior was used for this study. Responses for each answer could range from (1), reflecting a child attribution of very positive intent to (5), reflecting a child attribution of very negative intent. Answers to the question assessing a child attribution were summed across all six stories and divided by 6 to yield an average child attribution score with a

possible range of 1 to 5. The findings presented in Table 5 show that the child attribution scores ranged from 1.7 to 3.8, and had a mean of 2.76 and a standard error of .51.

Observed negative mother-son interactions were assessed by noting the ratio of negative behaviors to total behaviors exhibited by mothers and sons during a twenty minute interaction task. This method of measurement yielded a proportional score with a possible range of 0 to 1. The findings presented in Table 5 show that the actual proportion of observed negative mother-son interactions ranged from 0 to .56, and had a mean of .05 and a standard error of .07.

Boys' aggressiveness as rated by their peers was assessed during visits made by a team of research assistants to the classrooms of each participating son. During those visits, information was obtained about the boys from classmates or peers, and teachers. Boys' aggressiveness as rated by their peers was scored as the number of times a son was nominated by his classmates for starting fights divided by the number of children enrolled in the class. Thus, this measure of aggressiveness reflected the proportion of peers that perceived the child as one who typically starts fights, and had a possible range of 0 to 1. Table 5 shows that the reported range of boys' aggressiveness as rated by their peers was 0 to .77, and had a mean of .14 and a standard error of .16.

The interrelations among the variables were examined by computing Pearson correlation coefficients. The results are presented in Table 6.

Table 6

Interrelations Among Selected Variables (N=96)

	Child Attribution	Negative Interactions	Boys' Aggressiveness
Maternal Negative Attribution (p-value)	.19 (.06)	.28 (.005)	.11 (.27)
Child Negative Attribution (p-value)		.30 (.003)	-.03 (.80)
Negative Interactions (p-value)			.10 (.35)

As can be seen from Table 6, the correlation between maternal attribution and child attribution was statistically significant at the .10 level. However, the strength of that relation is modest. The correlations between observed negative mother-son interactions and both measures of attributions (i.e., mother and child) were statistically significant and stronger than the correlation between mother and child attributions. None of the variables were significantly correlated with boys' aggressiveness as rated by their peers.

Examination of the scores for boys' aggressiveness as rated by their peers revealed a positively skewed distribution with a long right-hand tail. The nonnormal distribution is also suggested by the wide range of scores ($R = 0.0 - 0.77$), and the small mean and small

standard error ($M = .14$; $SE = .16$). Because of the nonnormal distribution of boys' aggressiveness as rated by their peers, the Pearson correlation coefficients should be interpreted with caution. In order to address the problem of interpreting Pearson correlation coefficients, Spearman's rank-order correlation coefficients and Kendall's tau b were also computed. For this study, Spearman's rank-order correlations were correlations between the ranks of boys' aggressiveness as rated by their peers and each of the selected variables (maternal attributions, child attributions, and negative interactions). Kendall's tau b assessed how well paired observations between boys' aggressiveness as rated by their peers and each of the selected variables varied together while correcting for tied pairs. Results of the computations for Spearman's rank-order correlation and Kendall's tau b between boys' aggressiveness as rated by their peers and each of the variables were the same as the results of the computations for Pearson's correlation coefficients. That is, none of the variables were significantly related with boys' aggressiveness as rated by their peers.

Race, SES, Maternal Attributions, Child Attributions, Negative Mother-Son Interactions, and Levels of Boys' Aggressiveness as Rated by Their Peers

Preliminary univariate analyses examining differences in maternal attributions, child attributions, and negative mother-son interactions as a function of boys' aggressiveness as rated by their peers while controlling for the possible effects of race and SES revealed that

neither race nor SES contributed to the variance in boys' aggressiveness as rated by their peers. Therefore, both race and SES were dropped from all subsequent analyses.

Maternal Attributions, Child Attributions, Negative Mother-Son Interactions, and Levels of Boys' Aggressiveness as Rated by Their Peers

Differences in patterns of maternal attributions, child attributions, and negative mother-son interactions among various levels of boys' aggressiveness as rated by their peers were examined by performing a one-way (boys' levels of aggressiveness) MANOVA, and three separate univariate ANOVAS. The three dependent measures were maternal attributions, child attributions, and negative mother-son interactions. The independent measure, proportional scores of boys' aggressiveness as rated by their peers, was categorized into four groups. The procedure for categorizing the proportional scores was as follows. First, the scores were listed in ascending order. Second, limits for each group were identified based on breaks between scores in the distribution. Table 7 shows the values of proportional scores for boys' aggressiveness as rated by their peers, as well as the groupings for those scores.

