

AN ABSTRACT OF THE THESIS OF

Emiko Katsurada for the degree of Doctor of Philosophy in Human Development and Family Studies presented on October 12, 1995. Title: Preschoolers' Hostile Attribution, Aggressive Behavior, and Relationships with Their Mothers' Attributional Style, Parenting Behavior and Affect.

Abstract approved: Redacted for Privacy  
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The purposes of this study were to find out about the associations between hostile attributional bias and aggressive behaviors among preschool-aged children and to identify possible sources of their hostile attributional bias. Seventy-two preschoolers with an average age of 4.76 and their mothers acted as participants. Children's hostile attributional bias was examined using videotaped vignettes developed for this study. Children's aggressive behaviors were assessed by teachers and parents separately. As possible sources of children's hostile attributional bias, mothers' attributional styles, parenting behavior, affect, and some demographic information were collected via questionnaires. The relationships between children's aggressive behavior, mothers' attributional styles, parenting behavior, and affect were also investigated.

Consistent with previous studies on school-aged children, results indicated that aggressive preschoolers, as assessed by teachers, were more likely to have a hostile attributional bias than nonaggressive ones. On the other hand, children's aggressiveness, as assessed by their mothers, was significantly related to their mothers'

parenting behaviors, but not to their hostile attributional bias. Mothers of aggressive preschoolers reported less positive parenting behaviors than those of less aggressive ones. Mothers' affect did not show such an effect. Although mothers' specific attributional styles did not have a direct effect on their parenting behavior and affect, their general attributional style had a moderating effect on their affect, suggesting a reciprocal relationship between mothers' affect and their children's aggressive behavior.

Mothers' specific attributional style, parenting behavior, and affect were not identified as sources of children's hostile attributional bias, but family SES was. Children from lower SES families were more likely to have a hostile attributional bias than those from higher SES families. Findings were discussed relative to previous theory and research, and suggestions for future research and implications for preschool teachers were made.

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Preschoolers' Hostile Attribution, Aggressive Behavior and Relationships with Their  
Mothers' Attributional Style, Parenting Behavior and Affect

by

Emiko Katsurada

A THESIS

submitted to

Oregon State University

in partial fulfillment of  
the requirements for the  
degree of

Doctor of Philosophy

Completed October 12, 1995

Commencement June 1996

Doctor of Philosophy thesis of Emiko Katsurada presented on October 12, 1995.

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I understand that my thesis will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my thesis to any reader upon request.

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Emiko Katsurada, Author

## Acknowledgments

I would like to express my sincere appreciation to my major professor Dr. Alan Sugawara for his guidance, full support in conducting research, and devotion for preparing this thesis. My sincere appreciation extends to other members of my committee, Dr. Pat Moran, Dr. Sue Doesher, Dr. Dave Thomas, and Dr. William Jenne for their valuable comments and for spending their time to serve in my committee.

In conducting my study, I obtained tremendous cooperation from many people: children and their mothers who participated in my study as subjects, the director and teachers at the Child Development Center, and my friends who participated in my study choosing videotaped vignettes and pilot studies to refine the questionnaire. I deeply appreciate their cooperation.

I would also like to thank my friends, Susan Burke for her constant emotional and technical support, Linda Burt for her insightful comments, Tom Morikawa for his helpful comments, and Jim Rankin for his editorial work.

Finally, I would like to express my appreciation to my parents who have trusted and supported me in all my pursuits.

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# PRESCHOOLERS' HOSTILE ATTRIBUTION, AGGRESSIVE BEHAVIOR, AND RELATIONSHIPS WITH THEIR MOTHERS' ATTRIBUTIONAL STYLE, PARENTING BEHAVIOR AND AFFECT

## CHAPTER ONE

### INTRODUCTION

The violence prevalent in our society is everyone's concern. That is why so many studies have been conducted on aggression. Since the stability of aggressive behaviors has been well reported in the literature (Olweus, 1979; Patterson, 1982), it may not be an exaggeration to say that the source of violent behaviors in adulthood may already have existed in early childhood. For example, Eron, Huesmann, & Zelli (1991) stated that "aggression, as a characteristic way of solving interpersonal problems, usually emerges early in life. Each individual seems to develop a characteristic level of aggressiveness early on, which remains relatively stable across time and situation" (p. 169). Moreover, Patterson and his colleagues (1989) recently postulated a developmental model of antisocial behavior. According to this model, the antecedent of adolescent delinquency is the child's conduct problems in early childhood. "Poor" parental discipline and monitoring lead to a child's conduct problems during early childhood, which then lead to rejection by normal peers and academic failure during middle childhood. These negative factors induce the child's commitment to deviant peer groups, which leads to delinquency during adolescence. Several longitudinal studies empirically support this model (Brook, Whiteman, & Finch, 1992; Coie, Lochman, Terry, & Hyman, 1992; Patterson, Crosby, & Vuchinich,

1992). Thus, it seems important to study aggression in early childhood as a precursor of later problems.

Despite the stability of aggression from childhood to adulthood, childhood aggression itself is a difficult problem for parents and teachers. Conflict over property, territory and privilege occur often in any preschool classroom (Dinwiddie, 1994) and at home. Citing an actual letter from an early childhood teacher, Carlsson and Levin (1992) stated that many teachers reported concerns about an increase in children's aggression in their interactions with one another. Many early childhood educators write about how to deal with these conflicts in the classroom, how to teach children specific skills that solve conflicts peacefully, and how to encourage positive social behaviors (Carlsson & Levin, 1992; Dinwiddie, 1994; Wittmer & Honig, 1994). Thus, it also seems important to study early childhood aggression in the search for effective interventions.

Regarding young children's aggressive behavior, based on social learning theory (Bandura, 1973), many studies have been done on the effects of parental variables, such as child rearing practices and punishment, and other variables, such as watching violent TV programs on children's aggressive behavior (Eron, Huesmann, Lefkowitz, & Walder, 1972; Lefkowitz, Eron, Walder, & Huesmann, 1977; McCord, McCord, & Howard, 1963; Nye, 1958; Sears, Maccoby, & Levin, 1957). However, recent research on childhood aggression has focused on its relation to children's social cognitive capacity. A series of studies by Dodge and his colleagues (1981, 1982, 1984, 1987) has established strong empirical support for the social information processing model (Dodge, 1980), which postulates that aggressive behaviors are the result of a

deficit in the information-processing procedure. Along with this social information processing model, the relationship between children's hostile attributional bias and their aggression is evident among school-aged children (Dodge, 1980; Dodge, Murphy, & Buchsbaum, 1984; Lochman, 1987; Nasby, Hayden, & DePaulo, 1980). However, the study on attributional bias among aggressive children has not yet been extended to young children of preschool ages.

One purpose of this study was to examine the existence of hostile attributional bias among aggressive preschoolers. Another purpose was to look for the source of hostile attributional bias among aggressive children. How do children acquire this hostile attribution bias? From the social learning point of view, young children acquire their attributional styles from their parents, especially from their mothers who are usually the primary caregiver. Children learn how to interpret everyday occurrences directly from the way their mothers behave. If a mother always blames somebody for negative happenings, her children may acquire the same way of perceiving negative happenings. Children also learn and shape their attributional style through their interaction with their mothers. For instance, if children keep receiving negative affect and behavior from their mothers for what they have done, they may come to think that their environment is always hostile to them. Thus, these children develop a hostile attributional bias.

Applying the perspective of the information processing model to adults' behavior, mothers' attributions influence their behavior toward their children, especially the attribution of their own child's behaviors. Mothers who perceive their child's negative behaviors as intentional, dispositional, and responsible may treat their

child negatively. Mothers who blame their child rather than themselves for the negative outcome of an interaction may treat their child negatively. In the present study, two aspects of mothers' attributional styles were investigated; the attribution of their own child's misbehavior (specific attributional style) and the attribution of negative outcome of an interaction with a child (general attributional style). These variables were then investigated in terms of their relationships to the mother's affect and parenting behavior toward her child, the child's attributional bias and aggressive behavior.

It was hypothesized that hostile attributional bias did exist among aggressive preschoolers. It was also hypothesized that the negative attributional style of a mother was directly related to her child's hostile attributional bias, her negative affect toward her child, and her child rearing behaviors, which lead to her child's aggression. The negative attributional style of a mother was defined in this study as intentional, and responsible attribution of her child's misdeed, and the tendency to perceive a child's control over the negative outcome of their interaction.



## CHAPTER TWO

### REVIEW OF LITERATURE

This literature review consists of four parts. The first part reviews various definitions of aggression with the purpose of adopting a definition for this study. The second part reviews the literature on the relationship between young children's attribution and aggression. It begins with a discussion of the theoretical background for this study, a social information processing model, followed by a summary of research focused on the attributional bias of aggressive children and their cognitive development. The third part is a review of the literature on the relationship between parents' attributions and children's aggression. In this part, studies suggesting a direct relationship between parents' attribution and their child's social cognition, and an indirect relationship between those through parenting behavior are first reviewed. This is followed by research focused on the moderating effects of mothers' general attribution. The last part is a review of literature on the relationship between parenting behavior and children's aggressive behavior. Studies suggesting an association between parenting behavior and children's social cognition are also reviewed in this part.

Based on the review of literature, a conceptual model is proposed, which is followed by six hypotheses used to empirically test the conceptual model for this study.

## Definition of Aggression

Aggression is a very complex construct, therefore, no fixed definition can be found which satisfies every researcher. Some researchers uphold the definition provided by Dollard, Doob, Miller, Mowrer, and Sears (1939), indicating that aggression is any sequence of behavior which has its goal the injury of another (Berkowitz, 1973; Feshbach, 1970). According to this definition, a behavior is not aggressive if the actor does not intend to hurt another.

However, there are many aggressive behaviors in which the actor does not intend to hurt another person, but ends up doing so as a consequence of accomplishing his/her main purpose. Therefore, many researchers oppose the above definition (Bandura, 1973; Buss, 1961; Patterson, 1982). Bandura (1973) stated that "a major limitation of such a definition is that it assumes that aggression serves only a single purpose, namely, to inflict injury" (p. 3). Patterson (1982) concurred and pointed out the researcher's failure to deal with the complexity of measuring intentions as a major limitation of the above definition. Researchers argued that Dollard, et al.'s definition of aggression was usually based on the act itself in its empirical inferences, excluding intention (Grusec & Lytton, 1988; Patterson, 1982;). Thus, some researchers define aggression as "a response that delivers noxious stimuli to another organism" (Buss, 1961, p. 1). This definition does not include injurious intentionality of an organism but is solely based on observable behaviors. This is, however, also problematic because it does not differentiate between aversive happenings that are aggressive from others that are not (Patterson, 1982).

Whichever definition researchers take, they admit to two kinds of aggression: instrumental aggression, whose main purpose is acquiring some external reinforcer or terminating aversive stimuli, and hostile aggression, whose goal is hurting others. Dollard et al.'s definition of aggression focuses only on hostile aggression, whereas the definition supported by Bandura (1973), Buss (1961), and Patterson (1982) includes both types of aggression. Since a large proportion of aggression displayed by preschoolers is instrumental aggression (Hartup, 1974), the definition which excludes instrumental aggression does not seem appropriate in studying young children's aggression. Therefore, in this study, Bandura's definition of aggression is adopted. "Aggression is injurious and destructive behavior that is socially defined as aggressive on the basis of a variety of factors, some of which reside in the evaluator rather than in the performer" (Bandura, 1973, p.8).

### Young Children's Cognition and their Aggressive Behaviors

#### Social information processing model of aggression

Dodge (1986a) has formulated a comprehensive model which illustrates how cognitive processes are related to children's social and aggressive behaviors. According to this model, when a child encounters a specific social situation, the child who has biologically determined response capabilities and a response goal which is shaped by his/her past experiences, receives an enormous number of social cues. From those cues, the child has to pick up appropriate cues and process them effectively in order to be socially competent. Thus, the model postulates that the

child's response behavior in the social milieu is a result of his/her way of processing the presented social information. This process occurs in a sequence of five steps.

The first step is encoding social cues in a social situation, which involves perceiving, searching for, and attending to the presented cues. After encoding cues, the child has to interpret the encoded cues and make sense out of them. This second step involves integrating the cues with his/her memory store of past experiences and applying decision rules which are acquired in socialization. Since it is difficult to assess what a child encodes without knowing his/her interpretation of the encoded cues, these two steps are often indistinguishable.

The third step is a response search process in which the child searches for or generates possible behavior responses based on his/her interpretation of the previous step. In the fourth step, the child then has to decide what his/her behavioral response will be from among the possibilities he/she has searched for or generated. In choosing the optimal response, the child has to assess the potential consequences, and evaluate the outcome by contemplating his/her behavioral repertoire. After the child decides on the response, the child enacts the behavior, which is the last step in the information processing model. Although this is the last step, social information processing does not end at this point. The consequence and the effect of the child's behavior produced through the sequence of five steps go into his/her memory store. This new information in his/her memory store affects the goal setting and decision rules of the child for use in the next information processing experience. Thus, the five step process continues to occur over and over again.

According to the social information processing model, aggressive behaviors are the result of skill deficits or a biased manner of processing information at one or more of the steps. For example, in order to produce a competent behavioral response, the child has to search and attend to appropriate social cues and interpret these cues without any biases. In addition, the response decision process requires complex cognitive representations, such as consequential thinking, a cognitive ability attained at the concrete operational level, in order to choose an appropriate behavioral response (Dodge, 1986b). Furthermore, during the behavioral enactment step, the child's deficits in verbal and motor skills may inhibit him/her from emitting an appropriate behavioral response, even if the child's information processing is competent prior to that point.

Dodge (1986b) has stated that this social information processing model is consistent with Bandura's (1973) social learning theory of aggression and Dollard et al.'s (1939) frustration-aggression hypothesis, since it can articulate the cognitive mechanisms identified in both theories. In learning aggressive behaviors from models and reinforcement contingencies, an aggressive child processes information "in a way that leads him or her to conclude that aggression is warranted, appropriate, or the only available response" (Dodge, 1986b, p. 289). In the paradigm of the frustration-aggression hypothesis, a child's biased or unskilled way of processing social cues can induce his/her frustration, which leads to an aggressive response. The child's misinterpretation of a peer's intention in a hostile way may increase his/her frustration and the probability of aggressive retaliation toward the peer. Also, the child may experience social discomfort (frustration) because of his/her unskilled social

information processing, which may result in aggressive behavior. Thus, the social information processing model is compatible with the two major theories of aggression and is also supported by many studies.

Dodge (1986a) has reviewed the research by following the aforementioned steps. For the encoding step, it has been found that aggressive boys are more likely to respond quickly without paying attention to other relevant cues and also selectively recalling hostile cues (Dodge & Newman, 1981). As for the interpretation step, research has shown that aggressive children tend to have an attributional bias, that is, they interpret ambiguous provocation stimuli as a hostile intention (Dodge, 1980; Milich & Dodge, 1984; Nasby, et al., 1979; Steinberg & Dodge, 1983). The study by Dodge and Newman (1981) has also shown a strong biased connection between these two (the encoding and the interpretation) steps. When aggressive boys quickly respond to social cues, they attribute a hostile act in the situation where the clues suggest something different.

Relating to the process of response search and response decision, Rubin and Krasnor (1986) have stated that socially maladjusted (withdrawn or impulsive/aggressive) children seem to generate fewer solutions on the problem solving tests which were invented by Spivack and his colleagues (1974, 1976). Some studies (Asarnow & Callan, 1984; Richard & Dodge, 1982) have supported Rubin and Krasnor (1986), but some have not (Gouze, 1987; Neel, Jenkins & Meadows, 1990). Although the number of solutions is positively related to a child's prosocial behaviors (Mize & Cox, 1990), the difference in the number of generated solutions between aggressive and nonaggressive children appears not to be conclusive. Dodge (1986a) has suggested

that the quality rather than the quantity of the generated solutions distinguishes aggressive and nonaggressive children. In fact, it has been found that aggressive boys generate more incompetent solutions than nonaggressive boys (Richard & Dodge, 1982; Asarnow & Callan, 1984). The research has also shown that aggressive children expect their aggressive response to work effectively and do not consider the negative outcome of aggression (Boldizar, Perry & Perry, 1989; Perry, Perry & Rasmussen, 1986). For the enactment process, research has shown that children's role-taking skills and communication skills are positively related to their popularity (Gottman, Gonso, & Rasmussen, 1975; Rubin, 1972).

The model assumes that this five-step process occurs very quickly and frequently at a nonconscious level (Dodge, 1986b). It also assumes that the child's social information-processing skills are domain-specific. Although research has shown a hostile attributional bias by aggressive children in peer-interaction situations, a recent study has shown no such bias in teacher-interaction situations (Trachtenberg & Viken, 1994). Another assumption is that skills involved in each process are acquired over time through learning (Dodge, 1986b).

Furthermore, the model assumes that each step can be assessed independently (Dodge, 1986b). Although it is important to assess the aggressive children's incompetent cognitive processing at any step of the information processing model, the second step, interpretation, seems to be extremely critical because response search and response decision processes are based upon such interpretation. Dodge (1986a) has stated that responses of children were generated more as a product of their interpretation of the stimulus rather than the actual qualities of the stimulus. His

statement has been empirically supported. Children who interpreted an ambiguous provocation cue as hostile tend to generate an aggressive response more often than children who made a benign interpretation (Dodge, 1980; Dodge, et al., 1984).

Feshbach (1974) has also stated that the attribution of intent is one of the significant parameters of cognitive measures regulating aggressive motivation. He has cited the result of a study indicating that aggression is much more strongly related to the perceived intentionality of an aggressor in inflicting shock than to the absolute amount of shock inflicted (Nickel, 1972 cited in Feshbach, 1974).

Dodge (1986a) has reported that research on this interpretation process is the largest category of social cognitive development research. In the next section, the literature on the attributional bias of aggressive children will be reviewed.

#### Research on the attribution of intention

The first study investigating aggressive boys' attributional bias was conducted by Dodge (1980). This study examined the hypothesis that aggressive boys are more likely than nonaggressive boys to attribute a peer's intention as hostile and, therefore, more likely to choose to respond aggressively to that peer. In this study, aggressive and nonaggressive boys were chosen from among 2nd-, 4th-, and 6th-graders through the process of peer nominations and teacher ratings. They were then presented with a hypothetical story in which a negative outcome was evoked in the subject by a peer, but the peer's intention was ambiguous. The boys were asked to describe how that event might have happened and how they would respond if the incident had actually happened to them. The results supported the proposed hypothesis. Aggressive boys



interpreted the peer's intention as hostile 50% more often than did nonaggressive boys. When a hostile intention was attributed to the peer, the boys in both groups responded aggressively in 60% of the cases, whereas when a benign intention was attributed to the peer the aggressive response was 26%.

In order to further explore the nature of attributional bias among aggressive boys found in the above study (Dodge, 1980), Dodge and Frame (1982) extended their original study. The subjects in this extended study were chosen from among kindergarten through 5th-graders. The subject's aggressive/nonaggressive status was determined using the same method as in the original study (Dodge, 1980). In this study, hypothetical stories in which a peer provoked a negative outcome directed to another peer was added to the original ones. In addition, half of the hypothetical stories had ambiguous outcomes which could be interpreted as negative, neutral, or positive. Furthermore, the aggressive status of the instigator in the story was also manipulated. The results revealed that only when the outcome was directed toward themselves, did aggressive boys make more hostile attributions than nonaggressive boys. There were no differences between aggressive and nonaggressive boys in terms of the status of the instigator or the outcome valence. Both aggressive and nonaggressive boys attributed more hostility to a peer when the peer was aggressive or when the outcome was negative.

Furthermore, Milich and Dodge (1984) compared the hostile attributional bias of hyperactive/aggressive boys and normal (control) boys. They found that hyperactive/aggressive boys attributed hostility to a peer in ambiguous provocation stories more often than did the control group. However, this difference was significant

only when they were asked using an open-ended question format. When a forced-choice question format was used, the significant difference disappeared.

Instead of hypothetical stories, Steinberg and Dodge (1983) used an actual incident to assess children's attributional bias. Subjects in this study were boys and girls from 6th through 8th grades who had been categorized as aggressive or nonaggressive through peer sociometric interviews (peer nominations). Children were tested in same-sex pairs in a laboratory setting. They were told that they were going to compete with the paired partner in block-building. Before being awarded a prize, each child saw that some part of his/her completed structure had been knocked down and his/her paired partner was building his/her own at the next table. After the child's response to that incident was heard, he/she was asked whether the partner did it intentionally, accidentally, or not at all. In actuality, the partner did not touch the structure at all, and it had been broken by an experimenter before he/she started building his/her own. The results were consistent with the studies utilizing hypothetical stories; both male and female aggressive children made hostile interpretations more often than did nonaggressive ones.

Using still another method, Nasby, et al., (1980) also found a strong positive association between aggressiveness and hostile attributional bias among emotionally disturbed boys ages from 10 to 16 years old. Using the short form of the Profile of Nonverbal Sensitivity (PONS) Test (Rosenthal, Hall, DiMatteo, Rogers, & Archer, 1979) to assess ability to correctly identify social stimuli for a specific situation, results indicated that the more aggressive the child, the more often he mistakenly endorsed negative-dominant interpretations.

Dodge, et al., (1984) also developed a new measure to assess children's attributional bias, by eliminating a possibly confounding variable (verbal skills) found in previous measures. They developed videotape vignettes of two children in a social interaction situation. In each videotape vignette, one child provoked a negative outcome accidentally, or with either hostile, prosocial or ambiguous intention. These intentions were clearly indicated by a child's verbalizations and facial expressions. In one condition (vignette), a child was merely present without doing anything but he/she was blamed for the negative outcome.

These videotaped vignettes were presented to eighty-five girls and ninety-one boys from kindergarten, 2nd and 4th grades. These children were asked to verbally identify the actor's intention in the vignettes and to select one vignette which depicted a different intention from the other two. Based on the scores from the sociometric interviews (frequencies of nominations), the children were grouped into four groups: popular, average, socially rejected, and socially neglected. Results indicated that the socially rejected and socially neglected children were deficient in their intention-cue discrimination skills compared to popular children. These children also made more errors than socially competent children in identifying prosocial and accidental intentions by identifying those intentions as hostile. Thus, the results of this study are consistent with those of previous studies.

In a later study by Dodge and Coie (1987) two different types of aggression were identified: reactive aggression and proactive aggression. Reactive aggression is aggressive behavior displayed "as a defensive reaction to a perceived threatening stimulus" (Dodge & Coie, 1987, p. 1147). This type of aggression is identical to that

defined on the basis of frustration-aggression theory. Proactive aggression, however, is aggressive behavior displayed "as a viable means of reaching some specific positive outcome" (Dodge & Coie, 1987, p. 1147). This type of aggression is identical to those identified in the social learning theory of aggression. Dodge and Coie (1987) hypothesized that hostile attributional bias is more closely related to reactive aggression than to proactive aggression. The hypothesis was supported by a study of African-American boys from first and third grades. In this study, boys were divided into socially rejected and socially accepted groups through a peer nomination method. Boys in the socially rejected group were then classified as reactively aggressive, proactively aggressive, and nonaggressive. To assess the intention-cue detection skills of the subjects, a method similar to the previous study (Dodge, et al., 1984) was used. The results revealed that children in the reactive-aggressive group made more errors of presumed hostility, made more hostile attributions on ambiguous stimuli, and also tended to generate more aggressive responses to those stimuli than children in the other two groups.

Lochman (1987) in his investigation, further explored whether the attributional biases formed among aggressive boys occurred in their actual social interactions with their peers. After a brief competitive discussion with the partner, boys from 4th and 5th grades rated their partner and themselves in terms of aggression and verbal dominance. Later research assistants observed these children's interactions through videotapes and rated them as did the children. Scores of self-perception and peer perception were the differences in the ratings between the research assistant and the boys. The difference between these two scores (self-perception and peer perception)

was also calculated to indicate the perception of relative responsibility. The boy's aggressive status was decided via teacher's ratings, and an independent classroom observation score. The boys' aggressive status in a dyad was manipulated as follows; an aggressive or nonaggressive boy with a similar-status peer, and an aggressive or nonaggressive boy with an opposite-status peer. The results indicated that the difference in self-perception and peer perception between aggressive and nonaggressive boys was significant only in the opposite-status dyad, and only in terms of aggression. The aggressive boys tended to underestimate their own aggressiveness, whereas nonaggressive ones tended to underestimate their peer's aggressiveness. In the opposite-status dyads, 50% of the aggressive boys rated their partner more aggressive than themselves, and remarkably only 17% of nonaggressive boys did so. Thus, an aggressive boy's attributional bias is also clearly seen in actual social interactions.