As can be seen in Table 7, Group 1 included boys who received no nominations by their peers for starting fights; Group 2 included boys who were nominated by 3.3 to 12% of their peers for starting fights; Group 3 included boys who were nominated by 14.3 to 32.1% of their peers for starting fights; and Group 4 included boys

Table 7

Values and Groupings of Boys' Aggressiveness (N=96)

Group 1 n=21	Group 2 n=38	Group 3 n=27	Group 4 n=10
.000	.033	.143	.345
.000	.033	.143	.364
.000	.034	.143	.385
.000	.036	.143	.423
.000	.036	.150	.462
.000	.036	.154	.522
.000	.038	.154	.542
.000	.038	.160	.636
.000	.038	.167	.731
.000	.038	.179	.767
.000	.038	.181	
.000	.038	.190	
.000	.038	.200	
.000	.038	.207	
.000	.038	.208	
.000	.040	.208	
.000	.042	.214	
.000	.043	.222	
.000	.045	.231	
.000	.048	.231	
.000	.070	.231	
	.071	.240	
	.071	.250	
	.074	.269	
	.074	.296	
	.074	.321	
	.077	.321	
	.080		
	.080		
	.083		
	.083		
	.083		
	.083		
	.087		
	.095		
	.100		
	.115		
	.120		

who were nominated by 34.5% or more of their peers for starting fights. Table 8 presents the means and standard errors for the three dependent measures by boys' level of aggressiveness groups.

Table 8

Means and Standard Errors by Levels of Aggressiveness Groups

	Group 1 (n = 21)		Group 2 (n = 38)		Group 3 (n = 27)		Group 4 (n = 10)	
	<u>M</u>	<u>SE</u>	<u>M</u>	<u>SE</u>	<u>M</u>	<u>SE</u>	<u>M</u>	<u>SE</u>
Maternal attribution	3.24	.07	3.28	.05	3.31	.06	3.28	.10
Child attribution	2.71	.11	2.78	.08	2.81	.10	2.65	.16
Negative interactions	.04	.02	.05	.01	.07	.01	.04	.02

Due to the intercorrelations among the dependent measures (i.e., maternal attribution, child attribution, and negative mother-son interactions), a one-way MANOVA was performed. This method tested simultaneously for differences for each of the dependent measures among levels of boys' aggressiveness groups. Results of the MANOVA revealed that the dependent measures did not vary by group, $F(9, 219) = .37, p = .95$.

Results of the univariate ANOVA testing for differences between mean maternal attribution scores indicated that mothers' attributions about their sons did not vary by group, $F(3, 92) = 0.21, p = .89$.

Results of the univariate ANOVA testing for differences between mean child attribution scores indicated that sons' attributions about their mothers did not vary by group, $F(3, 92) = .35, p = .79$. Results of the univariate ANOVA testing for differences between mean proportions of negative mother-son interactions indicated that negative mother-son interactions did not vary by group, $F(3, 92) = .93, p = .43$.

Several other approaches were taken to examine these data. The possibility of a curvilinear relationship was considered based on Bogarrd's finding that mothers of problem children were less likely to interpret videotapes of clearly aversive child behaviors as "deviant" than mothers of nonproblem children (cited in Patterson, 1980). Further, Patterson (1980) suggests that the perceptual processes of mothers of problem children differ from the perceptual processes of mothers of nonproblem children such that mothers of problem children do not interpret child misbehavior as worthy of punishment until that behavior becomes so aversive that the mother reacts harshly. The possibility of a curvilinear relation in these data was explored by deleting the values for boys who received no nominations, and then performing a log transformation on the proportional scores of boys' aggressiveness. The log of boys' aggressiveness was then regressed on the basic terms of maternal attributions, child attributions, and negative interactions, as well as their squared and cubic terms. The results revealed no relation among boys' aggressiveness as rated by their peers and the other measures.

Additionally due to the intercorrelations among the variables, a principle components analysis was performed on maternal attributions, child attributions, and negative mother-son interactions. Again, the values of boys who received no nominations were deleted, and the log of boys' aggressiveness was then regressed on the composite score and its squared and cubed polynomials. The results were nonsignificant, indicating no relation between boys' aggressiveness and the combination of the measures. Thus, there was no support for hypothesis #1 which stated that there would be differences in patterns of maternal attributions, child attributions, and negative mother-son interactions among boys whose peer ratings vary in level of aggressiveness.

The Relation Between Boys' Aggressiveness as Rated by Their Peers and Other Peer Descriptions

Peer descriptions of angry, shy, and sad were assessed in a manner similar to boys' aggressiveness. That is, the number of nominations that each son received for each description was divided by the number of children enrolled in the son's classroom. Thus, angry, shy, and sad were proportional scores.

The relation between proportional scores of boys' aggressiveness as rated by their peers and peer descriptions of angry, shy, and sad were examined by calculating Pearson correlation coefficients. The results are presented in Table 9.

Table 9

Correlations Among Boys' Aggressiveness and Other Peer Descriptions

	Angry	Shy	Sad
Boys' aggressiveness (p-value)	.73 (.0001)	-.00 (.98)	-.02 (.82)
Angry (p-value)		.29 (.005)	.15 (.13)
Shy (p-value)			.29 (.005)

As can be seen in Table 9, the correlation between boys' aggressiveness as rated by their peers and angry was both strong and statistically significant. Thus, there was sufficient support for hypothesis #2 which stated that boys nominated by a higher proportion of their peers for appearing angry would receive a higher proportion of peer nominations for aggressiveness than boys rated by a lower proportion of their peers as appearing angry. Neither the descriptions of shy nor sad were related to boys' aggressiveness as rated by their peers. Other intercorrelations among the variables revealed moderate yet significant relations between shy and angry, and shy and sad. These results were supported by similar results for Spearman's rank-order correlation coefficients and Kendall's tau b. Thus, there was sufficient support for hypothesis #3 which stated that

boys' peer descriptions of shy and sad would be unrelated to boys' peer ratings of aggressiveness.

The Relation Between Boys' Aggressiveness as Rated by Their Peers and Teacher Reports of Problem Behaviors

Teachers' reports of boys' problem behaviors were measured by having teachers complete the TOPS for each son participating in the study. Scores on the TOPS indicated teacher assessments of how problematic certain situations are for target boys (i.e., those boys who participated in the Mother-Son Attribution Study). Item scores had a possible range of 1 to 5, with 1 representing "not a problem" and 5 representing "always a problem". Six potentially problematic situations were addressed in the TOPS, with each situation yielding a subscale score. Those situations were: peer group entry, response to provocation, response to failure, response to success, social expectations, and teacher expectations. Additionally, the TOPS yielded a total score, a proactive aggression score, a reactive aggression score, and a total aggression score.

The relation between boys' aggressiveness as rated by their peers and teacher reported scores on the TOPS were examined by calculating Pearson correlation coefficients. The results are presented in Table 10.

As can be seen in Table 10, the Pearson correlations between boys' aggressiveness and each of the scores yielded by the TOPS were statistically significant. Further, the correlations ranged from .49 to .72, indicating a fairly strong relation between peers' perceptions

Table 10

Correlations Among Boys' Aggressiveness and Teacher Reports on the TOPS

	Peer group	Res prov	Res fail	Res succ	Social expect	Teach expect	Total TOPS	Proact agg	React agg	Total agg
Boys' aggressiveness	.59	.62	.58	.46	.49	.62	.57	.72	.62	.69
Peer group		.86	.90	.83	.79	.77	.92	.73	.84	.82
Res prov			.90	.72	.81	.84	.95	.76	.88	.86
Res fail				.86	.86	.77	.96	.76	.87	.85
Res succ					.79	.67	.85	.73	.77	.79
Social expect						.72	.91	.77	.86	.85
Teach expect							.87	.72	.79	.79
Total TOPS								.79	.91	.89
Proact agg									.85	.85
React agg										.97

Note. For each of the above correlations, $p = .0001$.

of boys' aggressiveness and teachers' perceptions of boys' aggressiveness. Computations of Spearman's rank-order correlation coefficients and Kendall's tau b between boys' aggressiveness as rated by their peers and each of the scores yielded by the TOPS coincide with the computations of Pearson correlation coefficients. That is, the analyses revealed significant and strong relations between boys' aggressiveness as rated by their peers and teacher reported behaviors in each problematic situation addressed in the TOPS.

Table 10 also shows that the correlations between the scale scores on the TOPS ranged from .67 to .97, and were statistically significant. Thus, there were strong relations among teacher reported problem behaviors across the situations addressed by the TOPS. Results of the correlational analysis between boys' aggressiveness as rated by their peers and scores on the teacher reported TOPS provided sufficient support for hypothesis #4 which stated that boys who received higher proportions of peer nominations for aggressiveness would be rated by their teachers as: (a) having more difficult entries into peer group situations; (b) more likely to respond to provocation with aggression; (c) more likely to respond to failure with anger; (d) more likely to respond inappropriately to success, (e) less likely to meet social expectations; (f) less likely to meet teacher expectations; and (g) more aggressive than children who receive lower proportions of peer nominations for aggressiveness.

CHAPTER V

DISCUSSION

The research undertaken for this investigation was an analysis of boys' aggressiveness across two contexts: family and peer. The study had two foci. First, it investigated differences in mothers' and sons' social cognitions and interactions with regard to the boys' aggressiveness as rated by their peers. Second, the investigation examined the degree of consensus between peers' perceptions and teachers' perceptions of boys' aggressiveness. In order to address the research hypotheses, data were collected from 96 mother-son dyads, and from the peers and teachers of the sons participating in the study. The majority of mothers who participated in the research project can be described as married, white, and middleclass, with at least some college education. The sons were, on the average, 8 years of age.