Hostile attributional bias has also been found among high school subjects. Slaby and Guerra (1988) compared adolescent antisocial offenders and high-school (11th or 12th grade) students in terms of social problem solving skills and beliefs supporting aggression. Antisocial-aggressive subjects were drawn from adolescents incarcerated in a state juvenile correctional facility. High-school students were classified in high- and low-aggressive groups based on teacher ratings. The Interpersonal Problem Solving Analysis measure (Marsh, 1982) was used to assess their social problem-solving skills. The results revealed that antisocial-aggressive adolescents were more likely to define the problem in a hostile manner than were high- and low-aggressive high school students. High-aggressive high school students

were also more likely to define a problem in hostile terms than low-aggressive ones. Results obtained also indicated gender differences in hostile problem definition. For males, the antisocial-aggressive and high-aggressive groups did not differ from each other, but both were significantly different from the low-aggressive group. For females, however, the antisocial-aggressive group was significantly different from the high- and low-aggressive high-school groups, which did not differ from each other. This suggests the difficulty of detecting hostile attributional bias among a normative female sample. However, it also suggests that cognitive bias does exist among female subjects who are extremely aggressive (antisocial aggressive).

Thus, the research consistently indicates that a hostile attributional bias exists among aggressive children and youths, especially boys. This kind of research, however, has concentrated on school-aged children and has not been extended to younger children, including preschoolers. The youngest subjects of the series of studies by Dodge and his colleagues were kindergartners. Uncertainty about the cognitive abilities of young children to understand causality may be one reason why research at the younger ages has been sparse. Detecting attributional bias among aggressive children is based on the assumption that children are capable of understanding cause and effect relations among human behaviors, and also capable of discriminating between intentional from unintentional acts. In the next section, the literature review, therefore, focuses on preschoolers' understanding of causality and intentionality.

### Understanding causality and intentionality among preschoolers

Piaget (1926) has postulated that young children's causal reasoning is different from that of adults. Young children's "causal explanation and logical justification are still entirely identified with motivation" (p. 181). Young children think that everything has intentions, which is sometimes manifested as animism or artificialism. Therefore, young children tend to overattribute intentions in interpreting physical phenomena and human behaviors. Piaget (1926) has named this cognitive limitation as precausality and explained it as an indication of the egocentrism of a child's thought. According to Piaget (1926), when egocentrism disappears (i.e. between 7 and 8 years old), precausality also disappears.

Consistent with Piaget (1926), Weisz (1980) found that kindergartners perceived the noncontingent outcome as contingent. In his study, kindergartners and 4th graders were compared in their explanations and attributions of high or low winnings at the card game in which winning or losing was completely noncontingent. Results indicated that none of the kindergartners gave responses reflecting noncontingency on unstructured questions. On structured questions, unlike most fourth graders, kindergartners revealed their belief that age, practice, and intelligence affected the winnings of this totally noncontingent game.

Bullock, Gelman and Baillargeon (1982), however, have questioned Piaget's claim on theoretical and methodological grounds. They reviewed the literature on children's causal reasoning and concluded that children and adults have basically the same causal reasoning principles such as determinism, priority, and mechanism. They argued that the differences that existed between adults and children "arise not because

the child and adult think about things in fundamentally different ways, but because the child's thought was more constrained by context, complexity, and verbal demands, limiting the scope and flexibility with which the child can apply his or her knowledge" (p.251).

Bullock (1985) also reported that the literature on young children's causal reasoning indicated that adult-like causal principles were shown among children of 4 or 5 years of age. In the experiment by Bullock and her colleagues, findings revealed that although the older preschoolers (the 4- and 5-year-olds) did have conceptual structure of causal mechanism, the younger preschoolers (the 3-year-olds) did not. However, the 3-year-olds did not attribute psychological reasons such as will, intention, or desire in explaining the change of the ball's trajectory (Bullock & Kampman, 1983 cited in Bullock, 1985).

Thus, Piaget's claim that children before 7 or 8 years old are precausal seems to underestimate young children's cognitive capacity. Preschoolers seem to understand causality in a way similar to adults. The literature reviewed so far, however, does not focus specifically on children's understanding of intentional or accidental behaviors, which will now be reviewed.

Miller & Aloise (1989) argued that understanding intentionality was related to the child's general cognitive development. According to them, since children at an age prior to the concrete operational stage (about age 7) do not understand the concept of chance and probability (Piaget & Inhelder, 1975), young children cannot distinguish intentional from accidental acts. However, Kuzmak and Gelman (1986) have obtained results contradictory to those of Piaget and Inhelder (1975). They found that children



as young as 4 years old could understand the physical nature of random phenomena, and the unpredictability of their outcomes.

In children's development of moral judgement, Piaget (1932) observed that young children judge an actor's naughtiness based on the consequence of the actor's action (objective responsibility) rather than intentionality (subjective responsibility). According to Piaget's paradigm, the emergence of subjective responsibility does not occur until children are about 7 or 8 years of age. Children younger than 7 or 8 years of age do not understand intentionality correctly.

However, Keasey (1977) has pointed out the limitations of this interpretation, and argued for the importance of a separation between the child's awareness or understanding of intentionality and his/her application of it to moral judgement. He emphasized another part of Piaget's observation, indicating that by age three or four, children are aware of the difference between actions done on purpose and not on purpose. He also reported a finding that when eliminating consequences as a variable when contrasting an accident with an intended action in presented material (story), over half of the 5-year-olds correctly distinguished an intentional from an unintentional act (Morrison & Keasey, cited in Keasey, 1977).

It appears that children younger than 7 or 8 years old can distinguish between intentional and accidental actions. However, preschool children's ability to differentiate intentional and accidental actions still seems uncertain. For example, King (1971) found that preschoolers did not distinguish intentional from accidental actions very well, but kindergartners and third-graders did. Children's ability to distinguish between an intentional and an accidental act was assessed via children's

interpretation of a film portraying sequences of four actions; accidental (e.g. two boys are running and one trips) neutral outcome, accidental negative outcome, intentional (e.g. one boy tackles the other) neutral outcome, and intentional negative outcome. The results showed that the ability to discern intention from accident improved enormously in the period between preschool and kindergarten, and by the 3rd grade, children could clearly distinguish them. Thus, he concluded that preschoolers were not able to clearly distinguish between intentional and accidental acts.

Smith (1978) also studied young children's intention judgements in the physical movement of human beings and found similar results. In his study, 4-, 5-, and 6-year-old children watched videotape sequences of voluntary actions such as walking, sitting, etc., involuntary actions such as sneezing, yawning, etc., and object-like actions, such as being pushed along by a moving cabinet, etc. After confirming their correct perception and recollection of the videotape, children were asked to judge whether or not the act was intentional. The 4-year-olds generally judged the voluntary, involuntary, and object-like movements as intentional. Five- and six-year-olds, however, judged involuntary and object-like acts as unintentional.

On the other hand, a recent experimental study revealed that children as young as 3 years of age could distinguish intended actions from mistaken actions (Shultz, Wells, & Sarda, 1980). Shultz, et al. (1980) tested children in triads. In the first session, Child A was engaged in tasks and was asked about his/her intention. For example, a shiny penny and a dull penny were presented in front of the child. After ensuring that the child notices the place, the child was asked to close his/her eyes and pick up the shiny penny with eyes closed, which every child did correctly. The child

was then asked whether he/she meant to pick up the shiny penny. Next, the child was asked to do the same task with a set of prism glasses which distorted his/her vision. In this trial, when the glasses were removed, the child noticed that he/she picked up the dull penny mistakenly. The child was again asked whether he/she meant to pick up the dull penny. Four of these kinds of tasks were done by Child A. In the second session, Child B and Child C were invited to the room. Child B (agent) did the same tasks as Child A did in the first session, Child C observed the agent and was asked about the agent's intention while the agent kept quiet. In the third session, Child A observed Child B and was asked about the agent's intention. Thus, in this experiment, children observed their peer's actual behaviors and judged his intentionality as an experienced or inexperienced observer. Subjects in this experiment were 3, 5, and 7 years of age. The results showed that children at all three age levels were able to accurately distinguish intentional from mistaken actions even when they were inexperienced observers.

Using social interaction stimuli, Berndt and Berndt (1975) also found that preschool children understood the accidental/intentional distinction, but still were less accurate in their judgements than older children. Children of preschool, second, and fifth grade levels were presented videotapes and stories which illustrated a boy injuring another boy intentionally or accidentally with either a good or bad motive. Then, they were asked a direct question to assess their judgement of intentionality: Did the actor injure the victim "on purpose"? The results indicated that 50% of the preschoolers significantly judged intentionality correctly in both instrumental aggression and accidental incidents. Although preschoolers responded correctly to the

instrumental aggression film as often as did older children, they made more errors on the accidental and altruism films.

Thus, although kindergartner's understanding of the intentional/accidental distinction appears clear, among preschoolers this is not the case. However, these equivocal findings may be due to the different methodology used. For instance, in King's (1971) study, the question used to assess children's understanding of intentionality was open-ended, such as "What happened?" or "Why did it happen?". Whereas, in Berndt and Berndt's (1975) study, the question was more direct, including "Was the act done on purpose?". In Smith's (1978) study, the stimulus materials required the child's knowledge about human physiology to produce correct answers. The stimulus of object-like actions used in such a study appeared ambiguous with respect to judging the intentionality, even when it was used with adult subjects. In Shultz et al.'s (1980) study, however, children were not required to have any special knowledge. The stimulus materials in this study were very concrete, since the behaviors judged were displayed in front of the subjects.

Considering these points, it seems that when stimulus materials are unambiguous and do not require a child to have special knowledge, and the question asked to a child is direct, a preschool-aged child is able to understand the intentional/accidental distinction. Therefore, an aggressive child's attributional bias is also to be expected among preschool age children.

## Parents' Cognition and their Children's Aggression

### Parents' and their child's attributional styles

Where does an aggressive child's attributional bias come from? Social learning theory (Bandura, 1977) tells us that the attributional style, like other social behaviors, is learned from parents, siblings, teachers, and peers. There are some studies which suggest that children can learn from their teachers and mothers how to interpret the events that have happened in their lives.

Observation studies of 4th- and 5th-grade classrooms by Dweck and her colleagues (1978) showed that teachers often attributed boys' failures to lack of motivation, but this was not so for girls' failures. The negative feedback from teachers to girls tended to be specifically related to girls' intellectual failure, whereas the negative feedback to boys' failure tended to be more diffused. The researchers suggested that these feedback patterns provided by teachers promoted helpless attributional style in girls and a confidence-maintaining attributional style in boys.

In reference to studies on depression, Seligman and his colleagues (1984) found a direct association between a mother's composite attributional style for negative events and that of her child's (ages from 8 to 13 years old). A mother's attributional style was also correlated with her child's depressive symptoms. A father's attributional style, however, was not related to his child's attributional style. In another study of children's adjustment and achievement at school, significant correlations between the parents' explanatory style and their child's classroom performance were found (Belt & Peterson, 1991). Parents who attributed negative

events to internal, stable, and global causes tended to have a child who was less socially adjusted and achieved less academically. Belt & Peterson (1991) stated that "parental beliefs about the causes of events are transmitted to and internalized by children, who then act according to these beliefs, living up (or down) to them" (p. 332).

In the area of aggression, however, not much research has been done investigating the relation between parents' attributional styles and those of their children or their children's aggressive behavior. Only a few studies were found which investigate the difference in the attributional style between mothers of aggressive boys and those of nonaggressive boys. Dix & Lochman (1990) conducted research on this issue using mothers of boys aged from 9 to 15 years old who were in treatment for aggressive behavior and conduct disorders and mothers of boys of average or below average aggression based on peer nominations. Subjects watched a videotape depicting mother-son interactions which started with the mother's pointing out the boy's behavior problem, followed by his negative behaviors, and the mother's reaction to those behaviors. Subjects' (mothers) attributions were assessed in terms of intentionality, disposition, and responsibility of the child's behavior. Subjects' evaluation of the mother in the video, the mother's responsibility, and their affect after watching the video were also assessed. Results indicated that mothers of aggressive boys judged the child's behavior in the videotape to be more intentional and more dispositional than mothers of nonaggressive boys. After excluding three mothers of older aggressive children, which made the between group difference in the child's age disappear, a tendency for mothers of aggressive boys to attribute more responsibility to

the child's behavior in comparison to mothers of nonaggressive boys was found. It was reported that mothers of aggressive boys were more upset with the child's behavior in the video than control mothers. Although they did not assess the child's attributional style in this study, inferring from the previous findings on an aggressive child's attributional bias (Dodge, et al., 1984; Lochman, 1987), Dix and Lochman (1990) concluded that an aggressive child's attributional bias was acquired in part from home environments in which parents frequently used negative attribution to interpret negative happenings.

Another recent study done by Strassberg (1995) also found similar results. In this study, 20 mothers of boys (average age of 8) with clinical-level problems of noncompliance and opposition toward the parents and 20 mothers of boys within a normal range of compliance were examined. The mothers watched videotaped vignettes displaying social interactions between a female adult and a male child. The script of the vignette involved a child engaged in play being told by an adult to stop playing the activity, and to prepare for another activity. The child's response to the adult's direction was manipulated in four different level of compliance: compliance, bargaining, complaining, and oppositional defiance. The mothers were instructed to imagine that the vignette was actually happening to them and their child at home, and that the child's compliance was very important for them. After watching the video, mothers were assessed in terms of attributions of cooperative intent, defiant intent, expectations of resistance, and levels of anger and anxiety. Results indicated that mothers of behavior-problem boys demonstrated more negative attribution and more anger than mothers of average boys only in response to vignettes showing moderate

levels of compliance; bargaining (related to cooperative intent) and complaining (related to expectations of resistance). Mothers of behavior-problem boys also showed significantly more negative expectation, anger, and anxiety than did mothers of average boys.

There is also another study suggesting a relationship between the child's attribution and his/her mother's. A study conducted by Pettit, Dodge, & Brown (1988) did not involve a child's attributional style specifically but social problem solving skills. The results of this study using preschool children from economically distressed background indicated that mother's hostile bias regarding her child's behavior and her endorsement of aggression as a solution to interpersonal problems predicted the child's lower level of social problems solving skills. Using the same stimuli as those in Dodge et al's attribution study (1984), they asked the child how he/she would react if it happened to him/her, instead of asking the child the intention of the instigator in the videotape. In order to reach competent social problem solving, the child had to attribute the intention appropriately, according to Dodge's information processing model. Therefore, the measure of social problem solving skills in this study included the child's attributional bias; implying an association between the mother's attributional bias and her child's. From these few studies, a direct relationship between an aggressive child's attributional bias and his/her mother's is expected in the present study.

There is another process through which parents' attributional style affects children's aggression. As the social information processing model (Dodge, 1986a) indicates, how parents interpret their children's behaviors, especially negative ones,



alters their responses to their children, which may encourage children's aggressive behavior. Dix, Ruble, & Zambarano (1989) have proposed that parents' social cognition - attribution of the child's responsibility for a specific behavior affects their discipline preferences (parenting). In the next section, the literature related to this issue will be reviewed.

### Parents' attribution of the child's behavior and their parenting

A direct relationship between parents' attribution of their child's negative behavior and their negative reaction to their child has been reported in research on child abuse. For example, Larrance and Twentyman (1983) found that abusive and neglectful mothers attributed negative behaviors of their own child to more internal and stable causes than did nonabusive mothers. Also, Golub (1984, cited in Baden & Howe, 1992) found that abusive parents generally perceived their child's misbehavior as more purposeful, and this perception was related to the degree of anger they expressed and the severity of their punishment.

Baden & Howe (1992) also found similar attributional styles among mothers of conduct-disordered adolescents. These mothers tended to attribute the child's misbehavior to be intentional, stable, and out of their control. These attributions were related to the belief that contingent reinforcement, withdrawal of positive reward, and punishment were effective techniques to use in controlling their own children's behaviors.

Among non-clinical mothers, Dix and his colleagues (1986) found that negative affect among parents of various age group children was related to their dispositional

and intentional attributions for their child's misconduct. They suggested that it was not only what the child did (misdeed), but also the inference about why he/she did it (i.e., whether the child's misdeed was dispositional, intentional, or controllable), that was critical to parent's emotional reaction. Another study of mothers of children from preschool to sixth-grade indicated that mothers who attributed a high degree of competence and responsibility to their child in the attribution questionnaire tended to be more upset, responded with greater sternness and disapproval, and favored punishment more frequently than did mothers who gave a low rating for their child's competence and responsibility (Dix, et al., 1989).

Thus, there is ample evidence to assure a direct link between mother's attribution of specific behaviors displayed by her own children and her affect and behaviors toward her own child. However, a more general attributional style of parents does not necessarily have the same function. Bugental (1987) has proposed a transactional model which states that attributional style plays a moderating role in the reciprocal interaction between parents and their children. In the next section, this model will be reviewed in more detail.

#### Moderating effect of parents' attributional style

Bugental (1987) has stated that although some studies indicated a direct relationship between the external causal attribution and employing power-assertive control (coercive) strategies, such a relationship is often weak. Therefore, "attributions are better understood as moderating the effect of adults and children upon each other than as directly influencing behavior" (Bugental, 1987, p. 472). Bugental and

Shennum (1984) showed the moderating effect of the attribution of mothers on their behavior toward children. Mothers who attributed the successful outcome of interaction with children to luck rather than their ability, perceived unresponsive children as more difficult and reacted in a way that encouraged these children to maintain their unresponsiveness. On the other hand, mothers who attributed interaction success to their ability reacted to unresponsive children in a way which stimulated responsiveness. To responsive children, the difference in the mother's attribution did not produce any effect on their reaction.

A similar result (moderating effect of attributions) was also found in an experimental study of college students (Sacks & Bugental, 1987). In this study, the effect of a helpless attributional style, that is, attributing negative events to internal, stable, or global factors and positive events to external, stable, or specific factors, was examined in circumstances of social interactions with a child. The circumstances were manipulated using an unresponsive or responsive confederate (child). It was shown that compared to women with a nonhelpless attributional style, after the interaction with the unresponsive confederate, women who had a helpless attributional style became more depressive and hostile, and also exhibited more negative behavior during the interaction. However, in the interaction with the responsive confederate, such differences were not found.

Recently, Bugental, Blue, & Cruzcosa (1989) created a composite score of attribution of caregiver failure to self-power and child-power, which is called perceived balance of control over failure (PCF). They investigated the predictive value of this score for abusiveness and found that mothers who had low PCF scores

(i.e., low perceived control by self and high perceived control by children over caregiver failure) were more likely to be abusive and also more likely to show a high degree of coercive but nonabusive caregiving. This tendency was most remarkable in their reported interaction with their child who was perceived as difficult.

Another study (Bugental et al., 1993) which used the composite score also showed that women who had low PCF scores reported a greater negative affect to a computer-simulated unresponsive child than women who had high PCF scores. These women also decreased the duration of their positive feedback given to the unresponsive child (computer simulation) during training. However, to the computer-simulated responsive child, these low PCF women showed relatively positive affect and increased the duration of their positive feedback.

Thus, the same behavior of the child (unresponsiveness) is altered by the attribution of the adult, which influences the adult's subsequent affect and behavior. The effect of the attributional difference, however, appears only when facing some challenges. Bugental's following statement clearly explains the model in a practical way. "Negative affective consequences occur only when caregivers with a 'low-power' attributional style are confronted with difficult children. The same caregivers may be excellent parents with responsive, 'easy' children" (Bugental, 1987, p. 479). The "self-power" scale measures the importance of own ability (internal, stable) versus own luck (external, unstable) as contributors to success of social interactions with a child (Bugental & Shennum, 1984). Including the results of Bugental et al.'s recent studies, the "low-power" attributional style is understood as the attribution of low self-

credit for positive caregiving outcomes and low self-blame with high child-blame for negative caregiving outcomes.

Although the functional process of general attribution (attribution of caregiving outcome) and specific attribution (attribution of own child's negative behavior) is a little different, it appears reasonable that parents' attributional styles have an influence on their affect and behaviors. In order to make a connection between the attributional style of parents and their child's aggressive behaviors, a direct relation between parents' affect and behavior produced by their attribution and their child's aggression has to be established. The next section will be devoted to reviewing research related to this issue.

### Parenting Practices and Children's Aggression

#### Parental affect and behavior related to a child's aggressive behavior

Over the years, much research has been done to understand the relationship between parenting practices (parents' affect and behaviors) and their child's development. An old study (Watson, 1957) revealed some personality differences between children reared in a strict home environment and those reared in a permissive one. As for items relating to aggression, the study showed that more hostile feelings toward others were evident in children from strict homes. It also showed that teacher-rated activity levels were higher for children who came from stricter homes. This study suggested that strict parenting was somehow related to children's aggression.

Studies of both antisocial behavior of delinquents and general aggressiveness among nondelinquent samples indicate that parental rejection, punitiveness, and inconsistent parenting characterized the backgrounds of delinquents and of aggressive boys (McCord, et al., 1963). For example, after conducting intensive interviews with 379 mothers of kindergartners, Sears et al. (1957) found that maternal coldness and harsh physical punishment were associated with high aggressiveness among children, and permissiveness for aggression contributed to the continuation of children's aggressive behavior. Since all these findings were based on correlations, the causality of these parental variables are not convincing. As a matter of fact, the authors stated that "It is entirely possible that the correlation could be explained as a parental response to a child's pre-existing temperament" (p. 261).

Inspired by Sears et al.'s study (1957), Olweus (1980) investigated familial and temperamental factors in children's development of aggressive behavior. Such a study of Swedish adolescent boys revealed the following causal effects on boy's aggression: the mother's negativism, which was correlated with her boy's temperament not only directly affected the boy's aggression but also affected both the mother's permissiveness for aggression and the mother's and the father's use of power-assertive methods, which led to the boy's aggression. The boy's temperament also had a direct effect on his aggression and an indirect effect through his mother's permissiveness for aggression. Thus, this study implied the presence of reciprocal relationships between parental variables and the child's temperament in the development of aggression.

Patterson's (1982) family coercive model also assumes the interdependency between behaviors of family members (especially parents) and those of an aggressive

child. According to this model, most children learn a variety of aggressive behaviors by the age of five and use those to control family members. These "aversive behaviors serve as stimulus events in punishment and/or negative reinforcement arrangements" (Patterson, 1976, p. 269), thus, the coercion cycle is established. Once the cycle is established, "poor" parenting (negative affect and behaviors) has the effect on accelerating the child's coercive behavior and continuing the cycle.

Although the reciprocity of the interaction of parents with their child does not assure a pure causality of the negative affect and behaviors of parents for their child's aggression, their association is irrefutable. Therefore, an indirect effect of parental attributions on a child's aggression through the affect and behaviors of parents seems plausible. Applying Bugental's model to the interaction of an aggressive child with his/her parents, parental rejection, punishment, and permissiveness for aggression, which are strongly related to the child's aggressive behaviors, could be the result of the combination of parent's attribution and an aggressive child (a difficult child). Mothers who have the attributional style of low self-credit for successful caregiving or high child-blame for unsuccessful caregiving and have an aggressive child, may react in a way which encourages aggression, such as, negative affect, physical punishment, or permissiveness for aggression.

#### Parental affect and behavior related to a child's social cognition

Several recent studies have suggested an association between maternal behaviors and the social cognitive development of children. Putallaz (1987) found significant correlations between maternal behaviors and their 1st-grade children's

social knowledge. In this study, mother-child interactions were observed in a laboratory setting and then coded. The mother's behaviors were categorized into three factors through factor analysis; 1) "agreeable/feeling" which includes a high degree of agreement and high "you and me" feeling, 2) "disagreement" which includes disagreements, squabbles, and weak demands, and 3) "questioning" which represents the mother's tendency to ask her child questions. The child's social knowledge was measured by rating his/her responses to hypothetical social problem situations with respect to relationship enhancement (trying to maintain a positive relationship with others) and assertiveness (being active and attempting to maneuver toward their preferred results). Although the author called this variable social knowledge, it actually represented the child's problem solving skills. The correlation analysis indicated that the agreeable/feeling factor of a mother's behavior was positively related to her child's relationship enhancement and assertiveness, whereas the disagreement factor was negatively related to the child's relationship enhancement problem solving. Weiss, Dodge, Bates, & Pettit (1992) also found that harsh physical punishment and restrictive discipline by parents were positively related to their kindergartner's bias of information processing which included hostile attributional bias. These studies empirically supported the association between parents' parenting behavior or affect and children's attributional bias.