The first section of this chapter discusses the outcomes of the four hypotheses tested for this study and a critique of the research. The final section addresses recommendations for further research.

Summary and Discussion

Boys' Aggressiveness as Rated by Their Peers

Boys' aggressiveness as rated by their peers was determined by the proportion of classmates who nominated each son as likely to start fights. Previous research has suggested that this measure of peer

aggression is more valid than rejected social status based on peer nominations of likability for the following reasons. First, not all rejected children are aggressive (Coie, Dodge, & Kupersmidt, 1990). Second, analyses of children's social networks have found that aggressive children are friends with and are liked by other aggressive children (Cairns et al., 1988). Finally, initiation of peer conflict (starting fights) has been identified as a defining feature of aggressive children (Cairns & Cairns, 1984; Dodge, 1985; Hops & Greenwood, 1981). One way to assess whether or not the measure was capturing accurately boys' aggressiveness in the peer context (i.e., with classmates in the classroom) is to examine the relation between boys' aggressiveness as rated by their peers and teachers' reports of boys' aggressiveness. The correlation between the two sources of data was significant and strong (see Table 10). Thus, there is reason to believe that boys' aggressiveness as rated by their peers was a valid assessment of boys' aggression within the peer context.

Maternal Attributions, Child Attributions, Negative Mother-Son Interactions, and Levels of Boys' Aggressiveness as Rated by Their Peers

Hypothesis 1 stated that there would be differences in patterns of maternal attributions, child attributions, and negative mother-son interactions among various levels of boys' aggressiveness as rated by their peers. In order to test this hypothesis, boys' aggressiveness was categorized into four groups. Results of the one-way MANOVA and the three univariate ANOVAS testing for differences between each

group's mean scores on the dependent measures were nonsignificant. These findings ran counter to the hypothesis.

Failing to find that maternal attributions, child attributions, and negative mother-son interactions vary by boys' aggressiveness as rated by their peers suggests that there is little stability in children's social behaviors across two distinctly different contexts (i.e., family and peers). These contexts may differ in their provisions of rewards and punishments. This argument, however, is to some extent not fully supported by previous research indicating high stability in aggressive behaviors across an individual's lifespan and across subsequent generations (Huesmann, Eron, Lefkowitz, & Walder, 1984; Loeber, 1982; Patterson, 1986). In fact, it has been suggested that aggressive behavior is the most stable of all personality traits (Kazdin, 1988). On the other hand in a cross-contextual analysis of boys who fight, Loeber and Dishion (1984) identified one subsample of boys who fought at home but not at school, and another subsample of boys who fought at school but not at home. Because of these seemingly discrepant findings, it appears that further research is needed to assess the ways in which peers and teachers differ from parents in their reinforcement of children's social behaviors.

Family and peer contexts may also vary in their inherent situations that are relevant to children's social cognitions and behaviors. Dodge and Feldman (1990) claimed that even within one context (e.g., the peer context), the quality of children's social cognitions varies across situations (e.g., peer group entry, response

to provocation). Because children's social cognitions and behaviors within one context have been found to be situation-specific, it may be unlikely to find that social cognitions and behaviors generalize across the two very different contexts of family and peer. On the other hand, children's social cognitions may generalize across the two contexts if the situations in which assessments are made are highly similar.

The situation-specificity issue as it relates to children's social cognitions is further complicated by the fact that children's social cognitions within one context (e.g., the peer context) varies by social status only in situations that are especially problematic or crucial to the group occupying that context (Dodge & Feldman, 1990). The failure to find that maternal and child attributions were associated with boys' levels of aggressiveness as rated by their peers may be due to assessing attributions as a response to hypothetical stories that are not extremely relevant or problematic to family, peers, or both family and peers.

Further understanding of the failure to find differences in maternal and child attributions as a function of boys' aggressiveness as rated by their peers involves close examination of the measures. The interitem correlations among the items comprising the Maternal Attribution Measure reveal that mothers' responses to some of the items are independent of each other (see Table 2). Responses to the items comprising the Child Attribution Measure yielded more significant interitem correlations, but those correlations were

nonexistent to moderate (see Table 3). Also as reported in Table 5, mean scores for both the Maternal Attribution Measure and the Child Attribution Measure were close to the midpoint of each scale's range, with little variation across respondents (see Table 5). Taken together, these results indicate that some of the variation to the items comprising each measure was independent. Further, it appears that across subjects, there was little variation in responses.

Finding some degree of independence in mothers' and sons' responses to the hypothetical stories (which depicted very different situations within the family) may suggest that not all of the hypothetical situations were highly problematic and crucial to mothers and sons. On the other hand, the correlations between negative mother-son interactions, and maternal and child attributions suggests that maternal and child attributions in at least some of those situations are related to behaviors within the family (see Table 6). Again, it appears that further research is needed to identify within family situations in which attributional biases are most likely to occur.

The little variation in responses to the maternal and child attribution measures across subjects might possibly be related to subjects' socialization to give appropriate answers. Putallaz (1987) explained the lack of variability in maternal problem solving as assessed in her study by suggesting that mothers may be sufficiently socialized to give appropriate advice to their children when the children experienced a peer conflict. The same general explanation

might apply to the lack of variability in the Maternal Attribution Measure and the Child Attribution Measure used in the present study. That is, the majority of mothers and sons may have been sufficiently socialized to be reluctant to admit to a trained interviewer that they thought the other behaved with hostile intent in a hypothetical situation. Nonetheless as stated before, the significant interrelations among maternal attributions, child attributions, and negative mother-son interactions indicate that the tendency for mothers and sons to infer hostile intent to each other's behavior in an ambiguous situation varies with negative interactions.

The failure to find differences in observed mother-son interactions as a function of how boys vary in aggressiveness as rated by their peers may be due to the manner in which interactions were assessed. The coding scheme of mother-son interactions used a microsocial analytic scheme in which each member's behaviors were recorded in real time as they occurred during an interaction task in a laboratory setting. Scores for this measure were the ratio of both mother's and son's negative behaviors to the total number of behaviors emitted during the observation. The range of scores was large; however, the mean and standard error reveal that the data were positively skewed (see Table 5), with most of the scores falling within the lower end of the range. Thus, this measure also appears to be lacking in variability. It is possible that this lack of variability may also be due to the majority of mothers and sons being sufficiently socialized to engage in neutral or positive behaviors

while interacting (i.e., playing a game) in a laboratory setting. Although a wealth of information can be gained by observing mothers and children while they play a game in a laboratory setting, it may have been more useful to have selected a task that is similar to the kinds of tasks mothers and sons most often encounter in natural settings. Moreover as is often the case, laboratory observations allow the researcher to have more control over data collection, but it may be that the behaviors of interest for the present study would have been more accurately obtained through observations in family homes.

The Relation Between Boys' Aggressiveness as Rated by Their Peers and Other Peer Descriptions

Hypothesis 2 stated that boys' proportional scores for aggressiveness as rated by their peers would be related to boys' proportional scores for appearing angry. The significant correlation between the two variables was high (see Table 9) and supported the hypothesis. Hypothesis 3 stated that boys' proportional scores for aggressiveness as rated by their peers would be unrelated to boys' proportions of peer nominations for appearing shy and sad. The nonsignificant correlations between each of these two peer descriptions and boys' aggressiveness as rated by their peers supported the hypothesis.

The results indicate that boys who were perceived by their peers as aggressive were also perceived as angry. This finding coincides with the results of other studies that have found peers to perceive rejected-aggressive children as angry (Coie, Dodge, & Coppotelli,

1982). Additionally, boys who were perceived by peers as angry were not necessarily perceived as shy or sad. Finding that descriptions of shy and sad were unrelated rather than negatively related to boys' aggressiveness as rated by peers was expected due to the possibility of the sample containing nonaggressive children who might be perceived as shy and/or sad, and nonaggressive children who might be perceived as outgoing and/or happy. That is, as ratings of aggressiveness declined, it was not expected that ratings of shyness or sadness would necessarily increase. The results concerning each of the peer descriptions and boy's aggressiveness as rated by their peers suggests that nominations of "start fights" is a valid means for identifying children who are aggressive, and that children are able to discriminate between perceptions of aggressiveness and anger, and shyness and sadness.

The moderate correlation between shy and sad suggests that some boys who were perceived by peers as shy were also perceived as sad. This finding is in keeping with the literature on socially withdrawn children (Rubin & Lollis, 1988). Finally, finding a modest correlation between peers' perceptions of angry and shy was surprising. This correlation does not, however, negate the conceptually significant correlation between angry and aggressiveness. Nonetheless, it does suggest that some boys who were perceived by peers as angry were also perceived by peers as shy. The relation between angry and shy runs counter to the findings of studies in the areas of both childhood aggression and childhood social withdrawal.

Finding only a moderate correlation between shy and sad (though not explicitly stated as a hypothesis for the present study, it was expected that shy and sad would be more strongly correlated), and a significant though modest correlation between angry and shy (though not stated, a nonsignificant relation was expected) suggests that children in this sample may have found it difficult to discriminate between perceptions of boys' shyness and other attributes, excluding aggressiveness. Although children in this study were in their middle childhood years, and Rubin and Lollis (1988) contend that child behaviors become salient to peers in middle childhood, it may be that behaviors reflecting shyness may be less salient to children of this age than behaviors reflecting aggressiveness.