Based on the above literature review, a conceptual model for this study was constructed (see Figure 2.1). Children's hostile attribution is directly related to their aggressive behaviors. As sources of children's hostile attribution, mothers' attribution of their own child's misbehavior (specific attribution), negative affect and parenting



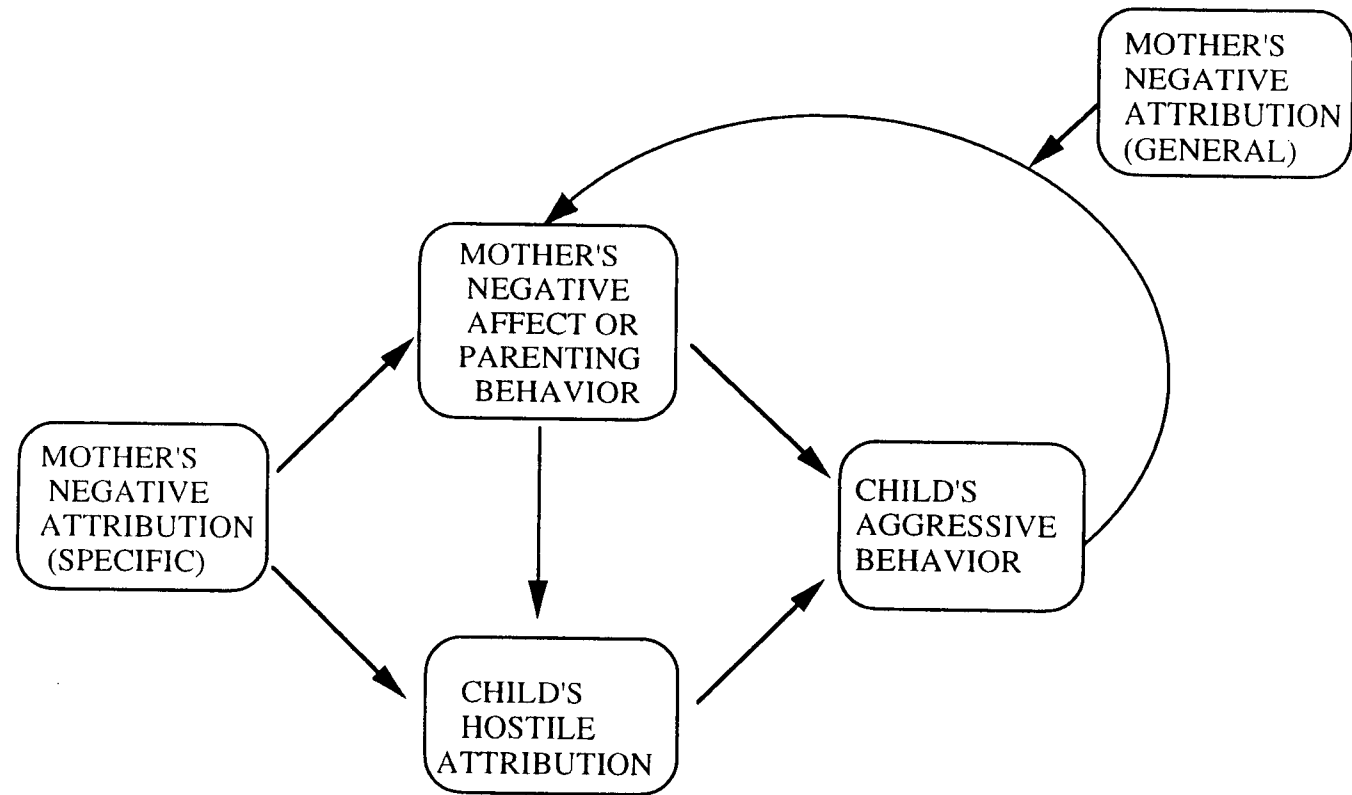


Figure 2.1 Conceptual model for the study

behavior have direct effects on their children's hostile attribution. At the same time, mothers' negative affect and parenting behavior are directly related to their children's aggressive behavior. Taking account of reciprocity of the relationship between mothers' negative affect or parenting behavior and their children's aggressive behavior, mothers' low-power attributional style of caregiving outcomes (general attribution) has a moderating effect; mothers' general attribution makes differences in their affect and parenting behaviors only when they have an aggressive child. This moderating effect then contributes to the continuation of negative reciprocity.

According to this model, the following six hypotheses are proposed:

- 1) Mothers who attribute their own child's misbehavior to be intentional or responsible (specific negative attribution) are more likely to manifest negative affect and negative parenting behaviors toward their own child than are mothers who do not attribute in this way.
- 2) Mothers who attribute their own child's misbehavior to be intentional or responsible (specific negative attribution) are more likely to have a child who has a hostile attributional bias than do mothers without such an attributional style.
- 3) Mothers who report more negative behaviors and negative affect toward their own children in their parenting practices are more likely to have children with a hostile attributional bias than are mothers who report less negative affect and fewer negative behaviors toward their children.

- 4) Mothers who display negative behaviors and negative affect toward their own child in their parenting practices are more likely to have an aggressive child than are mothers who do not display negative behaviors and negative affect.
- 5) Aggressive preschoolers are more likely to possess a biased attributional style in interpreting a negative outcome of peer interaction than are nonaggressive ones. More specifically, they tend to attribute hostile intention to accidental negative happenings and negative outcomes in ambiguous situations (hostile attributional bias).
- 6) Mothers who possess the attributional style of low self-control and high child-control over hypothetical childcare failure (general negative attribution) are more likely to manifest negative affect and negative parenting behaviors toward their child only when their child is aggressive.

## CHAPTER THREE

### METHOD

#### Subjects

Subjects were all of the children enrolled at the OSU Child Development Center and their mothers. They were 72 children (42 girls and 30 boys) and 64 mothers. There were three pairs of siblings enrolled (one mother for each pair). One child lived with her father who had separated, therefore, obtaining her mother's information was impossible. Although none of the parents refused their child's participation in this study, four mothers did not return the questionnaire. The mean age of the children was 4.76 years ranging from 3.42 to 5.58 years. The mothers' average age was 33.5 years ranging from 22 to 45 years.

The OSU Child Development Center is a laboratory preschool setting which serves the community around Corvallis, Oregon. At the time of conducting this study, thirty children were enrolled in the Oregon Prekindergarten Program (OPP), a state funded early intervention program based on the Head Start model, for preschool children from low-income families. The rest of the children came from upper-middle and middle-class families. However, according to the Hollingshead's index of social status (1975), the subjects' socioeconomic status (SES) was relatively high on average with half of them coming from upper class families (see Table 3.1). Since the OPP enrollment was based on family income, there were several children whose parents were undergraduate or graduate students. Although these student parents had low income, their SES is high since the SES was computed taking into consideration their

educational level and future possible occupation rather than their income. The range, however, presents a diversity of socioeconomic classes. The subjects were also diverse in their ethnicity. The frequency distribution of the mothers' and fathers' ethnicities are shown in Table 3.2. The majority of the mothers were married, only five of them were single, either having never married or having separated. The frequency distribution of the mothers' marital status is presented in Table 3.3. The average number of children at home was 2.57.

### Measures

Seven different measures were used to collect the data for this study. One to assess a child's attributional bias, two to assess a child's aggressive behavior (i.e. parents' and teachers' evaluations), one to assess a mother's specific attributional style and affect, another to assess a mother's general attributional style, and still another to

Table 3.1

#### Frequency distribution of family socioeconomic status

Social class	Frequency (percentage)
Upper class	34 (50.7%)
Upper-Middle class	15 (22.4%)
Middle class	8 (11.9%)
Lower-Middle class	3 ( 4.5%)
Lower class	7 (10.4%)
Total	67 (100%)

Table 3.2

Frequency distribution of mothers' and fathers' ethnicities

Ethnicity	Mothers	Fathers
Caucasian	31 (49.2%)	31 (54.4%)
African American	0 (0%)	1 (1.8%)
Native American	5 (7.9%)	5 (8.8%)
Asian	8 (12.7%)	6 (10.5%)
Hispanic	8 (12.7%)	8 (14.0%)
Others	11 (17.5%)	6 (10.5%)
Total	63 (100%)	57 (100%)

Table 3.3

Frequency distribution of the mothers' marital status

Marital status	Frequency (percentage)
Never married	2 (3.1%)
Divorced	0 (0%)
Separated	2 (3.1%)
Married	54 (84.4%)
Remarried	5 (7.8%)
Other	1 (1.6%)
Total	64 (100%)

assess a mother's behavior in child rearing. Also, a demographic questionnaire was administered to each mother to obtain background data from them.

### Children's attribution

To assess the child's attributional bias, the intention identification task used by Dodge et al. (1984) was administered to the children. For this task, first videotaped vignettes were developed based on the procedures established by Dodge et al. (1984). Children were, then, assessed using this material.

Developing stimulus material. As a first step in developing the vignettes, twenty-one scenarios for the vignettes (see Appendix A) were created by the author in collaboration with an experienced preschool teacher. These scenarios were comprised of seven different story settings with three different intentions - hostile, accidental, and ambiguous. All settings consisted of diadic interactions between two children whose outcome was somewhat negative. Hostile intention was exhibited by an obviously deliberate harmful action with corresponding verbal and facial expressions. In the accidental setting, the child's unintentional destructive behavior was shown accompanied with a facial expression indicating surprise. The ambiguous setting displayed the child's harmful behavior without any verbalization or distinct facial expression.

As a second step in developing the vignettes, the scenarios were sent to three preschool teachers at the Child Development Center with a questionnaire asking them for their opinions about the scenarios (see Appendix B). The main purpose of this questionnaire was to make sure that these scenarios corresponded to everyday

happenings among preschool children. None of the teachers made objections to the scenarios. However, several suggestions were made relative to safety and ethical concerns when children were asked to act out these scenarios. These suggestions were given serious consideration in the third step of developing the stimulus materials.

In the third step, two boys (4 and 7 years old) and two girls (4 and 6 years old) were hired to act out the scenarios for making the videotaped vignettes. The purpose and procedures for developing the stimulus materials were explained verbally and by a letter (Appendix C) to the parents. After consent was obtained from parents of these four children, videotaping was conducted in a classroom and the playground of the OSU Child Development Center. At the beginning and the end of the videotaping sessions, children were debriefed and clearly told that this acting was just for making this "specific movie".

The children were directed on what to do in acting out each scenario, their acting was videotaped. The role of provoking a negative activity was interchanged randomly among the actors. For some scenarios, however, the same scenario was acted out twice, simply switching the roles. Although seven different story settings were created in the original series of scenarios, neither the boys nor the girls could satisfactorily act out the scenario in one setting, therefore it was eliminated from the scenarios. In total, forty-five videotaped vignettes (22 of girls and 23 of boys) were produced using the above procedures.

These videotaped vignettes were then presented to twenty-three undergraduates (3 males and 20 females) and eleven graduate students (4 males and 7 females) in order to determine the provocator's intentionality in each vignette. Nineteen of them



were American and fifteen of them were International students, resulting in norms used in this study that covered a wide range of cultures. Before watching the videos, the students were told to watch a specific child's behavior carefully and to judge the intentionality of that child. They were instructed to focus on the child's behavior, not on the child him/herself, and to classify whether the child's behavior was intentional, accidental or ambiguous for each vignette. The frequency of these three kinds of intentionality for each vignette was then computed. Results revealed that, among the 'intentional' vignettes, strong consensus was obtained. Nineteen of the intentional vignettes had an agreement of above 70%. For the 'accidental' or 'ambiguous' vignettes, however, the consensus was weak. Therefore, these two categories were combined to create a category of 'unintentional', which resulted in 18 of them having above 70% agreement. From these high-level-of-agreement vignettes, six intentional and six unintentional vignettes were chosen for the stimulus material used in this study, with separate stimulus materials for boys and girls. These six intentional vignettes had an agreement rate of at or above 79.4% for boy's, and at or above 94.1% for girl's versions. For the unintentional vignettes, three of them were assessed with a relatively high accidental weight (averaging 88.8% for boys and 81.2% for girls) and three had a relatively low accidental weight (averaging 62.5% for boys and 62.3% for girls). The accidental weight was calculated as the proportion of the people who had assessed each unintentional vignette as accidental. Two vignettes (one intentional and one unintentional) were added as practice tasks. One intentional vignette which had 100% agreement was placed first following the two practice ones. This vignette was used as a criterion of the child's understanding of intentionality. In

order to control for order effects, two types of videotapes were made. The order of the first four vignettes was the same for both sets of tapes; two practice (intentional and unintentional), one criterion, and one unintentional with the highest agreement. The order of the following eight vignettes were randomly assigned, thus, different for the two sets of tapes (Tape A and B).

Assessment procedure. During free-play time, an individual child was taken out of the classroom to a separate room where a TV and VCR were located. Three different rooms were used based on their availability. An experimenter, who was blind to the child's aggressive status, presented the videotapes to the child, asked questions about the provocator's intentionality in each vignette, and recorded the child's response. To make sure the child understood the vignette, prior to showing the video, the experimenter said to the child, "I want you to watch the video and tell me what happened in there". Following the child's answer, the experimenter continued with the question asking the child to determine the provocator's intention. For example, "Do you think the boy (girl) wanted to push the other boy (girl) or he (she) did not want to do it, but it just happened?" After the child answered, the experimenter rephrased the question again to confirm his/her answer. The wording of the question was interchanged depending on the child's language development (i.e., "Do you think the boy did it on purpose or it was just an accident?" or "Do you think the girl meant to do it?"). Following confirmation of the child's answer, the experimenter asked the child "Why do you think so?" to validate the child's answer. For this question, however, some children could not answer, saying "I don't know."

In such cases, the experimenter again confirmed the child's answer about the intentionality by asking, for instance, "Are you sure that he (she) did it on purpose?"

If the child could not tell what happened in the video at first questioning, the experimenter showed the child the vignette again asking the same question. If the child still could not determine what happened, which was rare, the experimenter explained to the child what happened, and confirmed whether the child saw that. The experimenter then followed the same procedures as described above. These procedures were repeated for each vignette shown to the children.

Some young children could not finish the fourteen vignettes at one session. In these cases, the same experimenter continued the task with the child on a different day. All of these children finished the task the second day. At the end of the task, the child was given two stickers as a reward.

Five children were tested by two Spanish speaking experimenters. One was an undergraduate student majoring in Spanish, and the other was a graduate student whose native language was Spanish. Besides these two, there were four experimenters including the author (principle experimenter). Three of them were undergraduate female students in the Department of Human Development and Family Studies. In order to obtain an estimate of inter-experimenter reliability for the vignettes, the same child was tested twice, once by the experimenters and once by the principle experimenter. An agreement between the experimenters relative to the child's answer was then computed. Average percentage of agreement on the 15 children was 81.5%. Test-retest reliability was computed in the same manner. Children were tested twice

by the same experimenter. The average rate of agreement over an interval of two weeks by the same experimenter was on average 79.75%.

Scoring. The proportion of intentions misidentified by the child was calculated as the child's attributional bias score. A higher score indicated that the child had an attribution that deviated more sharply from that of adults. Since this score did not indicate whether the bias was hostile or benign, the proportion of misidentifying unintentional cues as hostile and the proportion of the reverse misidentification (identifying intentional cues as unintentional) were calculated separately. The former proportion was used as the child's hostile attribution score and the latter as the child's benign attribution score.

#### Children's aggression

The level of children's aggressive behavior was evaluated by their mothers and teachers.

Mothers' rating. Mothers assessed their child's aggressiveness using the Child Behavior Checklist for Ages 2-3 (CBCL/2-3; Achenbach & McConaughy, 1987). The CBCL/2-3 was developed based on the CBCL/4-16 (Achenbach & Edelbrock, 1981) to assess the behavioral/emotional problems for younger children. Since the CBCL/4-16 includes items which are applicable only for older children, the CBCL/2-3 was deemed more suitable for use with preschoolers, after discussion with one of the test authors. The CBCL/2-3 consists of 99 items. Mothers were asked to answer each item in the test using a 3-point scale including, 0=Not true, 1=Somewhat or sometimes true, and 2=Very true or often true. Higher scores, therefore, indicate more problem behaviors.

The CBCL/2-3 differentiates six narrow-band syndromes including social withdrawal, depression, aggression, destructiveness, sleep problems, and somatic problems, which are then categorized into two broad-band groups of children's problems: internalizing and externalizing problems. The Cronbach's alpha for the aggressive behavior scale was .92 for 321 children aged 2-3 years old each in demographically-matched clinical and normative samples (Achenbach, 1992).

Achenbach, Edelbrock, and Howell (1987) conducted reliability and validity tests for the CBCL/2-3 using a longitudinal sample (87 children), a representative general population sample (273 children), and a clinical sample (96 children referred to mental health services). Test-retest reliability estimates, with an average time interval of 7.7 days was .87, and the 1-year stability was .71 for the aggressive score. As for the scale's validity, the instrument has successfully distinguished between referral and nonreferral children (discriminative validity) and has been found to moderately correlate (the range was from .49 to .63) with scores of the CBCL/4-16 among children 4 and 5 years of age (predictive validity).

Since pilot testing indicated that questionnaire for mothers was too long, two narrow-band syndromes -sleep and somatic problems- were eliminated from the original CBCL/2-3. Thus, the questionnaire used in this study had 51 items involving four narrow-band syndromes: social withdrawal, depression, aggression, destructiveness (Appendix H, part A). A score combining the aggressive syndrome items with the destructive ones was used as an indicator of children's aggressiveness as rated by their mothers. These two individual scores were also analyzed separately.

Teachers' rating. To obtain another measure of children's aggressive behavior, assessments made by the teachers using the Preschool Behavior Questionnaire (PBQ; Behar & Stringfield, 1974a) (Appendix J) were employed. The PBQ consists of 30 items, such as "restless", "fights", and "disliked". Teachers were asked to answer each item in the test for an individual child, using a 3 point scale, including 0=never present, 1=sometimes present, and 2=always present. A factor analysis for the test indicated that the instrument had three major factors: hostile-aggressive (Scale 1), anxious-fearful (Scale 2), and hyperactive-distractible (Scale 3). A combined score of Scale 1 (hostile-aggressive) with Scale 3 (hyperactive-distractible) was operationalized as the child's aggressive behavior score. The individual scores of Scale 1 and Scale 3 were also examined separately. The score sheet provided the percentile rank of the raw scores for the total and each subscale, and the percentile ranks were much less skewed than the raw scores. The percentile rank score, therefore, were used as an indicator of teacher-rated child's aggressive score in any case. For the combined score, the average of two percentile rank scores was used.

Behar and Stringfield (1974b) reported that this scale differentiated "normal" and "disturbed" children at the .0001 significance level, and 53% of its variance was accounted for by the group difference. This indicated a strong criterion validity for the scale. The test-retest reliability estimate, with a separation of 3 to 4 months between testings, was reported to be .93 for the hostile-aggressive score and .94 for the hyperactive-distractible score. A sufficient interrater reliability of this scale was also reported. Reliability coefficients were .81 for the hostile-aggressive score and .67 for the hyperactive-distractible score.

### Mothers' specific attributional style and affect

To measure the mother's specific attributional style, Walker's Parent Attribution Questionnaire (PAQ; Walker, 1985) (Appendix H, part C) was used. The PAQ asks parents to recall a recent instance of their child's misbehavior, to state what they think the cause of that behavior was, and then to rate that cause on several dimensions. These dimensions include internal/external locus of control, stability, globability, child control, parent control, child intentionality, and child responsibility.

Walker (1985) reported that the PAQ differentiated between mothers who had chronically ill children and those who did not. Using a modified version of the PAQ, Baden and Howe (1992) reported that the instrument did distinguish between mothers of conduct-disorder adolescents and mothers of non-clinical children. Although the PAQ had been administered verbally (interview method) in both studies, the present study used the self-report method (questionnaire) to obtain the data. Therefore, some wording was slightly modified to make the questions in this measurement clearer to the subjects.

Specific attributional style. The present study used only certain items in the PAQ to assess mother's specific attribution. A combined score of the six items which focused on a child's intentionality and responsibility of a specific misbehavior (items 15, 16, 17, 18, 19, and 20 in the PAQ; see Appendix H, part C) was used as an indicator of the mothers' negative attributional style. For example, one of the items included, "To what extent did your child behave this way intentionally or on purpose?" The higher score indicated that the mother perceived her child's misbehavior as more

intentional, and that her child was considered more responsible for his/her misbehavior.

Mothers' affect. The PAQ also asks parents to make several ratings regarding their feelings about the incident when it occurred. An example of the PAQ questions about these feelings included: "How much, if at all, did you feel upset?" Mothers were asked to respond to such questions using a 5-point Likert-type scale ranging from "not at all" to "very much". A combined score of five questions regarding mother's feeling at that time (items 7, 8, 9, 10, and 11 in PAQ; see Appendix H, part C) was used to obtain a measure of the mother's negative affect. The higher the score, the stronger the mother's negative affect was.

#### Mothers' general attributional style

The Revised Parent Attribution Test (PAT; Bugental & Shennum, 1984) (Appendix H, part D) was employed to measure the mothers' general attributional style. The PAT was developed to assess adults' perceived causes of caregiving success and/or failure. Given hypothetical successful and unsuccessful situations of taking care of a neighbor's child and thirteen possible causes in each situation (success/failure), the respondents were asked to rate the importance of each cause in each situation on a 7-point segmented graphic scale, from "not at all important" to "very important". The possible causes included factors like ability to deal with children, strategy, luck, mood, help of others, the child's temperament or child's motivation, etc. In the present study, questions were asked only for the failure situation.



A composite score of perceived balance of control over failure (PCF), created by Bugental, Blue, & Cruzcosa (1989), was used as the variable of mothers' general attributional style in the present study. The mothers were categorized as high or low on two dimensions by the median split: adult control over failure (ACF) and child control over failure (CCF). Mothers who have high CCF but low ACF scores were considered as having low PCF. Test-retest reliability estimates for the PCF score has been reported to be .63 for a sample of fifty-seven mothers from the general community (Bugental, et al, 1989). As for the scale's validity, previous studies have found that abusive mothers show a pattern of attribution characterized as low PCF, providing evidence of some predictive validity (Bugental, et al., 1989). Other studies have provided evidence of discriminative validity by revealing that a) women who had low PCF showed elevated physiological reactions (heart rate and skin conductance) during their interaction with unresponsive children (Bugental & Cortez, 1988), b) low PCF women manifested an increase in negativity of ideation and tried to regain cognitive control when teaching an unresponsive child (Lewis, Bugnetal, & Fleck, 1991), and c) scores on PAT were not related to the subjects' depression scores (Beck Depression Inventory) or to self-esteem scores (Rosenberg Self-Esteem Scale).

#### Mothers' parenting behavior

A modified form of the Parent Perception Inventory (PPI; Hazzard, Christensen, & Margolin, 1983) (Appendix H, part B) was used to measure the mother's behavior in child rearing. The PPI was originally developed to measure children's perceptions of parental behavior. In the original measure, children were

asked how often parents displayed a variety of parental behaviors at home. They respond to each question using the 5-point Likert-type scale, including 1=never, 2=a little, 3=sometimes, 4=pretty much, and 5=a lot.

Hazzard, et al. (1983) reported relatively high internal consistency estimates, including Cronbach's alpha coefficients for mother positive = .84, mother negative = .74, father positive = .88, and father negative = .80 scores among subjects 5 to 13 years of age. They also reported satisfactory convergent and discriminant validity by computing correlations between the PPI subscales and the Piers-Harris Self-Concept Scale, the Child Behavior Checklist (externalizing scale), the Wide Range Achievement Test, and the Intellectual Deficiency subscale of the Becker Adjective Checklist.

In the present study, the PPI was administered to the mothers changing the original wording from "How often does your mom ...." to "How often do you .....". In total, 20 questions of parental behaviors (half of which were positive and half of which were negative) were asked in the inventory. Mothers responded to each question in the same manner as the original scale, using the 5-point Likert-type scale.

Although reliability information about this parent version of the PPI is not available, previous research reported that children's and parents' ratings on this kind of questionnaire about parental behaviors (Bronfenbrenner's Parent Practices Questionnaire) are relatively convergent with a recognizable skew of parents' responses in a socially desirable direction (Devereux, Bronfenbrenner, & Rodgers, 1969). This parents' social-desirable bias may affect the results of this study in a

conservative way; making it difficult to detect parents' negative behaviors.

Chronbach's alpha of this scale used for mothers in the present study was .84.