The Relation Between Boys' Aggressiveness as Rated by Their Peers and Teacher Reports of Problem Behaviors

Hypothesis 4 stated that boys' aggressiveness as rated by their peers would be related to teachers' reports of boys' problem behaviors. The significant modest to strong correlations between the proportional score of boys' aggressiveness as rated by their peers and each of the subscale scores provided reason to believe the hypothesis (see Table 10).

Significant and strong correlations between boys' aggressiveness as rated by their peers and each of the subscale scores on the TOPS suggest that the boys who were perceived by their peers as aggressive were also perceived by their teachers as having difficulty in the following problematic situations: peer group entry, response to

provocation, response to failure, meeting social expectations, and meeting teacher expectations. In addition, the teachers of boys who were perceived by their peers as aggressive also described those boys as likely to display aggressive behaviors such as reacting to conflicts with anger or physical force, and dominating others by bullying or using physical force. These findings reveal a high degree of consensus between peers' and teachers' perceptions of aggressive children, and are in keeping with the results of other studies reporting teachers' assessments of rejected-aggressive children (Dodge, Coie, & Brakke, 1982).

Recommendations for Further Research

Several suggestions arise from the findings and critique of the present research. First because the study of how attributional biases might affect behaviors between mothers and sons is a new area of inquiry, there is a need to replicate the relation between negative mother-son interactions, and maternal and child attributions. Prior to conducting a study with that purpose, a qualitative study could be undertaken in order to identify problematic situations that are relevant to both mothers and sons. Methods of data collection for the qualitative study could include face-to-face interviews and/or daily telephone interviews with mothers and sons, as well as daily diaries and in-home observations. A list of conflictual situations might be generated from this study and could then be shown to a second sample of mothers and sons whose task would be to rate both the frequency of occurrence and the degree of perceived conflict encountered for each

situation. Hypothetical stories centered around mother-son conflict in the identified situations could then be written in order to assess maternal and child attributions. Based on previous research investigating the family environments of children (Richardson, Galambos, Schulenberg, & Peterson, 1984), it is possible that the previously described method of identifying conflictual mother-son situations would produce a list containing the the following issues that may serve as sources of family conflict: bedtime rituals; completing household chores; returning home at an expected time; having friends over to the house to visit; and preparing to leave for school, work, or a meeting. An investigation of this nature is currently being undertaken as part of the larger longitudinal Mother-Son Attribution Study directed by Dr. Carol E. MacKinnon of the University of North Carolina at Greensboro.

To investigate the association between children's social cognitions and behaviors across the two contexts of family and peer, it might be fruitful to assess maternal and child social cognitions within problematic but relevant situations that are analogous to the situations commonly studied within the peer context. That is, stories reflecting hypothetical conflicts could be written to encompass each of the following situations as they might be experienced by mothers and sons: responding to teasing or insults; provocation; entry into family activities; being excluded from a family activity; and fulfilling family norms or expectations.

Researchers who are interested in relating maternal and child social cognitions and interactions to children's social behaviors within the peer context might also consider avoiding the use of situations in which mothers are in a clear authority position over their sons. In other words, it may be possible that the situations in which maternal and child social cognitions and interactions that are most generalizable to children's peer relationships are those in which mothers and children have a sense of equality in their power structure. Such situations may be difficult to identify, although one story written for the present study (one involving a provocation committed while mothers and sons play a board game) may serve as a good example.

Finally, future research might also examine whether or not maternal and child social cognitions and negative interactions varies with the presence of clinically defined conduct disorder in children. A study investigating this question would need to match a sample of mothers and their conduct disordered children with a sample of mothers and non-clinically referred children in order to make comparisons.

In summary, recommendations for future research include revising the Maternal and Child Attribution Measures by identifying conflictual situations that may be more relevant to mothers, sons, and peers; and contrasting families with children who are clinically referred for conduct disorders to families with children who are have no diagnosed behavior disorder.

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APPENDIX A
DESCRIPTION OF STUDY/INITIAL TELEPHONE CONTACT

Description of Study/Initial Telephone Contact

Hello, Mrs. _____, my name is Mary Elizabeth Curtner, and I'm a Research Assistant in the Department of Child Development and Family Studies at the University of North Carolina at Greensboro (UNCG). We received your name from the Guilford County School System who provided us with a list of the names and telephone numbers of the parents of children enrolled in the 2nd through 3rd grade at _____ Elementary School.

The reason I'm calling is to see if I can interest you in a project that Dr. Carol MacKinnon is conducting. Her project examines how mothers and their sons get along while playing games together, and we'd like you and your son to take part. The study involves two appointments, each lasting about one hour. During both appointments, you and your son will be videotaped while playing a game. Afterwards, an interviewer will help you and your son complete a few surveys. Your son will receive a prize at the end of both appointments, and we will pay you \$20.00 to compensate for your time.

All of your and your son's answers will be strictly confidential. At no time will your or your son's names appear on any surveys. Further, you may refuse to answer any question and you may terminate your participation at any time. Finally, if you decide not to participate, it will not affect your child's standing at school.

Would you like to take part in our study?

(If yes, ask for marital status, schedule appointment, give directions and tell her that an interviewer will be waiting for her at the time of the scheduled appointment.)

APPENDIX B
INFORMED CONSENT

As you recall from our telephone conversation, we are interested in mother-son interactions and what mothers and their sons think about 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 situations. 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 about your feelings regarding an actual recent interaction with each other. You will also be asked to engage in two game-playing situations and fill out some questionnaires. We will give you a packet of questionnaires to complete at home and return. The second phase will be identical to the first. You will be paid \$20.00 after the second phase of the study for your participation.

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 C
MATERNAL ATTRIBUTION MEASURE

Date _____ Interviewer _____ Family ID# _____

1. Suppose you have a friend visiting in your home and you are relating a story. While you are talking, (child's name) interrupts you.

(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) interrupted 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)?

1	2	3	4	5
GOOD	good	not good or bad	bad	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?

1	2	3	4	5
not at all		some		very well

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 good, bad, or neither good nor bad?
(Counterbalance order of presentation)

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

1	2	3	4	5
GOOD	good	not good or bad	bad	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?

1	2	3	4	5
not at all		some		very well

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 good, bad, or neither good nor bad? (Counterbalance order of presentation)

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

1	2	3	4	5
GOOD	good	not good or bad	bad	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?

1	2	3	4	5
not at all		some		very well

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)?

1	2	3	4	5
GOOD	good	not good or bad	bad	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?

1	2	3	4	5
not at all		some		very well

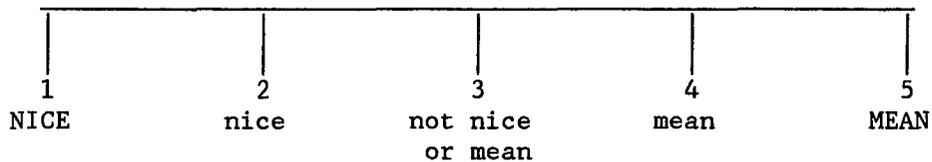
5. Pretend you and your child are playing a board game. You are almost to the finish line and you are winning. Your child knocks the pieces off the board onto the floor.

(a) Why did (child's name) bump the board and knock the pieces to the floor?

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

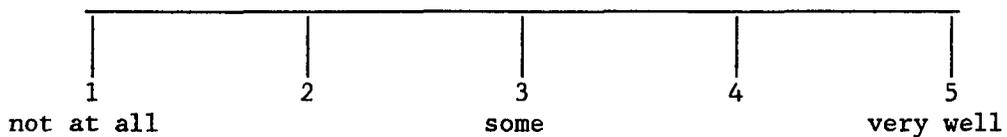
(c) Was (child's name) being mean, nice, or neither mean nor nice? (Counterbalance order of presentation)

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



(d) What would you do after (child's name) bumped the board and knocked the pieces to the floor?

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



APPENDIX D
CHILD ATTRIBUTION MEASURE

Date _____ Interviewer _____ Family ID# _____

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)?

1	2	3	4	5
NICE	nice	not nice or mean	mean	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?

1	2	3	4	5
not at all		some		very well

(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.

(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.

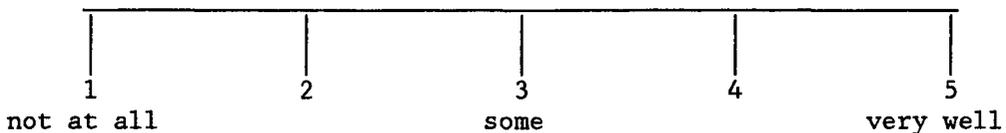
A. You say, "Could we buy this candy bar?"

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

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

First Choice _____

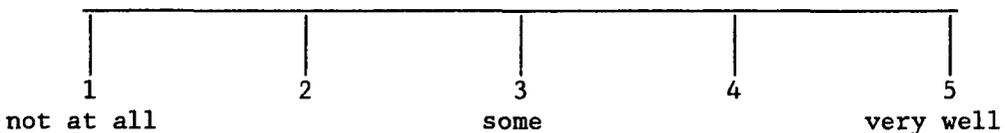
(h) Since you would most like (child's choice on [f]), how well do you think (child's first choice on [g]) would work?



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

Second Choice _____

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



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 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)?