According to the scoring system developed by Hazzard et al. (1983), a total score which was computed by subtracting the negative subscore (total of 6 negative items) from the positive score (total of 10 positive items) was used as an indicator of the mother's child rearing behavior. The higher score, thus, represented the mother's more positive behavior in general.

### Demographic information

To collect background data, mothers were asked to respond to the questionnaire (Appendix H, part E) which includes the following questions: mother's and father's age, mother's marital status, mother's and father's ethnicity, mother's and father's occupation, mother's and father's education, family income, number and composition (gender and age) of children in the family. Using the information about the mother's and/or the father's occupation and educational level, the family's socio-economic status was computed according to Hollingshead's Four Factor Index of Social Status (Hollingshead, 1975).

### Procedure

At the beginning of Spring term 1995, the purpose and the procedures of this study were explained at a Child Development Center staff meeting in order to obtain the cooperation of teachers. Following this, a letter was sent to parents notifying them

of the research and to confirm they and their children's participation in the study (Appendix D). None of the parents rejected their children's participation. Data collection commenced during third week of their children's Spring Term enrollment in the preschool classrooms. A booklet of questionnaires containing the measurements for this study (Child Behavior Checklist for Ages 2-3, Parent Attribution Questionnaire, Parent Attribution Test, and a modified form of Parent Perception Inventory) and the demographic questions with a cover letter (Appendix E) were sent to mothers, and the completed questionnaires were collected by teachers at the preschools. For the Spanish speaking parents, a questionnaire translated into Spanish was sent (see Appendix I). During the same period of time, the preschool teachers (head teachers) rated each individual child in their classroom using the Preschool Behavior Questionnaire (Appendix J).

Two weeks after the questionnaires were sent, the first follow-up letter was sent, which reminded mothers who had not returned their completed questionnaires to do so, and to thank mothers who had done so (Appendix F). At the same time, the author and some head teachers made personal contacts with parents who had not returned their questionnaires to ask them for their cooperation. The following week, a second reminder (Appendix G) was sent, with another booklet of the questionnaire, to every mother who had not returned it by that time. The final response rate reached 93%.

## Analyses

For the statistical analysis, the proposed conceptual model (Figure 2.1) was divided into two separate models shown in Figure 3.1 and Figure 3.2. A series of ordinary least squares regression analyses was employed to examine the model shown as Figure 3.1. For the left part of the model (see Figure 3.1), which tests hypotheses 1, 2, and 3, three separate regression analyses were done. One was the analysis with mother's parenting behavior as a dependent variable and mother's negative attribution as an independent variable. Another was the analysis with mother's negative affect as a dependent variable and the same independent variable (mother's negative attribution). Another was the analysis with child's hostile attribution as a dependent variable and mother's negative attribution and parenting behavior or negative affect as independent variables.

For the right part of the model (see Figure 3.1), which inspects hypotheses 4 and 5, regression analyses were utilized with child's aggressive behavior as a dependent variable and mother's parenting behavior or mother's negative affect and child's hostile attribution as independent variables. Since the child's aggressive behavior was rated by the mother and the teacher and there were three indicators in each rating, several regression analyses were run with the same independent variables and a different score as a dependent variable.

For the right upper part of the conceptual model which involves a nonrecursive relationship and an interaction effect (see Figure 2.1), a separate analysis using analysis of variance was performed. This analysis examined hypothesis 6 (see Figure 3.2). Mothers were divided into two categories: low PCF mothers who attribute high

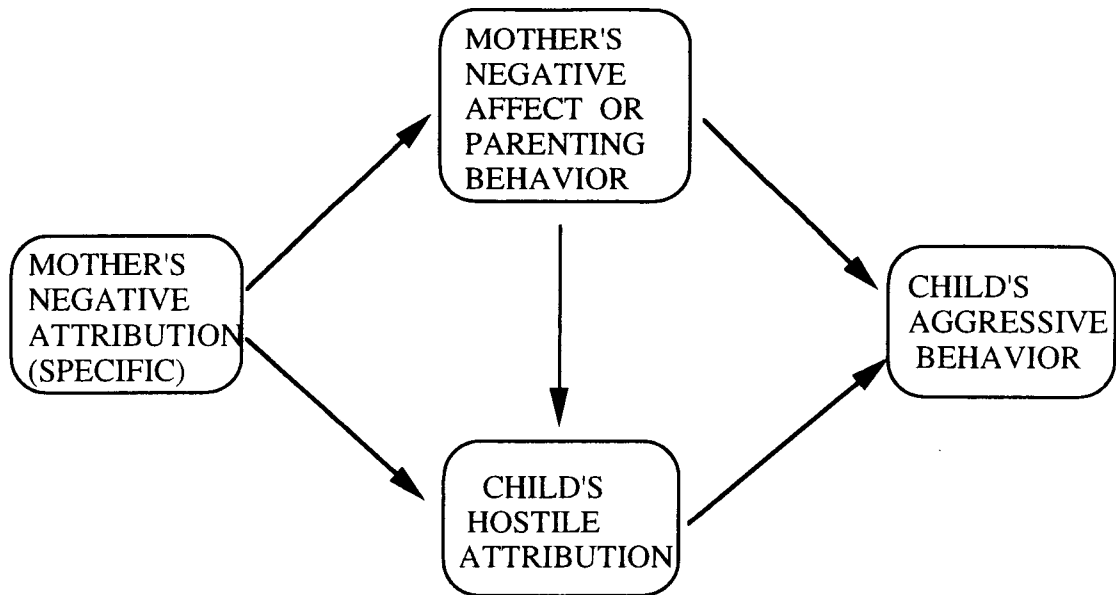


Figure 3.1 Path model identifying effects of mothers' attribution, affect, and parenting behavior, and children's hostile attribution on children's aggressive behavior

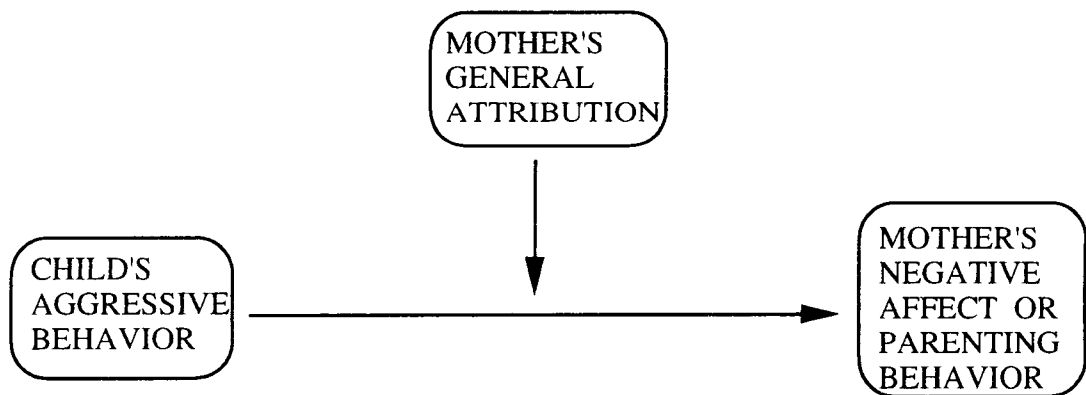


Figure 3.2 Model identifying moderating effect of mothers' general attributional styles in the relationship between their negative affect or parenting behavior and children's aggressive behavior

child control and low adult control to a hypothetical child-adult interaction failure, and others who do not have such an attributional style. Children were divided into two groups using a median split of their aggressiveness scores rated by their mothers and their teachers. A factorial design with these two independent variables (mother's general attribution and child's aggressiveness) and mother's parenting behavior or mother's affect as a dependent variable was used to investigate the interaction effect.

Since some variables were combined scores of several items, missing one item leads to the possibility of losing one subject. Therefore, the median score of each item was used for the missing items. As for the Child Behavior Check List (CBCL), however, the missing item was filled by 0 assuming that the item was not true for the child. According to the original scoring of CBCL, if more than 8 items were missing, the data should not be scored. Applying this rule, if there were more than 4 items missing in a questionnaire, the subject was not included in the analysis. Two subjects were lost using this rule.

## CHAPTER FOUR

### RESULTS

Among the total of 72 children who acted as subjects for this study, fifteen (6 girls and 9 boys) did not pass the criteria set for assessing their hostile attributional style. That is, these children answered "accident" to the vignette which had been agreed upon as "intentional" by 100% of the adults used to identify the vignette. These children were tested twice. Some of them answered "accident" at both testings, while others changed their answer to "intentional" on second testing. Although these latter children passed the criteria on second testing, their reliability was low (approximately 47% on average), therefore, they were also considered as failing the criteria. Two children among these 15 failed the criteria at second testing for reliability check with their reliability of 50%. In addition, four girls were unable to perform this task because of delays in their language development. They were all enrolled in the Early Intervention Program and were receiving language training from professionals. Therefore, these nineteen children were excluded from data analyses focused on understanding the relationship between children's hostile attributional style and their aggressiveness. However, since only five mothers did not return their questionnaires, information on some of these children were included in other analyses.

Several t-tests were conducted to examine selected characteristics of these excluded children. The results indicated that they were significantly younger than children included in all data analyses. The mean age of excluded children was 4.5 years while for included children it was 4.8 years ( $t=-2.17$ ,  $p < .05$ ). With respect to



other characteristics including, parents' socioeconomic status, age, ethnicity, and aggressiveness as rated by mothers and teachers, these two groups were not significantly different from each other (see Table 4.1).

Table 4.1

Comparison of background variables between children included in and excluded from the data analyses

Characteristics	Included			Excluded			$t$ or $\chi^2$ test
	$n$	$M$	(SD)	$n$	$M$	(SD)	
Children's age	53	4.84	(.50)	19	4.53	(.56)	$t=-2.17^*$
Family SES	51	48.56	(17.39)	12	52.13	(17.60)	$t= .71$
Mother's age	50	33.86	(4.90)	17	32.41	(5.34)	$t=-1.03$
Father's age	48	38.35	(7.71)	14	37.36	(5.23)	$t= -.45$
<u>Mother-rated</u>							
aggressive score	49	9.47	(6.21)	16	9.69	(5.63)	$t= .12$
destructive score	49	3.20	(3.05)	16	3.81	(3.23)	$t= .68$
<u>Teacher-rated</u>							
hostile/aggressive score % rank	53	61.09	(23.49)	19	63.32	(24.04)	$t= .35$
hyper/distractible score % rank	53	58.07	(23.69)	19	67.79	(23.51)	$t= 1.54$
Mother ethnicity							
Caucasian	23	(34.85%)		9	(13.64%)		$\chi^2= .18$
Others	26	(39.39%)		8	(12.12%)		$df= 1$
Father ethnicity							
Caucasian	25	(40.98%)		8	(13.11%)		$\chi^2= .07$
Others	22	(36.07%)		6	( 9.84%)		$df= 1$

\*  $p < .05$

Children made many more mistakes in identifying unintentional vignettes (hostile attribution) than intentional ones (benign attribution). A paired t-test showed that there was a significant difference between these two scores ( $t = 3.71$ ,  $p < .001$ ). In identifying unintentional vignettes, however, their accidental weighting did not make any difference in their identification accuracy. Again, a paired t-test indicated no significant difference in the proportion of children's misidentifying the high accidental weighted vignettes from the low ones (see Table 4.2). With respect to children's hostile attribution scores (percentage of misidentified unintentional vignettes) and benign attribution scores (percentage of misidentified intentional vignettes), several t-tests were also performed. Results revealed that children's mean scores did not differ relative to their gender, the type of tape used (tape A or B), the experimenter, and the room used for testing (see Table 4.3). Therefore, these variables were not considered in the later analyses involving children's hostile attributions.

Table 4.2

Comparison between hostile and benign attribution scores and comparison of hostile attribution scores on high and low accidental weighted vignettes

	<u>n</u>	<u>M</u> ( <u>SD</u> )	<u>t</u> test
Difference between hostile attribution score and benign attribution score	53	15.09 (3.71)	$t=3.71^{***}$
Difference between % of wrong answers among high accidental weighted vignettes and that among low ones	53	.94 (3.83)	$t= .25$

\*\*\*  $p < .001$

Table 4.3

Comparison of hostile and benign attribution scores by gender, tape type, room, and experimenter

	Hostile attribution score			Benign attribution score			
	<u>n</u>	<u>M</u> ( <u>SD</u> )	<u>t</u> or <u>F</u> test	<u>n</u>	<u>M</u> ( <u>SD</u> )	<u>t</u> or <u>F</u> test	
Gender							
Girls	32	33.85 (24.86)	$t = .67$	32	19.27 (20.35)	$t = 1.09$	
Boys	21	29.36 (22.30)		21	13.49 (16.35)		
Tape							
A	29	35.63 (25.09)	$t = 1.20$	29	19.54 (18.93)	$t = 1.08$	
B	24	27.78 (21.79)		24	13.89 (18.82)		
Room							
A	9	31.48 (24.22)	$F = .29$	9	18.51 (24.22)	$F = .13$	
B	29	34.48 (25.17)		29	16.09 (17.53)		
C	14	28.57 (22.10)		14	19.05 (19.45)		
Experimenter							
A	26	30.77 (25.25)	$F = .70$	26	12.18 (16.70)	$F = .96$	
B	7	23.81 (26.97)		7	23.81 (23.29)		
C	4	33.33 (13.61)		4	25.00 (21.52)		
D	11	33.33 (19.72)		11	21.21 (21.20)		
E	5	46.67 (27.38)		5	16.67 (16.66)		

Means and standard deviations for the variables included in data analyses are shown in Table 4.4 and the zero order correlations for those variables are shown in Table 4.5.

Table 4.4

Descriptive statistics for the variables included in the analyses

Variables	<u>n</u>	<u>M</u>	<u>SD</u>
% of wrong answers among unintentional vignettes (hostile attribution)	53	32.08	23.76
% of wrong answers among intentional vignettes (benign attribution)	53	16.98	18.92
<u>Teacher-rated</u>			
hostile/aggressive score % rank	72	61.68	23.49
hyper/distractive score % rank	72	60.64	23.87
<u>Mother-rated</u>			
aggressive score	65	9.57	6.03
destructive score	65	3.35	3.08
Parenting behavior score	66	26.50	7.24
Mothers' negative affect	65	16.00	3.92
Mothers' specific attribution	64	18.66	5.31
Mothers' general attribution			
Adult control over failure	65	19.05	4.13
Child control over failure	63	25.06	3.36
Family SES			

Table 4.5  
Zero order correlation for the variables in the analyses

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
<u>Child's variables</u>														
1.Hostile attribution score	1.00													
2.Benign attribution score	.05	1.00												
3.Age	-.15	-.19	1.00											
4.Gender	-.09	-.15	.05	1.00										
5.Teacher rated aggressive score	.43***	.15	-.10	.17	1.00									
6.Teacher rated distractive score	.48***	.15	-.25*	.06	.82***	1.00								
7.Mother rated aggressive score	.13	.15	-.15	.11	.32**	.26*	1.00							
8.Mother rated destructive score	.12	.10	-.25*	.18	.42***	.33**	.81***	1.00						
<u>Mother's variables</u>														
9.Parenting behavior	.03	.14	-.01	-.08	-.28*	-.15	-.54***	-.52***	1.00					
10.Negative affect	.02	.11	-.00	-.13	.03	.04	.24*	.16	-.32**	1.00				
11.Specific negative attribution	-.02	.13	.03	.04	-.02	.03	-.09	-.15	.26*	-.08	1.00			
12.General attribution (PCF)	.34**	-.07	.06	-.03	.21	.16	.10	.14	-.09	-.05	-.03	1.00		
13.Age	-.10	-.14	.33**	-.05	-.36**	-.28*	-.37**	-.30*	.29*	-.07	.15	-.03	1.00	
14.Family SES	-.33*	.05	-.06	.13	-.43***	-.36**	-.35**	-.29*	.30*	-.12	.13	-.25*	.34**	1.00

Note: Child's age was measured in months but Mother's age was measured in years. Gender was coded 1 for girls 2 for boys. Mother's general attribution (PCF) was coded 0 for the low group and 1 for others. \*\*\*  $p < .001$  \*\*  $p < .01$  \*  $p < .05$

### Relationships of Mothers' Negative Attribution to Parenting Behavior and Negative Affect

To test Hypothesis 1, mothers' age, children's age and gender, and family's socioeconomic status (SES) were added to the regression equation as control variables. Table 4.6 presents the regression coefficients associated with each of these variables. Mother's negative attribution scores did not predict their parenting behavior or negative affect toward their child. None of the independent variables in the model was statistically significant, although approximately 17% of the variance in mothers' parenting behavior scores were explained by these variables. As for mothers' negative affect scores, these same variables did not explain very much of the variance at all (only approximately 3%). Therefore, Hypothesis 1 was not supported in these analyses.

Table 4.6

The estimated regression coefficients of the mothers' negative attribution on her parenting behaviors and negative affect

Independent variables	Parenting behavior		Negative affect	
	<u>b</u>	$\beta$	<u>b</u>	$\beta$
Negative attribution	.274	.200	-.042	-.055
Mothers' age	.270	.181	-.012	-.015
Children's age	-.064	-.063	.004	.007
Children's gender	-1.341	-.093	-1.039	-.130
Family SES	.090	.216	-.022	-.097
<u>R<sup>2</sup></u>	.169*		.036	

\*  $p < .05$

### Relationships of Mothers' Negative Attribution, Parenting Behavior and Negative Affect to Children's Hostile Attribution

To examine Hypotheses 2 and 3, the children's age and their family's SES were added as control variables. The children's gender was not entered because preliminary analysis indicated that there was no gender difference in children's hostile attribution scores. The results of this regression analysis are shown in Table 4.7. None of the independent variables except the family's SES predicted children's hostile attribution scores. Children from lower SES families made more mistakes in identifying unintentional vignettes than did children from higher SES families. This meant that children from lower SES families were more likely to attribute hostile intentions to unintentional behaviors shown in the vignettes. Neither mothers' negative attribution nor their parenting behavior and negative affect significantly

Table 4.7

The estimated regression coefficients of the mothers' negative attribution, parenting behavior, negative affect on their children's hostile attribution

Independent variables	<u>b</u>	$\beta$
Mothers'		
Negative attributions	-.163	-.036
Parenting behavior	.463	.141
Negative affect	.082	.014
Children's age	-.488	-.141
Family SES	-.499*	-.359*
<u>R<sup>2</sup></u>		.138

\*  $p < .05$

predicted their children's hostile attribution scores. Therefore, Hypotheses 2 and 3 were not supported.

#### Relationships of Mothers' Parenting Behavior, Negative Affect, and Children's Hostile Attribution to Children's Aggressive Behavior

In testing Hypotheses 4 and 5, children's age, gender, and their family's SES were entered into the equation as control variables. Because of the small sample size, both mothers' parenting behavior and their negative affect scores were not entered into any equation together. Two separate analyses were done for the same dependent variable: one with the mothers' parenting behavior scores and another with their negative affect scores. Since each rating (the mother's or the teacher's rating) had three indicators for the children's aggressive behavior scores (a combined score and two individual ones), six regression analyses were run for each rating. The effects of multicollinearity was checked for all regressions through computing variance inflation factors (Freund & Littell, 1991). The results indicated that the variance inflation for all of these factors was less than 1.5, indicating minimal multicollinearity bias.

Different results were obtained depending on whether mothers' or teachers' ratings of children's aggressive behavior were used as the dependent variable. When mother's ratings were used as the dependent variables, their children's hostile attribution scores did not have a significant effect on their children's aggressive behavior, but the mothers' parenting behavior did. As shown in Table 4.8a, mothers' parenting behavior, children's age and the family's SES had significant effects on children's aggressive behavior score (i.e., combined aggressive and destructive scores).



Table 4.8a

The estimated regression coefficients of children's hostile attribution and their mothers' parenting behavior on mother-rated children's aggressive behavior (combined score)

Independent variables	Mother-rated child aggressive behavior (combined score)	
	<u>b</u>	$\beta$
Children's hostile attribution	.000	.004
Mothers' parenting behavior	-.253**	-.404**
Children's age	-.159*	-.244*
Children's gender	.582	.064
Family SES	-.083*	-.318*
<u>R<sup>2</sup></u>	.410***	

Table 4.8b

The estimated regression coefficients of children's hostile attribution and their mothers' negative affect on the mother-rated children's aggressive behavior (combined score)

Independent variables	Mother-rated child aggressive behavior (combined score)	
	<u>b</u>	$\beta$
Children's hostile attribution	-.004	-.020
Mothers' negative affect	-.208	-.188
Children's age	-.170*	-.261*
Children's gender	1.122	.123
Family SES	-.114*	-.439*
<u>R<sup>2</sup></u>	.298**	

Note: Child's age is measured in months. Sex is coded 1 if girls and 2 if boys.

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$

The negative signs of the coefficients of these significant variables indicated that the children whose mothers reported more positive parenting behavior were less aggressive than children whose mothers reported less positive parenting behavior ( $\beta = -.404$ ,  $p < .01$ ), older children were less aggressive than younger ones ( $\beta = -.244$ ,  $p < .05$ ), and children from higher SES families were less aggressive than those from lower SES families ( $\beta = -.318$ ,  $p < .05$ ). 41% of the variance in children's combined aggressive behavior scores were explained by the variables in this model. However, as shown in Table 4.8b, mothers' negative affect did not have a significant effect on children's combined aggressive scores. In fact the amount of variance explained by the model, when mothers' negative affect scores replaced mothers' parenting behavior scores, was reduced to approximately 30%.

When children's combined aggressive behavior scores were separated and used individually as dependent variables, the results were almost the same (see Tables 4.9a and 4.9b). Mothers' parenting behavior scores were significant for both children's aggressive and destructive behavior scores, but the mothers' negative affect scores were not. The family's SES was significant only for the aggressive behavior scores and children's age was significant for the destructive behavior scores. Children whose mothers were more positive in their parenting behavior were less aggressive ( $\beta = -.404$ ,  $p < .01$ ) and less destructive ( $\beta = -.361$ ,  $p < .01$ ). The children from higher SES families were less aggressive than those from lower SES families ( $\beta = -.333$  for the model using parenting behavior and  $\beta = -.449$  for the model using negative affect,  $p < .01$ ) and older children were less destructive than younger ones ( $\beta = -.395$ ,  $p < .001$  for the model using parenting behavior and  $\beta = -.407$ ,  $p < .01$  for the model using

Table 4.9a

The estimated regression coefficients of children's hostile attribution and their mothers' parenting behaviors on mother-rated child aggressiveness and destructiveness

Independent variables	Mother-rated			
	Aggressive score		Destructive score	
	<u>b</u>	$\beta$	<u>b</u>	$\beta$
Children's hostile attribution	.003	.011	-.000	-.003
Mothers' parenting behavior	-.347**	-.404**	-.153**	-.361**
Children's age	-.152	-.170	-.175***	-.395***
Children's gender	.532	.043	.276	.044
Family SES	-.120**	-.333**	-.044	-.248
<u>R</u> <sup>2</sup>	.384***		.401***	

Table 4.9b

The estimated regression coefficients of children's hostile attribution and their mothers' negative affect on mother-rated child aggressiveness and destructiveness

Independent variables	Mother-rated			
	Aggressive score		Destructive score	
	<u>b</u>	$\beta$	<u>b</u>	$\beta$
Children's hostile attribution	-.005	-.020	-.005	-.040
Mothers' negative affect	.316	.207	.065	.086
Children's age	-.159	-.178	-.181**	-.407**
Children's gender	1.440	.115	.402	.065
Family SES	-.162**	-.449**	-.063**	-.356**
<u>R</u> <sup>2</sup>	.278**		.290**	

Note: Children's age is measured in months. Sex is coded 1 if girls and 2 if boys.

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

negative affect). The same set of independent variables explained slightly more variance in children's destructive behavior scores than their aggressive behavior scores (40% vs 38% for those with the mothers' parenting behavior, and 29% vs 28% for those with the mothers' negative affect).

On the other hand, when teachers' ratings were used as the dependent variable, the children's hostile attribution score was a significant predictor of their combined aggressive behavior scores (i.e., combined hostile/aggressive and hyperactive/distractible behavior scores), but mothers' parenting behavior and her negative affect scores were not. Tables 4.10a and 4.10b present the results of these regression analyses. Children who made more mistakes on the intention identification task by calling unintentional behaviors "intentional", were more aggressive according to their teachers' assessments. When including the mother's parenting behavior score, the only significant predictor of children's aggressiveness was children's hostile attribution score ( $\beta = .357$ ,  $p < .01$ ). This model, including all of the selected variables, explains approximately 35% of the variance. When using mothers' negative affect scores, the family's SES was another significant predictor. More aggressive children came from lower SES families rather than higher SES families ( $\beta = -.261$ ,  $p < .05$ ), and made more mistakes in identifying unintentional behaviors ( $\beta = .347$ ,  $p < .01$ ).

The teacher-rated combined children's aggressive behavior scores were also divided into hostile/aggressive and hyperactive/distractible scores, and analyzed separately. The results of these separate analyses are shown in Tables 4.11a and 4.11b. Children's hostile attribution was a significant predictor for both scores.

Table 4.10a

The estimated regression coefficients of children's hostile attribution and their mothers' parenting behaviors on teacher-rated child aggressive behavior (combined score)

Independent variables	Teacher-rated child aggressive behavior (combined score)	
	<u>b</u>	$\beta$
Children's hostile attribution	.333**	.357**
Mothers' parenting behavior	-.227	-.074
Children's age	-.702	-.218
Children's gender	10.368	.231
Family SES	-.308	-.237
<u>R</u> <sup>2</sup>	.354***	

Table 4.10b

The estimated regression coefficients of children's hostile attribution and their mothers' negative affect on teacher-rated child aggressive behavior (combined score)

Independent variables	Teacher-rated child aggressive behavior (combined score)	
	<u>b</u>	$\beta$
Children's hostile attribution	.324**	.347**
Mothers' negative affect	.031	.006
Children's age	-.707	-.219
Children's gender	10.509	.234
Family SES	-.338*	-.261*
<u>R</u> <sup>2</sup>	.349***	

Note: Children's age is measured in months. Sex is coded 1 if girls and 2 if boys.

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$

Table 4.11a

The estimated regression coefficients of children's hostile attribution and their mothers' parenting behavior on teacher-rated child aggressiveness and distractibility

Independent variables	Teacher-rated			
	Hostile/Aggressive		Hyper/Distractible	
	<u>b</u>	$\beta$	<u>b</u>	$\beta$
Children's hostile attribution	.308*	.320*	.359**	.365**
Mothers' parenting behavior	-.313	-.099	-.142	-.044
Children's age	-.474	-.143	-.931*	-.275*
Children's gender	12.128*	.263*	8.608	.182
Family SES	-.343	-.258	-.273	-.200
<u>R</u> <sup>2</sup>	.325**		.347***	

Table 4.11b

The estimated regression coefficients of children's hostile attribution and their mothers' negative affect on teacher-rated child aggressiveness and distractibility

Independent variables	Teacher-rated			
	Hostile/Aggressive		Hyper/Distractible	
	<u>b</u>	$\beta$	<u>b</u>	$\beta$
Children's hostile attribution	.293*	.305*	.355**	.362**
Mothers' negative affect	-.245	-.043	.307	.053
Children's age	-.487	-.147	-.927*	-.273*
Children's gender	11.755*	.254*	9.262	.196
Family SES	-.393*	-.294*	-.283	-.208
<u>R</u> <sup>2</sup>	.318**		.348***	

Note: Children's age is measured in months. Sex is coded 1 if girls and 2 if boys.

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

Children who made more mistakes on the intention identification task, by referring to unintentional behavior as "intentional", were more hostile/aggressive ( $\beta = .32$ ,  $p < .05$  for the model with parenting behavior;  $\beta = .305$ ,  $p < .05$  for the model with negative affect) and more hyperactive/distractible ( $\beta = .365$ ,  $p < .01$  for the model with parenting behavior;  $\beta = .365$ ,  $p < .01$  for the model with negative affect). Other significant predictors were children's gender, age, and the family's SES. Boys were more hostile/aggressive than girls ( $\beta = .263$ ,  $p < .05$  for the model with parenting behavior;  $\beta = .254$ ,  $p < .05$  for the model with negative affect), as were the children from lower SES families in comparison to those from higher SES families ( $\beta = -.294$ ,  $p < .05$  only for the model with negative affect). Younger children were more hyperactive/distractible than older ones ( $\beta = -.275$ ,  $p < .05$  for the model with parenting behavior;  $\beta = -.273$ ,  $p < .05$  for the model with negative affect). The same set of independent variables explained more of the variance in children's hyperactive/distractible behavior scores than their hostile/aggressive behavior scores ( $R^2 = .347$  vs  $R^2 = .325$  for the model with parenting behavior;  $R^2 = .348$  vs  $R^2 = .318$  for the model with negative affect).

In order to examine the unique effect of children's hostile attributions on their aggressiveness as rated by their teachers, children's benign attribution scores were entered into the equation instead of their hostile attribution scores. The benign attribution score was the percentage of vignettes in which intentional acts were committed that a child incorrectly identified as "accidental". These results are displayed in Tables 4.12a and 4.12b. Children's benign attribution was not a significant predictor for their aggressive behavior as rated by teachers (i.e. combined

Table 4.12a

The estimated regression coefficients of children's benign attribution and their mothers' parenting behavior on teacher-rated child aggressive behavior (combined score)

Independent variables	Teacher-rated child aggressive behavior (combined score)	
	<u>b</u>	$\beta$
Children's benign attribution	.263	.224
Mothers' parenting behavior	-.184	-.060
Children's age	-.705	-.219
Children's gender	11.451*	.255*
Family SES	-.470**	-.363**
<u>R<sup>2</sup></u>	.290**	

Table 4.12b

The estimated regression coefficients of children's benign attribution and their mothers' negative affect on teacher-rated child aggressive behavior (combined score)

Independent variables	Teacher-rated child aggressive behavior (combined score)	
	<u>b</u>	$\beta$
Children's benign attribution	.255	.218
Mothers' negative affect	-.130	-.024
Children's age	-.712	-.221
Children's gender	11.223	.250
Family SES	-.494**	-.381**
<u>R<sup>2</sup></u>	.287**	

Note: Children's age is measured in months. Sex is coded 1 if girls and 2 if boys.

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$



aggressive/hostile and hyperactive/distractible scores). Children's gender and the family's SES were significant predictors in the model including mothers' parenting behavior scores ( $\beta = .255$ ,  $p < .05$  and  $\beta = -.363$ ,  $p < .01$  respectively) and the family's SES was significant in the model including mothers' negative affect scores ( $\beta = -.381$ ,  $p < .01$ ). Further analysis on children's separate aggressive behavior scores revealed the same results. Children's benign attribution scores were significant predictors for neither their hostile/aggressive nor the hyperactive/distractible scores. These results emphasize the unique effect of children's hostile attributions on their aggressive behavior as rated by teachers. Therefore, Hypothesis 4 was partially supported when using mothers' rating of their children's aggressiveness. Mothers who displayed more negative behaviors in their parenting were more likely to have an aggressive child. However, this was not so in terms of their affect. Hypothesis 5 was supported when the children's aggressiveness was assessed by their teachers. Aggressive children, as rated by their teachers, were more likely to possess a hostile attributional bias than were less aggressive ones.

#### The Interaction Effect of Mothers' General Attributional Styles and their Children's Aggressiveness on their Parenting Behavior and Negative Affect

Using Bugental's et al. (1989) method to score parents' responses to the Parent Attribution Test (i.e. a combination of median splits associated the "adult control over failure" (ACF) score and the "child control over failure" (CCF) score), mothers were categorized into two groups: (1) mothers of low perceived control over failure (PCF) who had a high child control score and low adult control scores, and (2) others.

Eighteen mothers were categorized as low PCF mothers, and 48 were placed in the other group. Children were also categorized into two groups by median splits of mother-rated and teacher-rated aggressive behavior scores: (1) more aggressive and (2) less aggressive children. Using mothers' ratings (combined scores), 33 children were categorized as more aggressive and 33 as less aggressive. When using individual scores of mothers' ratings, numbers of children in the categories were slightly changed. Using mother-rated aggressive scores, 34 children were in the category of more aggressive and 32 were in less aggressive. Using mother-rated destructive scores, 32 were placed in more destructive and 34 were less destructive. On the other hand, using teachers' ratings (combined score), 32 children were grouped as more aggressive and 34 as less aggressive. Using teacher-rated hostile/aggressive scores (individual scores), 29 were in more aggressive group and 37 were in less aggressive group. Using teacher-rated hyperactive/distractible scores, the number of each group were the same as using hostile/aggressive scores.

A series of ANOVAs utilizing a 2 (mothers' general attributional styles) x 2 (children's aggressiveness) design provided contrasting results, depending upon whether the mothers or teachers' ratings were used, or the combined or the individual aggressive scores were employed. Table 4.13 displays means and standard deviations of variously categorized groups and the significant difference based on ANOVAs. When the children were grouped using mothers' ratings (combined score), no interaction effect was found. Only the main effect of children's aggressiveness on the mother's parenting behavior was found,  $F(1, 64) = 3.80, p < .05$ . Using mothers' ratings, more aggressive children had mothers who were less positive in their parenting

behaviors. When children were categorized using individual scores (i.e., aggressive and destructive behavior scores separately), the results were the same; only the main effect for children's aggressiveness and destructiveness was found,  $F(1, 64) = 4.81$ ,  $p < .05$  for the children's aggressiveness,  $F(1, 64) = 6.60$ ,  $p < .01$  for the children's destructiveness. With respect to mothers' negative affect, no significant effect was found using either the combined or the individual aggressive behavior ones.

Table 4.13

Means and standard deviations for mothers' parenting behavior and negative affect by their general attributional styles and their children's aggressive status

Categories	<u>n</u>	Parenting behavior <u>M</u> ( <u>SD</u> )	Negative affect <u>M</u> ( <u>SD</u> )
<u>Mothers' attribution</u>			
low PCF	18	27.61 (7.17)	16.22 (4.49)
others	48	26.08 (7.29)	15.81 (3.76)
<u>Mother-rated children's aggressive status</u>			
(Combined score)			
less aggressive	33	28.88 (6.78)*	15.24 (3.95)
more aggressive	33	24.12 (6.98)*	16.61 (3.87)
(Aggressive score)			
less aggressive	32	29.25 (6.67)*	14.94 (3.97)
more aggressive	34	23.91 (6.86)*	16.85 (3.73)
(Destructive score)			
less destructive	34	29.26 (6.35)**	15.62 (4.14)
more destructive	32	23.56 (7.03)**	16.25 (3.75)

Table 4.13 (continued)

Categories	<u>n</u>	Parenting behavior <u>M</u> ( <u>SD</u> )	Negative affect <u>M</u> ( <u>SD</u> )
<u>Teacher-rated children's aggressive status</u>			
(Combined scores)			
less aggressive	34	27.47 (7.15)	15.85 (3.98)
more aggressive	32	25.47 (7.29)	16.00 (3.96)
(Hostile/aggressive scores)			
less hostile/aggressive	37	28.03 (7.12)	15.57 (4.00)
more hostile/aggressive	29	24.55 (7.03)	16.38 (3.88)
(Hyper/distractible scores)			
less hyper/distractible	37	27.11 (7.07)	15.78 (3.80)
more hyper/distractible	29	25.72 (7.50)	16.10 (4.17)
<u>Mothers' attribution x Children's aggressive status</u>			
<u>Mothers-rated children's aggressiveness</u>			
(Combined scores)			
low PCF x less aggressive	8	28.25 (8.38)	15.13 (4.09)
low PCF x more aggressive	10	27.10 (6.47)	17.10 (4.82)
others x less aggressive	25	29.08 (6.37)	15.28 (3.98)
others x more aggressive	23	22.83 (6.93)	16.39 (3.49)
(Aggressive scores)			
low PCF x less aggressive	8	28.25 (8.38)	15.13 (4.09)
low PCF x more aggressive	10	27.10 (6.47)	17.10 (4.82)
others x less aggressive	24	29.58 (6.17)	14.88 (4.01)
others x more aggressive	24	22.58 (6.70)	16.75 (3.30)
(Destructive scores)			
low PCF x less aggressive	11	28.91 (6.82)	15.82 (4.49)
low PCF x more aggressive	7	25.57 (7.76)	16.86 (4.78)
others x less aggressive	23	29.43 (6.27)	15.52 (4.07)
others x more aggressive	25	23.00 (6.88)	16.08 (3.51)

Table 4.13 (continued)

Categories	<u>n</u>	Parenting behavior <u>M</u> ( <u>SD</u> )	Negative affect <u>M</u> ( <u>SD</u> )
<u>Teacher-rated children's aggressiveness</u>			
(Combined scores)			
low PCF x less aggressive	12	26.58 (7.40)	15.25 (4.11)
low PCF x more aggressive	6	26.67 (6.83)	18.17 (4.96)
others x less aggressive	22	27.95 (7.14)	16.18 (3.96)
others x more aggressive	26	24.50 (7.17)	15.50 (3.62)
(Hostile/aggressive scores)			
low PCF x less aggressive	13	27.31 (7.55)	14.85 (4.20)*
low PCF x more aggressive	5	28.40 (6.80)	19.80 (3.27)*
others x less aggressive	24	28.42 (7.00)	15.96 (3.93)*
others x more aggressive	24	23.75 (6.94)	15.67 (3.66)*
(Hyper/distractible scores)			
low PCF x less aggressive	13	25.92 (7.48)*	15.54 (4.07)
low PCF x more aggressive	5	32.00 (4.18)*	18.00 (5.52)
others x less aggressive	24	27.75 (6.91)*	15.92 (3.73)
others x more aggressive	24	24.42 (7.42)*	15.71 (3.86)

Note: Significance levels are based on ANOVA.

\*  $p < .05$

\*\*  $p < .01$

When children were categorized into more aggressive or less aggressive groups using teachers' rating (combined score), neither significant main nor interaction effects was found. However, when using individual scores (i.e., hostile/aggressive scores), an interaction effect between children's aggressiveness and mothers' attributional style (low PCF) on mothers' negative affect was found,  $F(1, 64) = 5.17, p < .05$ . As shown in Figure 4.1, mothers who had low PCF scores reported stronger negative affect than other mothers only when they had more aggressive children, based on teachers' assessment of their children's hostile/aggressive behavior. When children were less aggressive, the difference between mothers' negative affect in these two groups was trivial.

When using children's teacher-rated hyperactive/distractible scores, an interaction effect of mothers' attributional style and their children's distractibility on mothers' parenting behavior was obtained,  $F(1, 64) = 4.91, p < .05$ . As shown in Figure 4.2, mothers who had low PCF scores were more positive in their parenting behaviors if their children were highly hyperactive/distractible. In contrast, mothers in these two groups were not different in their parenting behavior if their children were low in hyperactivity/distractibility. The direction of this effect, however, was opposite to what was expected. Since mothers' parenting behavior score used in the above analyses was computed by subtracting the negative subscore from the positive one, it is not clear if this effect is due to mothers' negative, positive, or both parenting behavior scores. Therefore, two separate analyses, using mothers' positive parenting and negative parenting scores were performed. The results indicated that an interaction effect was detectible only for mothers' positive parenting behavior scores,

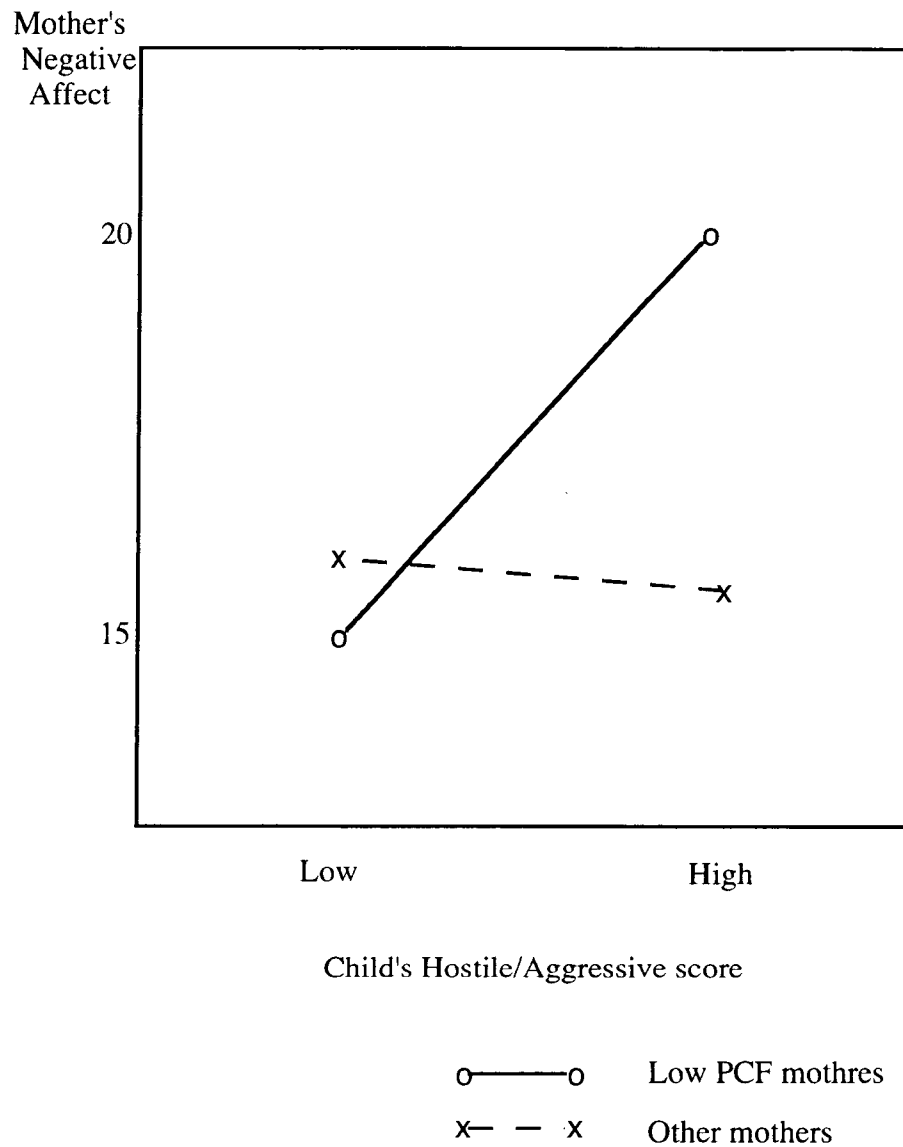


Figure 4.1 Interaction of mothers' general attributional styles and their child's hostile/aggressiveness on their negative affect

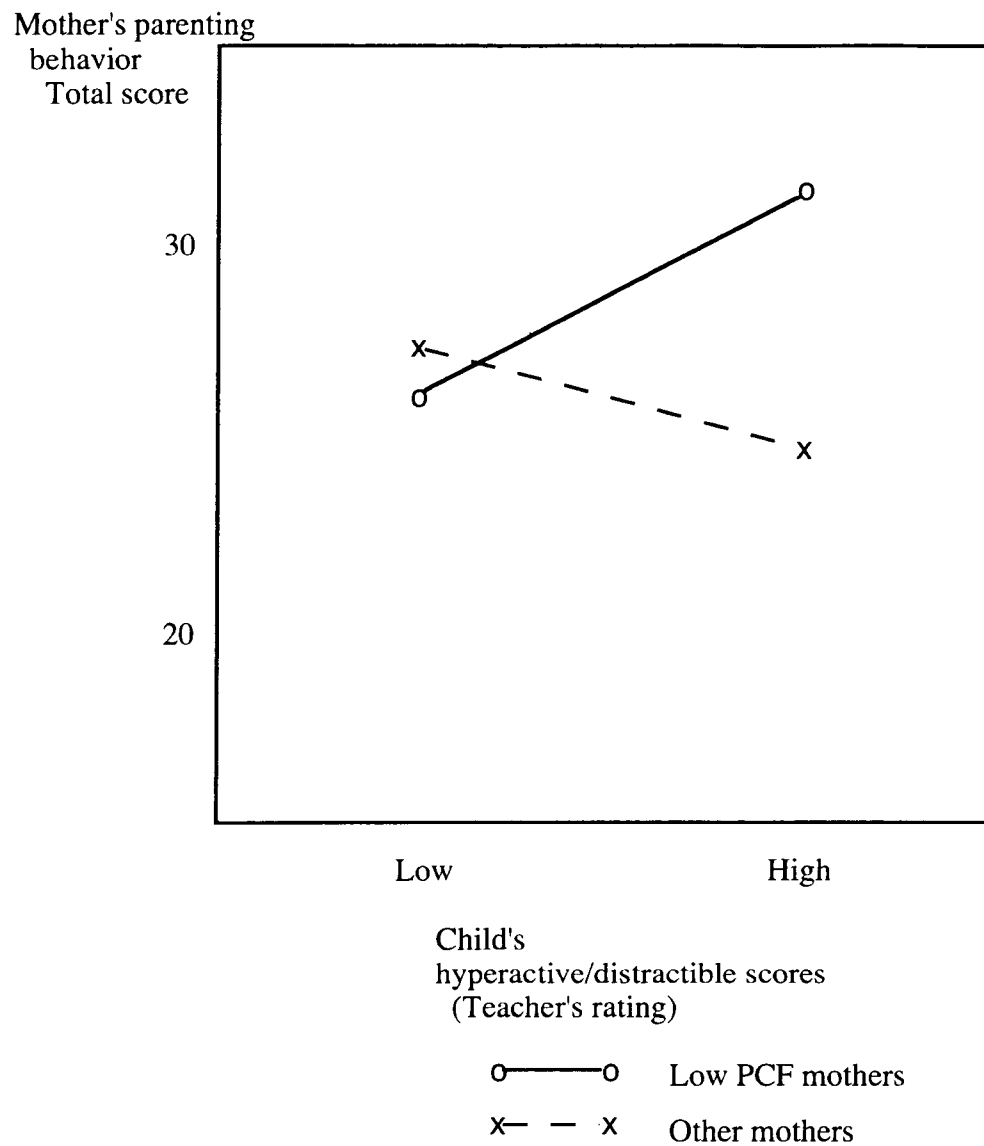


Figure 4.2 Interaction of mothers' general attributional styles and their child's hyperactivity/distractibility on their parenting behavior



$F(1, 64) = 9.66, p < .01$ . There were no main nor interaction effects for mothers' negative parenting behavior scores. Mothers who had low PCF scores reported much more positive parenting behavior than other mothers, when they had more hyperactive/distractible children. However, mothers having low PCF scores did not differ from other mothers when their children were low in hyperactivity/distractibility. Whether or not mothers had low PCF scores, and whether or not their children were high or low in hyperactivity/distractibility did not make any difference relative to mothers' reported negative parenting behaviors (see Table 4.14 for group means and standard deviations). Thus, Hypothesis 6 was supported for mothers' affect, but not for their parenting behavior, when their children's aggressiveness was judged according to teachers' assessments of hostile/aggressive behavior.

As a summary of the results, Figure 4.3 indicates statistically significant and nonsignificant paths in the conceptual model of this study. Some of the hypothesized paths were empirically supported in the present study but some of them were not.

Table 4.14

Means and standard deviations for mothers' positive and negative parenting behaviors by mothers' general attributional styles and their children's distractibility rated by teachers

Categories	Positive behavior			Negative behavior		
	<u>n</u>	<u>M</u>	<u>(SD)</u>	<u>n</u>	<u>M</u>	<u>(SD)</u>
<u>Mothers' attributions</u>						
low PCF	18	41.83	(4.77)	18	19.67	(4.28)
Others	48	41.85	(4.84)	19	21.53	(4.70)
<u>Teacher-rated children's hyper/distractible status</u>						
less hyper/distractible	37	42.16	(4.43)	38	20.50	(4.88)
more hyper/distractible	29	41.45	(5.25)	29	21.72	(4.28)
<u>Mothers' attributions x children's hyper/distractible status</u>						
low PCF x less hyper/distractible	13	40.23	(4.53)**	13	19.54	(4.59)
low PCF x more hyper/distractible	5	46.00	(2.24)**	5	20.00	(5.03)
others x less hyper/distractible	24	43.21	(4.10)**	25	21.00	(5.03)
others x more hyper/distractible	24	40.50	(5.23)**	24	22.08	(4.35)

Note: Significance levels are based on ANOVA.