1	2	3	4	5
NICE	nice	not nice or mean	mean	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?

1	2	3	4	5
not at all		some		very well

4. Pretend the ice cream man is driving by your house. You run in and ask you 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)?

1	2	3	4	5
NICE	nice	not nice or mean	mean	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?

1	2	3	4	5
not at all		some		very well

(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.

(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.

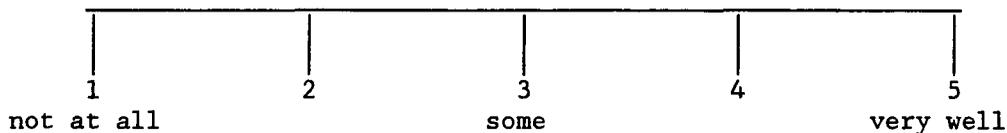
A. You yell, "Give me the money now!" (negative)

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 _____

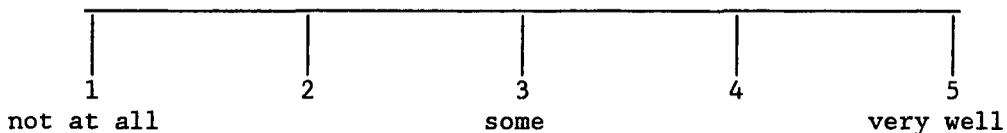
(h) Since you would most like (child's choice on [f]), how well do you think (child's first choice on [g]) would work?



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

Second Choice _____

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



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 come.

(a) Why do you think that 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)?

1	2	3	4	5
NICE	nice	not nice or mean	mean	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?

1	2	3	4	5
not at all		some		very well

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) Age _____ Female child(ren) Age _____

2. How would you describe your ethnic background or race?

1. White American, Caucasian
2. Afro-American, 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.
5. What is your occupation? _____
6. Where do you work? _____
7. What is your present marital status?
1. Married--first marriage
 2. Divorced
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. 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.

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

12. If you are divorced, what is the occupation of your son's father?

13. What is your current yearly household income?

_____ Under 10,000	_____ 50,000 to 59,999
_____ 10,000 to 19,999	_____ 60,000 to 69,999
_____ 20,000 to 29,999	_____ 70,000 to 79,999
_____ 30,000 to 39,999	_____ 80,000 to 89,999
_____ 40,000 to 49,999	_____ 90,000 and above

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

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

16. My relationship with my spouse (or former spouse) is

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

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

19. 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

HOLLINGSHEAD'S FOUR-FACTOR INDEX OF SOCIAL STATUS

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APPENDIX G
OBSERVATION CODES FOR MOTHER-SON INTERACTIONS

Observation Codes for Mother-Son Interactions

A real-time coding strategy was used in order to collect data on the stream of behaviors as they occurred in sequence.

Positive Behaviors

Positive verbal. A positive verbal was any positive verbal expression that displayed praise, reward, or excitement. Example: "That's great!"

Positive physical. A positive physical was any physical contact extended toward the other person that demonstrated warmth or positive feelings. Examples: Hug or pat.

Positive affect. A positive affect was any facial expression that denoted positive emotions. Examples: smiling, laughing, giggling, or nodding in approval.

Negative Behaviors

Negative verbal. A negative verbal was any verbal expression of negative affect such as anger or impatience. Examples: Threat, quarrel, sarcasm, insult, whine, demand, or respond in a demeaning tone.

Negative physical. A negative physical was any physical contact denoting negative emotions. Examples: Grabbing, hitting, slapping, pushing, or attacking.

Negative Affect. Any facial expression that denoted negative emotions such as frowning, crying, anger, or disgust.

Neutral Behaviors

Neutral verbal. Any verbal statement for which neither positive nor negative emotions are conveyed. Example: Instructing the child in a flat tone of voice.

Neutral physical. A neutral physical was any physical contact that did not denote an emotion. Example: probably none

Neutral Affect. Any facial expression that denoted neither positive nor negative emotions. Example: Blink, some glances away.

APPENDIX H
PEER NOMINATIONS

Peer Nominations

My Code Number _____ Grade _____ Sex: M ___ F ___

My Birthday _____ My School _____

1. List the 3 people in your class you like the most.

Number _____ Number _____ Number _____

2. List the 3 people in your class you like the least.

Number _____ Number _____ Number _____

3. This person starts fights, picks at other kids and teases them.

Number _____ Number _____ Number _____

4. This person seems unhappy and often looks sad.

Number _____ Number _____ Number _____

5. This person gets angry easily and can't take teasing or a joke very well.

Number _____ Number _____ Number _____

6. This person acts very shy with other kids. They seem to always play or work by themselves. It's hard to get to know this person.

Number _____ Number _____ Number _____

APPENDIX I
TAXONOMY OF PROBLEM SITUATIONS

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