\*  $p < .05$

\*\*  $p < .01$

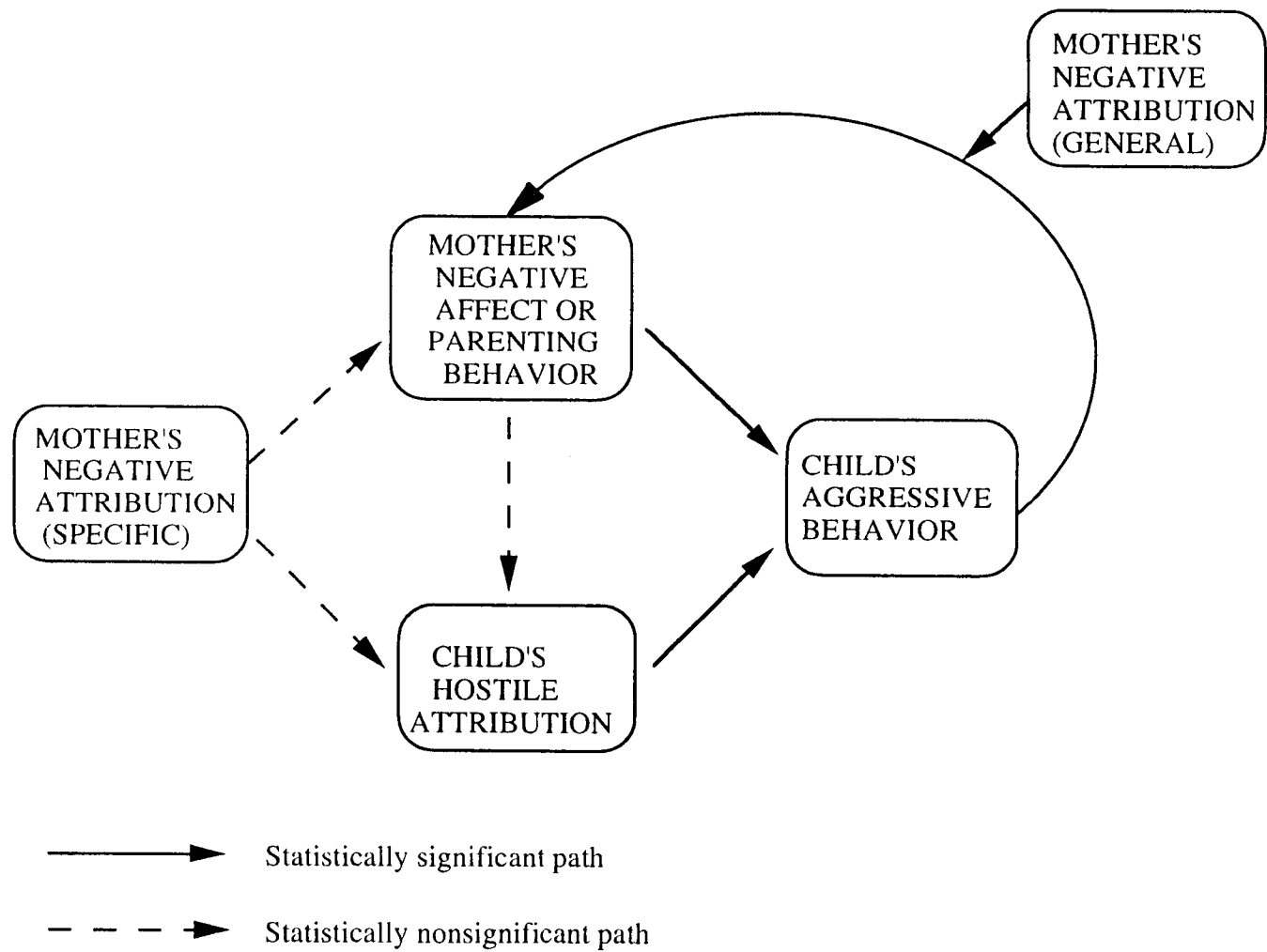


Fig. 4.3 Statistically significant and nonsignificant paths in the conceptual model

## CHAPTER FIVE

### DISCUSSION AND CONCLUSION

Hostile attributional bias is evident among aggressive school-aged children. Aggressive children are more likely to attribute hostile intention in interpreting negative social situations where the instigator's intention is ambiguous. This result is consistent in many studies using various methods: hypothetical stories (Dodge, 1980; Dodge & Frame, 1982; Milichi & Dodge, 1984), actual incidents (Lochman, 1987; Steinberg & Dodge, 1983), and videotaped vignettes (Dodge, et al., 1984; Dodge & Coie, 1987). One main purpose of the present study was to extend the minimum age of participants from kindergarten to preschool ages. It was hypothesized that aggressive preschoolers would be more likely to exhibit hostile attributional bias in interpreting negative outcomes of peer interactions than nonaggressive children.

Difficulty in investigating preschoolers lies in the uncertainty of their understanding of intentionality. Past research on this issue has been contradictory. Using very concrete and familiar materials with preschoolers (i.e., videotaped vignettes of two children's social interactions in a preschool classroom and playground situations), the present study found results similar to previous ones among preschool aged children. Aggressive preschoolers, as assessed by their teachers, displayed the hostile attributional bias. They were more likely to interpret a peer's unintentional negative behaviors as intentional. This hostile attribution score was the sole significant predictor of children's aggressive behavior, when their teacher-rated combined aggressive behavior score was used together with their mothers' parenting

behavior score. When mothers' negative affect scores were used in addition to children's hostile attribution scores, the family SES was another significant predictor for the children's aggressive behavior as rated by teachers. Further analysis of children's teacher-rated individual aggressive behavior scores (i.e., hostile/aggressive and hyperactive/distractible respectively) confirmed such significance in both cases. It may be objectionable to include children's hyperactive/distractible scores as part of their teacher-rated aggressive behavior scores. However, since the destructive score as part of their mother-rated aggressive behavior scores contained items similar to those included in the teacher-rated hyperactive/distractible score, this score was included in order to make mother- and teacher-rated scores more compatible.

The hostile attributional bias found when using the teacher-rated aggressive behavior scores, however, was not found among aggressive children when mothers' ratings of children's aggressive behavior scores were used. This discrepancy may be the result of the difference in the nature of two instruments used. The Child Behavior Checklist for Ages 2-3 (CBCL/2-3) was used to obtain mothers' ratings of their children's aggressive behavior, while the Preschool Behavior Questionnaire (PBQ) was used to obtain teachers' assessments. Although both instruments contain similar items, the PBQ was developed as a screening device to detect behavioral problems, suggesting the emergence of emotional difficulties (Behar & Stringfield, 1974c). The CBCL/2-3, however, was developed to detect more clinical behavioral/emotional problems (Achenbach, 1992). In fact, Achenbach (1992) reported nonsignificant low correlations between the CBCL/2-3 and developmental screening instruments. In the current study, the correlations between mothers' and teachers' ratings were also not

substantial (the range was from  $r = .26$  to  $.42$ ). Considering the fact that no clinically aggressive children were employed in the present sample, it appears that the CBCL/2-3 used by the mothers could not detect the small differences in aggressive behavior displayed by children in a non-clinical population. In a series of previous studies by Dodge and his colleagues, peer nominations and teacher ratings were utilized to assess children's aggressive behaviors. The results of the present study are consistent with these previous ones.

A relatively unexpected result obtained in this study regarding the relationship between children's hostile attributions and their aggressive behaviors had to do with those obtained when the two teacher-rated children's aggressive behavior scores (i.e., hostile/aggressive and hyperactive/distractible scores) were analyzed separately. Results revealed that children's hostile attributions were a stronger predictor of their hyperactivity/distractibility than their hostility/aggressiveness, although in both cases they were statistically significant. This finding may be explained on the basis of a narrow definition of hyperactivity used. According to the social-environmental approach, hyperactivity is perceived as a response to various constraints, contingencies, or demands in the environment (Porges & Smith, 1980). In this sense, hyperactivity/distractibility can be seen as more similar to reactive aggression (i.e., aggressive behavior demonstrated as a defensive reaction to a perceived threatening stimulus) rather than proactive aggression (i.e., aggressive behavior shown as a viable means of reaching some specific positive outcome) as defined by Dodge and Coie (1987). Dodge and Coie (1987) found that hostile attributional bias was more closely

related to reactive aggression than to proactive aggression. Therefore, results appear consistent with Dodge and Coie's (1987) findings.

In order to test the strength of the significant relationship between children's aggressive behaviors and their hostile attributional bias using teacher ratings in this study, additional exploratory analysis was conducted focused on the relationship between children's aggressive behaviors and their benign attributional bias (i.e., tendency to perceive intentional acts as accidental). Results indicated that the children's benign attributional bias was not associated with their aggressive behaviors as rated by their teachers. This additional finding further supports the strength of the relationship between children's aggressive behaviors and their hostile attributional bias, and also suggests that it is not children's delay of general cognitive development, but their specific hostile attributional bias that makes a difference in their aggressive behavior. As the information processing model indicates, aggressive children have a tendency to interpret their peers' unintentional negative action as intentional. Therefore, when some negative incident happens, aggressive children tend to respond to it more aggressively. Furthermore, findings of present study indicate that this hostile attributional tendency can emerge early, at the preschool age levels.

A second important purpose of the current study was to locate the source of the children's hostile attribution. Based on the social learning theory, mothers' attributional style, parenting behaviors and affect were expected to have significant effects on their children's hostile attributions. However, findings revealed none of these variables predicted children's hostile attributions. The relative weakness of the measurements used in the present study may account for these unexpected results. In

particular, mothers' specific attributional style and their negative affect were measured with the Parent Attribution Questionnaire (PAQ) using a self-report approach. The PAQ was originally developed as a measure using the interview technique (Walker, 1985). In the present study, using the PAQ as a self-report measure, mothers were asked to recall a recent incident of their children's misbehavior, after which their attribution and affect were assessed for that specific incident. Therefore, every mother had a different incident in her mind and reported retrospectively her causal attributions and affect for that incident. This could be problematic because the situation and degree of their child's misbehavior may be very different among the mothers, which resulted in measuring the mothers' attributions and affect related to varying degrees of their children's compliance.

Past research which found differences in mothers' attributions and affect between mothers of aggressive and nonaggressive children have employed different methodologies in assessing their attributions and affect. For example, Dix & Lochman (1990) showed mothers a videotape depicting mother-son interactions and assessed how mothers perceived or interpreted the mother's and the son's behaviors in the video. Strassberg (1995) also presented mothers with videotapes of adult female and male child interactions, with the child displaying various levels of compliance. The mothers were asked to imagine that it actually happened to them and their child. Then, mothers' interpretations and emotion were evaluated. Therefore, in both studies, mothers' attributions and affect were assessed using the same incident. Moreover, Strassberg (1995) found differences between mothers of behavior-problem boys and mothers of average boys only in responses to the moderately cooperative and



moderately resistant child behavior situations. Bauer & Twentyman (1985) also suggested that situational variables were important factors in measuring mothers' attributions of their children's intentionality in misbehavior. Regarding mothers' view of whether their children were acting intentionally to annoy them, the researchers found clear differences between abusive mothers and non-abusive ones in some situations. Thus, it seems possible that the measurement used in the present study defused differences that may have occurred, since each mother reported her attribution and affect based on a different level of her child's defiance. Although the PAQ was previously used and distinguished mothers who had chronically ill children from those who did not (Walker, 1985), as well as mothers of conduct-disorder children from those of non-clinical children (Baden & Howe, 1992), this instrument does not appear strong enough to differentiate between mothers of relatively aggressive children and those with less aggressive ones in a non-clinical population.

Concerns can also be raised relative to the instrument used in measuring mothers' parenting behaviors. The Parent Perception Inventory (PPI) was originally developed for measuring parenting behavior through children's perceptions. In this study, it was modified for use to obtain parents' own perception of their parenting behaviors. Although such modification has been used with some success in a previous study, reliability and validity concerns do arise. In addition, items included in the instrument may be problematic. Some of the negative parenting behavior items were obviously negative. For example, "How often do you give unfair punishments that are worse than your child deserves, or which he/she doesn't deserve at all?" As a result, some degree of social desirability bias to items in the instrument from mothers were

expected. This bias may have been greater than expected and constrained the variability of the scores resulting in its inability to detect the true differences in the sample. Use of more objective measurements of parenting behaviors may provide different results.

Another conceivable explanation for the lack of significant effects of mothers' attributions, affect, and parenting behaviors on their children's hostile attributions is that the variability within the non-clinical sample was not big enough to detect their effects. Previous studies, cited earlier, examined mothers of aggressive boys who were in treatment or boys with clinical-level problems. On the other hand, in the present sample, none of the children were aggressive enough to require treatment or had problems at the clinical level. It is possible that there was not much difference between mothers of aggressive children and those of nonaggressive ones since their children were not at the clinical level.

Considering the above two explanations, more reliable and valid instruments for measuring mothers' attributions, affect, and parenting behaviors may be able to detect their contributions among non-clinical samples. Although the present study could not identify the sources of children's hostile attributions using mothers' variables, the possibility of finding other sources still remains. In the present study, the only other source identified as contributing to children's hostile attributions was the family's SES. This finding is consistent with the literature on children's social skills, which generally shows an association between social skill deficit and low SES. Children from low-income families were more limited in social problem solving strategies and used more aggressive solutions than did those from middle-income

families (Spivak & Shure, 1974), and low-SES children provided more aggressive responses than did the middle-SES counterparts in their social strategy interviews (Ramsey, 1988). Spivak and Shure (1974) related these results to differences in family or mother-child interaction styles between two social classes; lower-class families were less likely to discuss the problem, less often shared possible solutions, and, therefore ended up with a narrower range of solutions, and mothers of lower-class families tended to be deficient in defining a goal for their child, giving specific directions to their child, and guiding their child to a solution in their communication. According to Spivak & Shure (1974), this restrictive interaction style, which did not provide children behavioral alternatives, inhibited children's adequate cognitive growth. Thus, it seems reasonable that children from lower-SES families develop a limited way of perceiving things, which is dominated by such obvious cues as its negative outcomes.

Another possible explanation for the association between low family SES and children's hostile attribution may lie in different levels of stress which may exist between the two social classes. Low family SES has often been identified with a more stressful environment (Brinker, Seifer, & Sameroff, 1994; Gore, Aseltine, & Colton, 1992). In such a stressful environment where children often have difficulty in predicting consequences and reactions from others, it is safer and more secure for them to have a certain way of perceiving and dealing with various phenomena. By doing so, they acquire control over their stressful life. Rothbaum, Wolfer, & Visintainer (1979) suggest that outward behaviors (i.e., reactance, facilitation) are coping behaviors of children who have an internal locus of control, whereas inward behaviors (i.e., withdrawal, passivity) are those of children who have an external locus

of control. They stated that children with an internal locus of control perceive situations as controllable and thus display outward behaviors, while children with an external locus of control were more likely to perceive many situations as uncontrollable thus showing inward behaviors. Based on this premise, children who strongly seek control over their outcomes will have internal and controllable attributions. Likewise, children who have hostile attributions that are classified as internal and controllable would have a strong need for control, and thus manifest more outward, aggressive behaviors. Children's hostile attribution bias, therefore, can be seen as the accumulated result of a battle to take control over their environment. For children from low SES families, the hostile attributional style may be a coping strategy for their stressful lifestyle.

The low percentage of explained variance in children's hostile attributions accounted for by variables included in this study (i.e., mothers' attribution, affect, and parenting behavior, children's age, and family SES) suggests that there are other sources of variation in children's hostile attributions not included in this study. One possible variable may be children's attachment to their mothers. The literature on attachment indicates that secure attachments to their mothers are related to children's social competence. For example, insecure boys were more disliked by peers and teachers, seen more as instigators of fights and judged more aggressive by peers, and were more likely to be categorized in the rejected group than secure boys (Cohn, 1990). Among German subjects, Wartner, Grossmann, Fremmer-Bombik, & Suess (1994) obtained similar results. Secure children assessed at age 6 were more competent in conflict management, less likely to project aggression into an interaction

depicted in a picture, and had fewer behavior problems than insecure children. These studies suggest that children's insecure attachments may be the possible source of their hostile attributions. Future researchers might wish to include this variable (i.e., children's attachment to their mothers) in addition to the other mother variables in their investigations.

In the present study, it was hypothesized that mothers' specific and general attributional styles have different functions. Based on the child abuse literature (Larrance et al., 1982; Bauer & Twentyman, 1985), a direct effect of mothers' attribution of a specific misbehavior of their own child on their affect and behavior toward their children was expected. On the other hand, based on a series of Bugental et al.'s studies (1984, 1989, 1993), a moderating effect of mothers' general attributional style on their affect and parenting behavior was expected. The present study, which utilized a non-clinical and normative sample, indicated no direct effect of mothers' specific attributional style and some moderating effects of mothers' general attributional style on their affect and parenting behaviors. Therefore, the assumption in the present study that the specific attributional style and general one has a different function seems to be supported. The correlation matrix shows a very low correlation between these two variables ( $r = -.025$ ). Thus, the mothers' specific and general attributional styles seem to measure different constructs in the current study.

Although the direct effects of mothers' specific attributional style on their affect and parenting behaviors were not supported, moderating effects of mothers' general attributional style were partially supported in the present study. Mothers who attributed causes of a negative outcome of an interaction with a child to the child's

responsibility rather than their own (low PCF), compared to the mothers who did not have such an attributional style, experienced a stronger negative affect toward their own child at the incident of noncompliance. This difference occurred only when their child was relatively aggressive as assessed via teachers' rating. Mothers' attributional style did not make any difference when they had a relatively nonaggressive child as assessed via teachers' rating. This finding is consistent with Bugental et al.'s study (1993).

However, the moderating effect of mothers' general attributional style on their parenting behaviors found in the present study, was in an unexpected direction. Mothers who had low PCF attributional style were generally more positive in their parenting behaviors than those without such an attributional style when their child was relatively hyperactive/distractible as rated by teachers. Further analysis of these data revealed that the moderating effect was related only to mothers' positive parenting behaviors and was not related to negative behaviors. This result may be a product of the mothers' social desirability bias. Crowne & Marlowe (1964) indicated that people who had high need for approval were significantly more defensive in the personality tests (Incomplete Sentences Blank, Rorschach, and Thematic Apperception Test) than those who had low need for approval. Therefore, it seems reasonable that mothers who attribute negative interaction outcomes as the child's responsibility rather than their own are more vulnerable to this bias. Therefore, especially when such mothers have a difficult child, they may think that they are doing their best even though they still have problems.

The moderating effect of a low PCF attributional style on negative parenting behaviors which was anticipated from previous studies was not found in the current study. Methodological differences between past studies and the present study may account for this discrepancy. Most of the previous studies involved a child who was not related to the subjects: a child who was a confederate in one study (Sacks & Bugental, 1987) and a computer-simulated child in another (Bugental et al., 1993). On the other hand, the current study investigated mothers' self-reported general parenting behaviors toward their own child who was categorized as either aggressive or nonaggressive (difficult or not). When the difficult child is a total stranger, mothers' behavior may be more negative, since they do not have to worry about the consequence of their negative behavior. However, mothers would be less negative toward their own child, even when he/she is a difficult child, since they have to maintain a long lasting relationship with their child. Whether the child of focus is the mothers' own or not, therefore, may lead to discrepancies in their reactions to the child.

One study involving mothers and their own children was found which exhibited the effect of mothers' general attributional style on their behavior toward their own child; a low PCF attributional style predicted mothers' coercive caregiving (Bugental, et al., 1989). Although this study did not demonstrate a clear moderating effect, separate analyses indicated that the effect was stronger for difficult children, suggesting a moderating effect. However, one-third of the subjects in Bugental et al.'s (1989) study were mothers who had a history of child abuse. On the other hand, none of the subjects in the present study were known to be under referral to the Children's

Services Division, Oregon Department of Human Resources, for child abuse. This discrepancy in the characteristics of the subjects may have yielded the different results. Thus, although the present results did not provide strong support for the moderating effects of mothers' attributional style, on the basis of the present findings we cannot deny Bugental's transactional model proposing the reciprocal interaction between parents and their children.

The link between negative parenting including affect and children's aggressive behaviors has been established by ample empirical research (McCord, et al., 1963; Olweus, 1980, Patterson, 1982; Sears, et al., 1957). The present study adds one more piece of evidence to support the association between parenting behaviors and children's aggressive behavior. However, mothers' affect was not related to their children's aggressive behavior. Judging from the fact that mothers' affect measured in the current study was not their general affect but that of a very specific situation, the result obtained was not surprising. Mothers' general affect could be quite different from their affect in a very specific situation. Although the present study was consistent with previous studies in terms of mothers' parenting behavior, its generalization is limited because it was found only for the mother-rated children's aggressiveness and not for the teacher-rated one. A low correlation between parent- and teacher-ratings in children's behavior problem scales has been well reported (Cherame, 1994; Cohen, Becker, & Campbell, 1990; Ellers, Ellers, & Bradley, 1989; Gagnon, Vitaro, & Tremblay, 1992). Cherame (1994) who found a low correlation between the ratings of mothers and teachers on the Adaptive Behavior Scale justified the low correlation as reflecting valid differences in children's behaviors in different



settings rather than being due to a bias between raters. Since the parent-teacher agreement is relatively low even on the same scale, the agreement is expected to be pretty low when using different scales for parents and for teachers as done in the present study. As reported earlier, the correlation was also not strong in the current study. Considering the slightly different nature of the two scales and the result indicating that children's hostile attribution predicted only their aggressive behaviors as rated by teachers, the present study seems to suggest that children's aggressive behaviors exhibited at home and at school are different in their characteristics. Children's aggressive behaviors at home are more closely related to their mothers' parenting behaviors. On the other hand, those at school are more closely related to children's own cognition in socializing with their peers.

In reference to the controversial issue of young children's understanding of intentionality, the present study revealed that when stimulus materials presented to children are concrete and familiar for them, preschool aged children can perceive their peers' intentionality just as adults do. Based on Dodge et al.'s study (1984), the stimulus materials in the present study were developed specifically for preschoolers, utilizing in videotaped vignettes approximately the same age children and commonly occurring behaviors in a familiar context (i.e., preschool classroom and playground). Five different kinds of intentions manipulated in Dodge et al.'s study (1984) were reduced to two in order to simplify the children's task. Watching a videotape was very concrete for preschoolers and drew their attention. It also minimized the effect of language development. With this stimulus material, about 78% of the present subjects were able to correctly identify their peers' intentionality as adults did. The present

results are consistent with previous studies which claimed that preschoolers were able to understand intentionality (Berndt & Berndt, 1975; Shultz, et al., 1980). However, since children who could not pass the task criteria for inclusion in this study and considered as not understanding intentionality were significantly younger than those who passed the task criteria (4.5 and 4.8 years old respectively), the topic of children's understanding intentionality is definitely a developmental issue.

### Limitations of Study and Suggestions for Future Research

As already mentioned in the discussion, instruments employed in the present study to assess mothers' parenting behavior, affect, and attributional styles appeared too weak to detect their variability within the non-clinical, normative sample used. This limitation led to a failure in the present study to verify expected outcomes, including negative parenting, affect, and attributional styles as important sources of children's hostile attributions. The possibility of these variables as sources of children's hostile attributions, however, cannot be ruled out until more definitive research is done. Future research should utilize more powerful instruments, especially when involving non-clinical samples.

Contrary to instruments used to assess mothers' variables, the instrument used to assess children's hostile attributions, developed for the present study, was quite powerful, displaying high test-retest and inter-experimenter reliabilities. However, to make the instrument simple enough for preschoolers, only two kinds of intentions were examined: hostile intentions and non-hostile (i.e., accidental and ambiguous) intentions. Therefore, children's answers were forced into one of two categories:

either the boy (girl) did the behavior "on purpose" or "it was an accident". Fifty-three children in the present study passed the criterion, 16 of whom were tested twice for the test-retest reliability and 12 for inter-experimenter reliability, and passed the criteria both times. However, for the rest of the 25 children, there was still a 50% chance that they passed the criteria by guessing. As a result, the possibility of contamination of the children's hostile attributional scores still remains.

The exclusion of children who failed the criterion task made the original sample size smaller, which lead to limitations in statistical analyses. The small sample size prohibited the inclusion of other possibly important variables, such as the ethnicity and marital status of mothers, into the statistical models. The relationship between single parenthood and children's externalizing behavior problems has been well documented in past research (Beer & Beer, 1992; Guidubaldi & Perry, 1985; Masui, 1986; Spigelman, Spigelman, & Englesson, 1991). However, not only the small sample size but also the fact that only 8% of the present sample were from single parent families, did not allow analyses controlling for this variable. A study including a larger sample size, with enough single parent subjects, is recommended in future research.

The present sample also was biased in terms of ethnicity and socioeconomic status. There were no African-American mothers and only one African-American father and the Hispanic population was slightly over represented (12.5%). Half of the families participated in this study were categorized as upper class. Moreover, mothers in the present study seem to be relatively mature (average age was 33.5). Thus, the

present sample is not a nationally representative sample. Generalization of the results of the present study has to be limited to a population with similar characteristics.

Based on the information processing model, the path from children's hostile attribution to aggressive behaviors seems assured. However, since the present study is not a pure experimental study, a cautious interpretation of causation is still necessary. Two separate statistical analyses in the present study are suggestive of a reciprocal relationship between mothers' affect or parenting behavior and children's aggressive behavior. Future investigation in which one statistical analysis taking into account this nonrecursive relationship, such as a structural equation model, may provide strong support for the present conceptual model.

Despite some limitations, the present study contributes one significant piece of information, that is, the hostile attributional bias is already exhibited among aggressive children in preschool situations. From this result, the present study has some implications, especially for preschool teachers, which will be summarized in the next section.

### Implications for Preschool Teachers

Aggressive preschool children, particularly in the eyes of teachers, have a tendency to perceive their peers' social interactions in which a negative outcome was unintentionally produced by one of the peers, as being intentionally produced. Since this bias is apparent among aggressive children even when perceiving interactions of two children who are total strangers to them, this bias will function even more strongly when perceiving negative outcomes that actually happened to them. As a

matter of fact, Dodge and Frame (1982) reported that when the negative outcome was directed at the subject, aggressive boys were more likely to attribute hostile intentions than nonaggressive ones; whereas when the outcome was directed at the other boy, aggressive and nonaggressive boys were not different in their attributions of intention.

Negative incidents happening in preschool classrooms and playgrounds do not necessarily involve hostile intentions of a child who produced the negative outcomes. Particularly because of preschool children's egocentrism, many negative incidents unintentionally occur among children. For example, a child playing in a sandbox throws sand toward the other child without noticing. In such a situation, an aggressive child may perceive the peer's behavior as purposely done, thus taking aggressive reaction toward the child who threw sand. On the other hand, in the same situation, a nonaggressive child will likely view the same behavior as an accident, hence, not react aggressively. In order to intervene in the link between aggressive behaviors and their hostile attributions, children need to learn how to perceive situations accurately. Although the information processing model assumes that encoding and interpretation processes are separable, it is difficult to measure what children encoded without knowing their interpretation (Dodge, 1986b). Although the present study did not explore the encoding process, previous studies suggest that aggressive children do not encode available cues as thoroughly as nonaggressive children do (Dodge, 1986a). They then interpret the situation based on the limited cues they have encoded, which leads to their hostile attributions. Considering the difficulty of discriminating between these two processes, teachers can begin by providing children with numerous cues which indicate the behavior is not intentional, and thus why the behavior should be

perceived as an accident. This kind of teaching can be done through actual incidents happening everyday at preschool or by using some materials, such as the videotaped vignettes employed in the present study. Using these materials, teachers can talk with children about ways to accurately interpret their peer's behaviors which unintentionally induced negative outcomes and present cues for an accurate judgement. Through this teaching process, teachers can also convey that the environment is not necessarily hostile.

For children without hostile attributional bias, teachers can provide them with alternative reactions toward peers' hostile actions. According to the information processing model, children who do not have hostile attributional bias are not necessarily nonaggressive. They may have some deficit in the next step of information processing, the process of response search and response decision. When children correctly perceived their peers' hostile intention, socially competent children can still respond nonaggressively to those peers. In the same situation, some children respond aggressively because that response style is the only response choice, or it is an appropriate response for them. In fact, previous studies have indicated that aggressive children generate more incompetent solutions (Asarnow & Callan, 1984; Richard & Dodge, 1982) and expect an aggressive response to work more effectively (Boldizar et al., 1989; Perry et al., 1986) than do nonaggressive children. Therefore, by providing other alternatives, teachers can teach children that reacting aggressively to their peers is not their only choice nor is it an appropriate choice even when their peers' negative actions were hostilely intended.

On the basis of results in the present study, it is not clear from where children's hostile attributional bias comes. Mothers' attributional styles, parenting behavior and affect made no significant contribution to children's hostile attributional bias in this study, in part due to the weak measurement employed, and possibly failure to assess other important variables (i.e., attachment). Conclusive results, however, must wait for further research. One source that contributed to children's hostile attribution found in the present study was their family's SES. Children from low SES families were more likely to have hostile attributional bias. The family SES in the present study was derived based on parents' educational level and their occupational status. Since many previous studies revealed that educational attainment is an important predictor of occupational attainment (Blau & Duncan, 1967; Duncan & Hodge, 1963; Sewell, Haller, & Ohlendorf, 1970), parents' high educational levels may be critical on determining a family's SES. The result of the present study suggests that enhancing the level of education for parents may be beneficial not only for a family's socioeconomic well-being, but also for their preschoolers' competent social behaviors. Therefore, public policies stressing education for parents should also be valued in this respect.

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## APPENDICES

## Appendix A: Scenarios for the Videotaped Vignettes

### Scenario 1a (intentional) (1)

Child A is building something with wooden blocks. Child B is building something in a parallel way. They are side by side.

Child A: "Look, mine is taller than yours!" (to Child B)

Child B : Looks at the Child B's building.

"I don't like yours." (knock down the building)

### Scenario 1b (accidental) (2)

Child A is making a tall building with wooden blocks quietly.

Child B is also making a building (almost the same height). He tries to get a big block near the Child A's building. He successfully reached, grabbed and pulled it toward himself. The edge of the block touched Child A's building and knocked it down.

Child B: "I didn't do it!" (with showing surprise face)

### Scenario 1c (ambiguous) (3)

Child A is making a building alone. Child B is walking by and suddenly knocks it down by his/her foot.

### Scenario 2a (intentional) (4)

Child A and Child B are digging sand at the sandbox. They are face to face but playing parallel. In the middle of two boys (girls) a toy shovel lies. Child A was using his/her hand and B was using a toy (bucket, etc). Child A decided to use the shovel, so he/she grabs it. Child B saw that.

Child B: "That's mine. Give me that!"

Child A: "No, it's mine." (continue using it)

Child B: "Give me that" (throwing sand to Child A)

### Scenario 2b (accident) (5)

Child A is digging sand. Child B is behind A making something with sand. Child A throw sand behind and that goes to Child A's arm.

Child A: "Stop it. You are throwing sand at me!"

Child B: (Turns back to see Child A. Shows a surprised face.)

Scenario 2c (ambiguous) (6)

Child A is making something (mountain) with sand. Child B runs nearby Child A's sand mountain and breaks the edge of the sand mountain.

Scenario 3a (intentional) (7)

Child A and Child B are at the water table playing with a toy individually. They are standing at both sides of the table. One boat is floating in the water table. Two children reach to the boat at the same time. They pull the boat to each other.

Child A: "This is mine!" (pulls the boat)

Child B: "I got it first. It's mine!" (pulls the boat)

Child A: "No, I had it first. Give it to me" (pulling the boat with one hand and throws water to Child B with another hand)

Child B: (Gets wet) "Teacher!"

Scenario 3b (accident) (8)

Child A and child B are at the water table playing with a boat in a parallel way. Child A jumps his boat in the water and splashes water around. Child B gets splashed and gets wet.

Child B: "Stop that."

Child A: "I didn't mean it." (with surprise face)

Scenario 3c (ambiguous) (9)

Child A is playing at the water table alone. Child B comes to the table. Child B touches water for a while (making waves), suddenly he/she makes the waves big splashing Child A.

Scenario 4a (intentional) (10)

Child A and Child B are on the slide. Child A is ready to slide down. Child B is behind Child A.

Child B: "Hurry up!" (pushes Child A)

Child A: "Don't do that!"

Scenario 4b (accident) (11)

Child A slides down and knocks into Child B who is running in front of slide.

Child B: "Ouch! You hurt me.

Child A: "I didn't mean it."

Scenario 4c (ambiguous) (12)

Child A is on the top of slide and ready to slide down. Child B comes up and gets into a sitting position shoving Child A. Child B proceeds to slide down.

Child A: (bumped by Child B) " Ouch, you pushed me!"

Child B: (looks up at Child A from the bottom of the slide)

Scenario 5a (intentional) (13)

Child A and Child B are playing with puzzles in a parallel way.

Child A finishes it with one more piece, while Child B has still a couple of pieces left.

Child A: "I am almost finished. I win!"

Child B: (Looks at Child A's finished puzzle) "No, you don't."

(He/she pushes the puzzle and the puzzle drops on the floor)

Scenario 5b (accident) (14)

Child B is working with a puzzle. The puzzle was somehow placed at the edge of the table. Child A was watching Child B.

Child A: "I'll help you." (grabs one piece)

Child B: (continues working)

Child A: (tries to put the piece into the unfitted open place forcefully and pushes the whole puzzle down the table)

"I didn't meant to!"

Scenario 5c (ambiguous) (15)

Child A is working with a puzzle. Child B comes to the table with a large box of legos. Child B puts it down on the table and pushes the puzzle off the table. The puzzle drops on the floor.

Scenario 6a (intentional) (16)

Child A is riding a tricycle slowly. Behind Child A, Child B is riding a tricycle faster than Child A.

Child B: "I'll beat you!" (crashes into Child A's tricycle)

Child A: "Don't do that."

Scenario 6b (accident) (17)

Child B is riding a tricycle but not moving. Child A is riding a tricycle slowly with talking with somebody behind him/her. (Child A does not seem to notice the presence of Child B in front of him/her). Child A crashes into Child B's tricycle.

Child B: "Don't do that."

Child A: "Ooops!" (smiling)

Scenario 6c (ambiguous) (18)

Child A is riding a tricycle and Child B is riding a tricycle behind Child A. Child B crashes into Child A's tricycle without any words and any context.

Scenario 7a (intentional) (19)

Child A and Child B are playing at the kitchen area.

Child A: "I'm going to make pancakes." (grabs a pan)

Child B: "I'm going to make soup. I need that pan." (tries to take it away from Child A)

Child A: "This is mine!" (pushes Child B away)

Child B: (falls down on the floor)

Scenario 7b (accident) (20)

Child A and Child B are playing at the kitchen area in a parallel way. Child B tries to take a plate across from Child A. While he/she does so, Child B pushes Child A and makes Child A fall down.

Child B: "I need the plate." (stretches his/her arm to reach the plate, which makes him/her push Child A)

Child A: (falls down)

Child B: "I didn't mean to"

Scenario 7c (ambiguous) (21)

Child A was playing at the kitchen area alone. Child B comes to the area with a big basket (full of clothes) and knocks Child A down.

## Appendix B: Questionnaire to Teachers about Scenarios

Dear Head Teachers:

As a part of my research, I am developing videotaped vignettes which will depict negative outcomes of dyadic interactions between children with the provocator displaying three different intentions: hostile, accidental, and ambiguous. These vignettes will be shown to preschool children to assess their ability to distinguish between intentional and accidental happenings, and then to assess their attributional tendencies.

To develop the videotaped vignettes, I have created twenty-one scenarios for the children to act out. Before I start videotaping these vignettes, I would like to have your professional input. Please read the attached scenarios and answer the following questions.

1. Do the behaviors described commonly occur among preschool-aged children?  

Yes                      No
  
2. If "No", please list the numbers of each scenario that you think does not commonly occur among preschool-aged children.  


---
  
3. Do you think the type of intention associated with each scenario which is indicated in parentheses matches the description of scenarios?  

Yes                      No
  
4. If "No", please list the numbers of each scenario you think does not match its indicated intention.  


---
  
5. Do you believe that if children were asked to pretend to act out any of these behaviors, they will be harmed in any way?  

Yes                      No
  
6. If "yes" or you have some concern about the children's safety when they act out these scenarios, please list the numbers of those scenarios.  


---
  
7. Do you think the videotaped vignettes, based on these scenarios, will enable me to assess the ability of 3-5 year old children to distinguish between

intentional and accidental happenings?

Yes

No

8. If you have any other comments, please write on the scenario examples provided following and return them to me with this form ( to Susan Burke's box).

Thank you for your cooperation!

Emiko Katsurada, Graduate Student,HDFS



Appendix C: Letter with Consent Form for the Parents of the Children who  
Participated in Videotaping

Dear Parents:

I am a graduate student in the Department of Human Development and Family Sciences. For my dissertation, I would like to conduct a research study under the supervision of Dr. Alan Sugawara, Professor of Human Development and Family Sciences. The purpose of my research project is to study the relationships between aspects of children's social behavior, their ability to interpret other children's behaviors, and mothers' disciplinary styles as well as their interpretations of their own children's behaviors. As a first step in my research project, I will be developing videotaped vignettes of children's social behaviors, which will be shown to other children to see how they interpret these behaviors. I would like to ask permission for your child's participation in making these videotaped vignettes.

In making these videotaped vignettes, your child will be asked to act out common social behaviors with or without a clear intention, or is accidental in nature with another child. These common social behaviors include breaking a peer's wood block construction, throwing water at the water table, pushing a puzzle off the table (see attached scenarios for more detail).

Before making the videotaped vignettes, your child will be told, "We are going to make a movie and all the things that I will ask you to do is just pretending. We will just be making a movie." After completion of such a task, I will again talk with your child to make sure that he/she was clear that we were just making a movie, and the things he/she was asked to act out was just pretending. This will be done so as to correct any misunderstandings that might have occurred when your child acted out the social behaviors in the videotaped vignettes. For example, your child will be asked "What did you do when you were making the movie?" After your child responds, I will say, "You know that you were just pretending when you did the things I asked you to do in the movie?" If the answer is "No", I will again tell him/her that making the movie was only pretending, "just like when you play Superman."

You should also know that although the completed videotaped vignettes will be shown to other adults (pilot study) and children (dissertation study), you and your child's identity will fully remain confidential. As an appreciation of your child's participation in this research, a small amount of money (\$20) will be paid to you after completion of your child's work. You will receive this amount even if, after you have signed the consent form, you decide to withdraw or terminate your child's participation in this research project. If you have any questions about this research, please contact us at 752-5412, 737-2347, or 737-1078. This is the most important aspect of my research project which will make a significant contribution to the field of child development. Your child's participation in the project, therefore, will be greatly appreciated. Thank you!

Sincerely,

---

Emiko Katsurada  
Ph.D. Candidate

---

Alan Sugawara, Ph.D.  
Professor of HDFS

### INFORMED CONSENT

This is to certify that I, \_\_\_\_\_, hereby allow my child, \_\_\_\_\_, to participate in the process of making videotaped vignettes as a part of the research study conducted by Emiko Katsurada, under the supervision of Dr. Alan Sugawara, Professor of Human Development and Family Sciences.

The process that my child will be involved in has been fully explained to me by \_\_\_\_\_ and I understand the explanation.

I understand that the completed videotaped vignettes will be shown to other children and adults, however, I and my child's identity will remain confidential. I understand that I am free to withdraw my consent and terminate my child's participation at any time. I further understand that I will receive \$20 for participation, even if I terminate my child's participation from the research project at any time.

---

Date

---

Parent's signature

## Appendix D: First Letter to Participants

April 11, 1995

Dear Parents:

I am a graduate student in the Department of Human Development and Family Sciences. For my dissertation, I would like to conduct a research study at the Child Development Center under the supervision of Dr. Alan Sugawara, Professor of Human Development and Family Sciences. The purpose of our research project is to study the relationships between aspects of children's social behavior, their ability to interpret other children's behaviors, and mothers' disciplinary styles as well as their interpretations of their own children's behaviors. To conduct this study, we will need the cooperation of you and your child. Your participation in this project will add greatly to the body of knowledge in the field of early childhood education.

To assess a child's interpretation of other children's social behavior, your child will be presented with videotaped vignettes showing other children his/her age displaying common social behaviors having negative outcomes, and will be asked how he/she interprets them. Since each child interprets behaviors in different ways, there are no right way or wrong answers associated with these interpretations. Our primary interest is just to see how children interpret the behaviors shown. After watching the videotaped vignettes, your child and an experimenter will talk about the behaviors that were displayed to make sure that the child has not obtained any erroneous message from the videotape. This research procedure will take about 20 minutes to complete.

As parents of the children who view the videotape, you will also be asked to fill out questionnaires about your child, your disciplinary style, your interpretation of a specific behavior displayed by your child and a general childcare outcome, and your own background as an individual. Again, there will be no right or wrong answer to the questions asked. Our interest is simply to see how you view your child, and how you interact with him/her at home. Filling out these questionnaires will take no more than 40 minutes.

The questionnaires containing your responses will be assigned an ID number, and only the researchers will know the name of your child. Furthermore, only members of our research team will have access to any information about you or your child that you provide us with. You and your child's identity relative to all information collected will remain fully confidential.

Although you have already signed a Research Consent Form at your child's enrollment at the Child Development Center, you are free to choose not to participate in our study. If you decide not to participate, please inform your child's teacher. Even after you have made a decision to participate, you are still free to withdraw or terminate

your or your child's participation from the research project at any time. You or your child's refusal to participate will involve no penalty or loss of benefits to which you or your child is otherwise entitled.

If you have any question about this research project, please contact us at 752-5412, 757-2347 or 737-1078. You and your child's participation in this research project will make a significant contribution to our knowledge in the field. We, therefore, greatly appreciate your willingness to participate in it. Thank you!

Sincerely,

---

Emiko Katsurada, Ph.D. Candidate                      Alan Sugawara, Ph.D., Professor  
Department of Human Development and Family Sciences

## First Letter to Participants (Spanish version)

el 11 de abril, 1995

Estimados padres:

Soy una estudiante graduada en el Departamento de desarrollo humano y las ciencias familiares. Para mi tesis, me gustaría hacer una investigación en el Centro de desarrollo infantil bajo la supervisión de Dr. Alan Sugawara, un profesor del desarrollo humano y las ciencias familiares. El propósito de nuestra investigación es estudiar las relaciones entre el comportamiento social infantil, la habilidad de los niños de interpretar el comportamiento de otros niños, y la manera de que las madres castigan a sus hijos y cómo interpretan la conducta de sus hijos. Para hacer la investigación, necesitaremos la cooperación de Ud. y su hijo o hija. Su participación en este proyecto contribuirá a los conocimientos en el campo de la educación infantil.

Para que su niño/a pueda evaluar los comportamientos de otros niños, se presentará un video que muestra situaciones con finales negativos en que participan otros niños de su edad y le preguntaremos cómo interpreta las acciones y situaciones. Puesto que cada niño/a interpreta varios comportamientos de una manera distinta, no hay respuestas correctas ni incorrectas. Sólo nos interesa cómo los niños interpretan las situaciones que se mostrarán. Después de mirar el video, su hijo/a y un asistente hablarán de las observaciones del video para asegurar que su hijo/a no recibió mensajes erróneos del video. El procedimiento entero durará unos 20 minutos.

Como padres de niños que miran el video, les pedimos que contesten un cuestionario sobre su hijo/a, su estilo de castigar, su interpretación de un comportamiento específico que su hijo/a ha mostrado y otra de una situación en general, y también que nos dé un poco de información acerca de Ud. como individuo. No habrá una respuesta correcta ni incorrecta; nuestro interés es sólo entender cómo Ud. interpreta las acciones de su niño/a y también cómo se interactúan en su casa. El cuestionario no ocupará más de 40 minutos de su tiempo.

Los cuestionarios que contienen sus respuestas tendrán un número de identificación que sólo los investigadores sabrán. Además, solamente los investigadores tendrán acceso a la información que Ud. y su hijo/a nos dan. Su identidad y la información que nos dan serán completamente confidenciales.

Aunque Ud. ha firmado un consentimiento para la investigación cuando matriculó a su hijo/a en el programa del Centro del desarrollo infantil, tiene todo derecho a no participar en este estudio. Si decide no participar, favor de informar a la maestra de su hijo/a de su decisión. Si decide formar parte de la investigación siempre tiene el derecho de retirar de la investigación en cualquier momento. No habrá ninguna pérdida de beneficios por no participar en este estudio.

Si Ud. tiene cualquier pregunta sobre este proyecto, favor de llamarnos a 752-5412, 757-2347, ó 737-1078. Su participación en esta investigación contribuirá mucho a los conocimientos en este campo de educación; por eso, agradecemos su buena voluntad de participar. ¡Gracias!

---

Emiko Katsurada, candidata de Ph.D.

Dr. Alan Sugawara, profesor

El departamento de desarrollo humano y las ciencias familiares

## Appendix E: Cover Letter for the Questionnaire

April 18, 1995

Dear Parents:

Thank you for your participation in our research project. Please find the enclosed questionnaire that was mentioned in the letter sent to you last week. We would like to ask **mothers** to fill out this questionnaire.

The questionnaire consists of various questions about your child's social behaviors, your disciplinary style, your interpretation of a specific behavior displayed by your child, and your own background as an individual. There are no right or wrong answers to questions asked. Your honest and accurate answer to each question will be most appreciated.

Completing the questionnaire will take no more than 40 minutes. Answer all questions asked. Please leave no question unanswered.

As noted on the first page of the questionnaire, your questionnaire has been assigned an ID number, and the information you provide us with will be kept completely confidential.

If you have any question about the questionnaire, please contact us at 752-5412, 757-2347 or 737-1078. After you have completed the questionnaire, please return it to your child's teacher. We would appreciate it greatly, if you would complete your questionnaire by **Friday, April 28, 1995**.

Your participation in this research project will make a significant contribution to our knowledge about child development. Again, thanks greatly for your cooperation!

Sincerely,

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Emiko Katsurada, Ph.D. Candidate	Alan Sugawara, Ph.D., Professor
Department of Human Development and Family Sciences	

## Cover Letter for the Questionnaire (Spanish version)

el 18 de abril, 1995

Estimados padres,

Gracias por su participación en nuestra investigación. Va incluida con esta carta el cuestionario que mencionamos en la carta de la semana pasada. Nos gustaría que **las madres** llenaran este cuestionario.

El cuestionario consiste en varias preguntas acerca de la conducta social de su hijo (o hijo), su estilo de castigar, su interpretación de un comportamiento específico que su hijo/a ha mostrado y también un poco de información acerca de Ud. como individuo. Se apreciará mucho su honestidad y exactitud en cuanto a sus respuestas.

Completar el cuestionario durará menos de 40 minutos. Favor de contestar todas las preguntas y no dejar ninguna pregunta sin respuesta.

Como se verá en la primera página, se ha designado un número a su cuestionario para que la información que nos da Ud., pueda ser completamente confidencial.

Su Ud. tiene cualquier pregunta sobre el cuestionario, favor de llamarnos a 752-5412, 737-2347 o 737-1078. Después de llenar el cuestionario, favor de devolverlo a la maestra de su hijo. Nos gustaría si Ud. podría devolver el cuestionario antes del **viernes 28 de abril, 1995**.

Su participación en este proyecto de investigación contribuirá mucho a nuestros conocimientos sobre el desarrollo infantil. ¡Muchas gracias por su cooperación!

Atentamente,

---

Emiko Katsurada, candidata de Ph.D.

Dr. Alan Sugawara, profesor  
El Departamento de Desarrollo Humano y Ciencias Humanas



## Appendix F: First Reminder Letter to Mothers

May 2, 1995

Dear Mothers:

Two weeks ago a questionnaire was sent to you asking for information about your child's social behavior, your disciplinary style, your interpretation of a specific behavior displayed by your child, and your background.

Many of you have already completed the questionnaire and returned it to us. If you have done so, please accept our sincere thanks for your cooperation.

However, if you have not as yet completed and returned the questionnaire, we would appreciate it greatly if you would do so as soon as possible. Since your child has already been tested using videotaped sessions of other children's social behavior, it is important for us to have the additional information about yourself and your child found in the questionnaire. Without such information, we will be unable to complete our investigation on the relationship between children's social/cognitive behaviors and those of their mothers.

If by chance you did not receive a questionnaire or have misplaced it, please feel free to call us at 737-1078 or 752-5412. We will gladly send another one to you.

Thank you most kindly for your cooperation.

Sincerely,

---

Emiko Katsurada, Ph.D. Candidate	Alan Sugawara, Ph.D., Professor
Department of Human Development and Family Sciences	

First Reminder Letter to Mothers (Spanish version)

el 2 de mayo, 1995

Estimados padres:

Hace dos semanas Uds. recibieron un cuestionario que pedía información sobre la conducta de su hijo (o hija), su manera de castigar a sus hijos, su interpretación de un comportamiento específico que su hijo (o hija) ha mostrado e información general de su familia.

Muchos de los padres han llenado y devuelto su cuestionario. Si Uds. ya han hecho eso, favor de aceptar nuestro agradecimiento por su cooperación.

Si Uds. no han devuelto el cuestionario, nos agradecería que lo hiciera lo más pronto posible. Es importante que tengamos la información que se encuentra en el cuestionario porque su hijo (o hija) ya ha participado en una entrevista en que se utilizaba videos en que se veía el comportamiento de otros hijos. Sin las dos partes, la entrevista con su hijo (o hija) y el cuestionario, no podremos completar nuestra investigación de la conducta social infantil y familiar.

Si por casualidad, Uds. no hayan recibido un cuestionario o si lo hayan perdido, favor de llamarnos a 737-1078 o 752-5412 y se lo mandaremos de nuevo.

Muchas gracias por su cooperación.

Atentamente,

---

Emiko Katsurada, candidata de Ph.D.

Dr. Alan Sugawara, profesor  
Departamento de Desarrollo humano y Ciencias Familiares

## Appendix G: Second Reminder Letter to Mothers

May 9, 1995

Dear \_\_\_\_\_:

Three weeks ago a questionnaire was sent to you asking for information about your child's social behavior, your disciplinary style, your interpretation of a specific behavior displayed by your child, and your own background. As of today, our records indicate that we have not as yet received your completed questionnaire.

We would greatly appreciate it, therefore, if you would complete the questionnaire and return it to us as soon as possible. In the event that you have misplaced the questionnaire, we are enclosing another copy of the questionnaire for you to complete. If you have any questions relative to the questionnaire, please feel free to contact us at 737-1078 or 752-5412.

This Children's Social Behavior Project, of which the questionnaire is a part, has been undertaken to investigate the relationship between children's social/cognitive behaviors and those of their mothers. The results of this project will add greatly to the body of knowledge in the field of early childhood education. Your responses on the questionnaire, therefore, will play a significant role in helping us to reach this objective.

At the present time, your child has already been tested, using videotaped sessions of other children's social behavior. In order to complete our investigation, we need your cooperation in completing the questionnaire. Please take a moment to fill it out and return it to us as soon as possible.

Thank you most kindly for your cooperation.

Sincerely,

---

Emiko Katsurada, Ph.D. Candidate  
Department of Human Development  
and Family Sciences

---

Alan Sugawara, Ph.D., Professor  
Department of Human Development  
and Family Sciences

## Second Reminder Letter to Mothers (Spanish version)

el 9 de mayo, 1995

Sra. \_\_\_\_\_:

Hace tres semanas se le mandamos un cuestionario que pedía información sobre la conducta de su hijo (o hija), su manera de castigar a sus hijos, su interpretación de un comportamiento específico que su hijo (o hija) ha mostrado e información general de su familia.

Nuestros archivos indican que no hemos recibido su cuestionario. Nos agradecería mucho si Ud. podría llenarlo y devolverlo lo más pronto posible. Si Ud. ha perdido se cuestionario, hemos incluido otra copia para que lo pueda completar. Si Ud. tiene cualquier problema o pregunta acerca del cuestionario, favor de llama a 737-1078 o 752-5412.

El proyecto de conducta social infantil, de que el cuestionario forma parte, se ha hecho para investigar la relación entre la conducta social/cognitiva de los niños y de sus padres. Los resultados de este proyecto contribuirán mucho a los conocimientos en el campo de la educación infantil. Por eso, sus respuestas al cuestionario tienen un rol importante en la investigación.

Su hijo (o hija) ya ha participado en una entrevista en que miró videos que mostraban el comportamiento de otros niños. Para poder terminar la investigación, necesitamos su cooperación en llenar el cuestionario. Favor de tomar unos minutos para llenarlo para que lo puedan devolver lo más pronto posible.

Muchas gracias por su cooperación.

Atentamente,

---

Emiko Katsurada, candidata de Ph.D.

Dr. Alan Sugawara, profesor

Departamento de Desarrollo humano y Ciencias Familiares

## Appendix H: Questionnaires to Mothers

Mother's ID: \_\_\_\_\_

Child's ID: \_\_\_\_\_

In the following questionnaire, 'your child' specifically means your child who is presently enrolled in one of the preschool programs associated with the OSU Child Development Center. Kindly think about such a child when you answer the following questions.

A. Please fill out this form to reflect your view of your child's behavior even if other people might not agree about the behavior.

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

**0 = Not True (as far as you know)**

**1 = Somewhat or Sometimes True**

**2 = Very True or Often True**

- |   |   |   |     |   |
|---|---|---|-----|---|
| 0 | 1 | 2 | 1.  | Acts too young for age  |
| 0 | 1 | 2 | 2.  | Avoids looking others in the eye                              |
| 0 | 1 | 2 | 3.  | Can't concentrate, can't pay attention for long               |
| 0 | 1 | 2 | 4.  | Chew on things that aren't edible                             |
| 0 | 1 | 2 | 5.  | Clings to adults or too dependent                             |
| 0 | 1 | 2 | 6.  | Cruel to animals  |
| 0 | 1 | 2 | 7.  | Defiant   |
| 0 | 1 | 2 | 8.  | Demands must be met immediately                               |
| 0 | 1 | 2 | 9.  | Destroys his/her own things                                   |
| 0 | 1 | 2 | 10. | Destroys things belonging to his/her family or other children |
| 0 | 1 | 2 | 11. | Disobedient   |

- |   |   |   |     |  |
|---|---|---|-----|--|
| 0 | 1 | 2 | 12. | Doesn't answer when people talk to him/her             |
| 0 | 1 | 2 | 13. | Doesn't get along with other children                  |
| 0 | 1 | 2 | 14. | Doesn't know how to have fun, acts like a little adult |
| 0 | 1 | 2 | 15. | Doesn't seem to feel guilty after misbehaving          |
| 0 | 1 | 2 | 16. | Easily frustrated                                      |
| 0 | 1 | 2 | 17. | Easily jealous   |
| 0 | 1 | 2 | 18. | Eats or drinks things that are not food                |
| 0 | 1 | 2 | 19. | Feelings are easily hurt                               |
| 0 | 1 | 2 | 20. | Gets in many fights                                    |
| 0 | 1 | 2 | 21. | Gets into everything                                   |
| 0 | 1 | 2 | 22. | Gets too upset when separated from parents             |
| 0 | 1 | 2 | 23. | Hits others  |
| 0 | 1 | 2 | 24. | Hurts animals or people without meaning to             |
| 0 | 1 | 2 | 25. | Looks unhappy without good reason                      |
| 0 | 1 | 2 | 26. | Angry moods  |
| 0 | 1 | 2 | 27. | Nervous, highstrung, or tense                          |
| 0 | 1 | 2 | 28. | Overtired  |
| 0 | 1 | 2 | 29. | Punishment doesn't change his/her behavior             |
| 0 | 1 | 2 | 30. | Quickly shifts from one activity to another            |
| 0 | 1 | 2 | 31. | Refuses to play active games                           |
| 0 | 1 | 2 | 32. | Repeatedly rocks head or body                          |
| 0 | 1 | 2 | 33. | Screams a lot  |
| 0 | 1 | 2 | 34. | Seems unresponsive to affection                        |

- |   |   |   |     |  |
|---|---|---|-----|--|
| 0 | 1 | 2 | 35. | Self-conscious or easily embarrassed           |
| 0 | 1 | 2 | 36. | Selfish or won't share                         |
| 0 | 1 | 2 | 37. | Shows little affection toward people           |
| 0 | 1 | 2 | 38. | Shows little interest in things around him/her |
| 0 | 1 | 2 | 39. | Shy or timid                                   |
| 0 | 1 | 2 | 40. | Smears or plays with bowel movements           |
| 0 | 1 | 2 | 41. | Stubborn, sullen, or irritable                 |
| 0 | 1 | 2 | 42. | Sudden changes in mood or feelings             |
| 0 | 1 | 2 | 43. | Temper tantrums or hot temper                  |
| 0 | 1 | 2 | 44. | Too fearful or anxious                         |
| 0 | 1 | 2 | 45. | Uncooperative                                  |
| 0 | 1 | 2 | 46. | Underactive, slow moving, or lacks energy      |
| 0 | 1 | 2 | 47. | Unhappy, sad, or depressed                     |
| 0 | 1 | 2 | 48. | Unusually loud                                 |
| 0 | 1 | 2 | 49. | Wants a lot of attention                       |
| 0 | 1 | 2 | 50. | Whining  |
| 0 | 1 | 2 | 51. | Withdrawn, doesn't get involved with others    |

B. Following is a list of ways in which parents typically interact with their children at home. Every parent feels that he or she does some things better than other things with his or her children. We would like you to be as **honest** and **accurate** as possible in answering the following questions about **how often** certain behaviors occur in your household with respect to your child.

For example, how often do you ask your child to clean up his/her toys? Would you say that you "never" ask your child to help clean up his/her toys, "a little," "sometimes," "pretty much," or "a lot?"

**For each item below, please circle the number corresponding to how often you think these behaviors occur.** Your answers should apply only to the child who is enrolled in one of the preschool programs at the OSU Child Development Center.

1. How often will you say thank you to your child for doing things, tell your child when you like what he/she did, give something to or let your child do something special when he/she is good?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
never	a little	sometimes	pretty much	a lot

2. How often do you take things away from your child when he/she misbehaves (for example, not letting him/her watch TV, stay up late, eat dessert).

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
never	a little	sometimes	pretty much	a lot

3. How often do you talk to your child when he/she feels bad and help him/her to feel better, to solve problems and to feel comforted?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
never	a little	sometimes	pretty much	a lot

4. How often do you tell your child that he/she is "no good," that he/she messed up or didn't do something right, criticize him?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
never	a little	sometimes	pretty much	a lot

5. How often do you talk to your child, just listen, or have a good conversation with him/her?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
never	a little	sometimes	pretty much	a lot

6. How often do you order your child around, tell him/her what to do or give commands?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
never	a little	sometimes	pretty much	a lot

7. How often do you let your child help decide what to do or let him/her help figure out how to solve problems?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
never	a little	sometimes	pretty much	a lot



8. How often do you spank, slap or hit your child?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
never	a little	sometimes	pretty much	a lot

9. How often do you play with your son/daughter, spend time together, do things together which your child likes?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
never	a little	sometimes	pretty much	a lot

10. How often do you get mad at your child, yell, holler, scream or shout at him/her?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
never	a little	sometimes	pretty much	a lot

11. How often do you say nice things, compliment your child or tell him/her that he/she is a good person?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
never	a little	sometimes	pretty much	a lot

12. How often do you threaten or warn your child or tell him/her that he/she will get into trouble if he/she does something wrong?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
never	a little	sometimes	pretty much	a lot

13. How often do you let your child do what other kids his/her age do or let your child do things on his/her own?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
never	a little	sometimes	pretty much	a lot

14. How often do you send your child to his/her room (or the corner) when he/she has done something wrong?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
never	a little	sometimes	pretty much	a lot

15. How often do you help your child with something when he/she needs it (with a hard job, with something he/she can't do)?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
never	a little	sometimes	pretty much	a lot

16. How often do you nag, tell your son/daughter what to do over and over again, or keep after him/her to do things?

1	2	3	4	5
never	a little	sometimes	pretty much	a lot

17. How often do you hug, kiss, tickle or smile at your child?

1	2	3	4	5
never	a little	sometimes	pretty much	a lot

18. How often do you ignore, not pay any attention to or not talk to your child?

1	2	3	4	5
never	a little	sometimes	pretty much	a lot

19. How often do you give reasons or explain why, when you tell your child that he/she is supposed to do something or not do something?

1	2	3	4	5
never	a little	sometimes	pretty much	a lot

20. How often do you give unfair punishments that are worse than your child deserves, or which he/she doesn't deserve at all?

1	2	3	4	5
never	a little	sometimes	pretty much	a lot

C. Please think about one specific incident when you asked or told your child to do something but he/she didn't do it. In answering the following questions, please remember that incident. Again, 'your child' is specifically your child attending a preschool program at the OSU Child Development Center.

1. Do you think that what caused the incident was  
about other due to something about your child, about your child about other  
or was it about your due to something about child people or  
other people or the circumstances? 1 2 3 4 5
  
2. Do you think that what caused the incident was never change a  
something that never changes or does it change great deal  
change a great deal? 1 2 3 4 5

- |   |                              |   |   |   |                          |
|---|------------------------------|---|---|---|--------------------------|
| 3. Do you think that what caused the incident was something that your child <u>could not control</u> , or <u>could control completely</u> ?   | cannot<br>control<br>1       | 2 | 3 | 4 | can<br>control<br>5      |
| 4. Do you think that what caused the incident was something that you <u>could not control</u> , or that you <u>could control completely</u> ?   | cannot<br>control<br>1       | 2 | 3 | 4 | can<br>control<br>5      |
| 5. Do you think that what caused the incident was something that only influenced this <u>particular situation</u> , or has it influenced <u>most other areas of your child's life</u> ? | particular<br>situation<br>1 | 2 | 3 | 4 | most<br>other areas<br>5 |
| 6. How did you feel when it happened?<br>Feeling: _____   |                              |   |   |   |                          |
| 7. How much, if at all, did you feel upset?   | not<br>at all<br>1           | 2 | 3 | 4 | very<br>much<br>5        |
| 8. How much, if at all, did you get angry at your child?  | 1                            | 2 | 3 | 4 | 5                        |
| 9. How much, if at all, did you feel sympathetic toward your child?   | 1                            | 2 | 3 | 4 | 5                        |
| 10. How much, if at all, did you feel frustrated?   | 1                            | 2 | 3 | 4 | 5                        |
| 11. How much, if at all, did you feel helpless?   | 1                            | 2 | 3 | 4 | 5                        |
| 12. How much, if at all, did you think your child deserved to be blamed for his/her behavior?   | 1                            | 2 | 3 | 4 | 5                        |
| 13. How much, if at all, did you think you deserved to be blamed for his/her behavior?  | 1                            | 2 | 3 | 4 | 5                        |
| 14. How much, if at all, did you think the circumstances or someone else deserved to be blamed for his/her behavior?  | 1                            | 2 | 3 | 4 | 5                        |
| 15. To what extent did your child behave this way intentionally or on purpose?  | 1                            | 2 | 3 | 4 | 5                        |
| 16. To what extent, if at all, was your child capable of knowing ahead of time that you wouldn't like his/her behavior?   | 1                            | 2 | 3 | 4 | 5                        |

- |  | not<br>at all | 1 | 2 | 3 | 4 | very<br>much |
|--|---------------|---|---|---|---|--------------|
| 17. To what extent, if at all, did your child do this in order to upset you?   |               | 1 | 2 | 3 | 4 | 5            |
| 18. To what extent was your child aware of his/her behavioral actions in the situation you are thinking about?   |               | 1 | 2 | 3 | 4 | 5            |
| 19. On this particular occasion, to what extent was your child capable of figuring out how he/she should behave?                                       |               | 1 | 2 | 3 | 4 | 5            |
| 20. Assuming your child knew how to behave, to what extent was he/she capable of controlling his/her behavior or so that he/she could behave that way? |               | 1 | 2 | 3 | 4 | 5            |

D. In this portion of the questionnaire, we would like to know how important you believe different factors might be as potential causes of unsuccessful interaction with children. We are interested in discovering the way people think about children -- there are no right or wrong answers.

Example: If you were teaching a child an outdoor game and he or she didn't catch on at all, how important do you believe the following possible causes would be?

- |   | Not at All<br>Important                | Very<br>Important |
|---|--|-------------------|
| a) How bad he or she is in sports in general. | / / / / / / / / /                      |                   |
|   | (Please check between lines like this) |                   |
| b) How bad a teacher you are.                 | / / / / / / / / /                      |                   |
| c) How difficult the game is.                 | / / / / / / / / /                      |                   |

Answer the following questions by making ratings in the same way as shown above.

**1. Suppose you took care of a neighbor's child one afternoon, and the two of you did not get along well. How important do you believe the following factors would be as possible reasons for such an experience?**

- |   | Not at All<br>Important | Very<br>Important |
|---|-------------------------|-------------------|
| a) How unlucky you were in having everything just work out wrong. | / / / / / / / / /       |                   |

- |   | Not at All<br>Important | Very<br>Important |
|---|-------------------------|-------------------|
| b) How unpleasant a disposition the child had.  | / / / / /               | / / / /           |
| c) Whether the child was tired or not feeling too well.   | / / / / /               | / / / /           |
| d) Whether or not you really enjoy children that much.  | / / / / /               | / / / /           |
| e) Whether the child doesn't like other people taking care of him (or her).   | / / / / /               | / / / /           |
| f) Whether or not this was a bad day for the child, e.g., whether there was nothing good on TV, whether it was raining and he or she couldn't go outside. | / / / / /               | / / / /           |
| g) The extent to which your neighbor failed to set things up for you.   | / / / / /               | / / / /           |
| h) How much your mind was preoccupied with other things that day and you didn't give your full attention.   | / / / / /               | / / / /           |
| i) Whether you used the wrong approach for this child.  | / / / / /               | / / / /           |
| j) The extent to which the child was stubborn and resisted your efforts.  | / / / / /               | / / / /           |
| k) How you get along with children in general.  | / / / / /               | / / / /           |
| l) How unsuited the physical environment was for a child, e.g., not enough space, not enough to do.   | / / / / /               | / / / /           |
| m) What kind of mood you were in that day.  | / / / / /               | / / / /           |

E. The following questions are related to information about you and your family. These information are very important for the research. Please answer all of the questions.

1. How many children are there in your family?

(The number of them who are currently living with you at home.)

\_\_\_\_\_

2. Please indicate each of above child's gender and age.

(For example, if you answer 3 in the above question, then answer, girl - 8, boy - 4, boy - 2.)

3. What is your marital status? (check one)

☐ never married  
☐ divorced  
☐ separated  
☐ widowed  
☐ married  
☐ remarried  
☐ other (please specify) \_\_\_\_\_

4. How many years of school do you have? (check one)

☐ less than 7th grade  
☐ junior high school (9th grade)  
☐ partial high school (10th or 11th grade)  
☐ high school graduate  
☐ partial college (at least one year) or specialized training  
☐ standard college or university graduation  
☐ graduate professional training (graduate degree)

5. If you are married or remarried, how many years of school does your husband have?

(check one)

☐ less than 7th grade  
☐ junior high school (9th grade)  
☐ partial high school (10th or 11th grade)  
☐ high school graduate  
☐ partial college (at least one year) or specialized training  
☐ standard college or university graduation  
☐ graduate professional training (graduate degree)

6. What is your occupation?

\_\_\_\_\_

7. If you are married or remarried, what is your husband's occupation?

\_\_\_\_\_

8. Approximately how much is the total annual family income? (check one)

- ☐ less than \$4,999
- ☐ \$5,000 to \$9,999
- ☐ \$10,000 to \$14,999
- ☐ \$15,000 to \$19,999
- ☐ \$20,000 to \$29,999
- ☐ \$30,000 to \$49,999
- ☐ over \$50,000

9. What is your ethnicity? (check one)

- ☐ Caucasian
- ☐ African American
- ☐ Native American
- ☐ Asian
- ☐ Hispanic
- ☐ Others

10. If you are married, what is your husband's ethnicity?  
(check one)

- ☐ Caucasian
- ☐ African American
- ☐ Native American
- ☐ Asian
- ☐ Hispanic
- ☐ Others

11. How old are you? \_\_\_\_

12. If you are married or remarried, how old is your husband? \_\_\_\_

## Appendix I: Questionnaires to Mothers (Spanish version)

N° de identificación  
de la madre \_\_\_\_\_N° de identificación  
del niño \_\_\_\_\_

En el siguiente cuestionario, "su hijo" se refiere específicamente a su hijo (o hija) que actualmente está matriculado en uno de los programas pre-escolares que forman parte del centro de desarrollo infantil de OSU. Favor de pensar en este hijo mientras Ud. contesta las siguientes preguntas.

A. Favor de llenar este formulario para que refleje lo que Ud. observa del comportamiento de su hijo, aunque otros no lo vean igual.

Abajo se encuentra una lista de frases que describen a los niños. Para cada una que describe a su hijo **actualmente o durante los últimos 2 meses**, favor de marcar el número 2 (dos) si describe algo que su hijo hace **frecuentemente**, el número 1 (uno) si describe algo que su hijo hace **de vez en cuando**, o el número 0 (cero) si es algo que su hijo **nunca** hace. Favor de contestar todas las preguntas aunque unas no se apliquen a su hijo.

**0 = Nunca muestra este tipo de comportamiento**

**1 = De vez en cuando muestra este tipo de comportamiento**

**2 = Frecuentemente muestra este tipo de comportamiento**

- |   |   |   |  |
|---|---|---|--|
| 0 | 1 | 2 | 1. Actúa demasiado inmaduro para su edad.                              |
| 0 | 1 | 2 | 2. Evita mirarlos directamente a los ojos a otras personas.            |
| 0 | 1 | 2 | 3. No puede concentrarse ni prestar atención por mucho tiempo.         |
| 0 | 1 | 2 | 4. Mastica objetos que no se deben comer.                              |
| 0 | 1 | 2 | 5. Es demasiado dependiente o queda apagado a los adultos.             |
| 0 | 1 | 2 | 6. Es cruel con los animales.  |
| 0 | 1 | 2 | 7. Es desafiante.  |
| 0 | 1 | 2 | 8. Hay que satisfacer sus exigencias de inmediato.                     |
| 0 | 1 | 2 | 9. Destruye sus propias posesiones.                                    |
| 0 | 1 | 2 | 10. Destruye cosas que les pertenecen a sus parientes o a otros niños. |



- |   |   |   |   |
|---|---|---|---|
| 0 | 1 | 2 | 11. Es desobediente.  |
| 0 | 1 | 2 | 12. No responde cuando alguien le habla.                    |
| 0 | 1 | 2 | 13. No se lleva bien con otros niños.                       |
| 0 | 1 | 2 | 14. No sabe divertirse; actúa como un adulto.               |
| 0 | 1 | 2 | 15. No parece sentirse culpable después de portarse mal.    |
| 0 | 1 | 2 | 16. Se frustra fácilmente.                                  |
| 0 | 1 | 2 | 17. Se pone celoso fácilmente.                              |
| 0 | 1 | 2 | 18. Come o bebe cosas que no son comestibles.               |
| 0 | 1 | 2 | 19. Se lastima emocionalmente con facilidad.                |
| 0 | 1 | 2 | 20. Se mete en muchas peleas.                               |
| 0 | 1 | 2 | 21. Se mete en todo.  |
| 0 | 1 | 2 | 22. Se molesta demasiado cuando est separado de sus padres. |
| 0 | 1 | 2 | 23. Golpea a otros.   |
| 0 | 1 | 2 | 24. Lastima a personas o animales sin querer hacerlo.       |
| 0 | 1 | 2 | 25. Se ve infeliz sin explicación.                          |
| 0 | 1 | 2 | 26. Tiene arranques de cólera.                              |
| 0 | 1 | 2 | 27. Es nervioso o tenso.                                    |
| 0 | 1 | 2 | 28. Está demasiado cansado, siempre tiene sueño.            |
| 0 | 1 | 2 | 29. El castigo no cambia su conducta.                       |
| 0 | 1 | 2 | 30. Cambia rápidamente de una actividad a otra.             |
| 0 | 1 | 2 | 31. No quiere jugar deportes activos.                       |
| 0 | 1 | 2 | 32. Mece el cuerpo o la cabeza repetidamente.               |
| 0 | 1 | 2 | 33. Grita mucho.  |

- |   |   |   |  |
|---|---|---|--|
| 0 | 1 | 2 | 34. Parece ser insensible al cariño.               |
| 0 | 1 | 2 | 35. Se siente inseguro o se avergüenza fácilmente. |
| 0 | 1 | 2 | 36. Es egoísta o no comparte con otros.            |
| 0 | 1 | 2 | 37. Muestra poco cariño hacia otros.               |
| 0 | 1 | 2 | 38. Muestra poco interés en lo que le rodea.       |
| 0 | 1 | 2 | 39. Es tímido.                                     |
| 0 | 1 | 2 | 40. Mancha o juega con sus excrementos.            |
| 0 | 1 | 2 | 41. Es necio, irritable o malhumorado.             |
| 0 | 1 | 2 | 42. Cambia de humor de repente.                    |
| 0 | 1 | 2 | 43. Se enoja fácilmente o da rabietas.             |
| 0 | 1 | 2 | 44. Es demasiado temeroso o ansioso.               |
| 0 | 1 | 2 | 45. No coopera.                                    |
| 0 | 1 | 2 | 46. Le falta energía, no es enérgico.              |
| 0 | 1 | 2 | 47. Está triste o deprimido.                       |
| 0 | 1 | 2 | 48. Es muy ruidoso.                                |
| 0 | 1 | 2 | 49. Quiere mucha atención.                         |
| 0 | 1 | 2 | 50. Gimotea mucho.                                 |
| 0 | 1 | 2 | 51. Es introvertido.                               |

B. Lo siguiente es una lista de maneras de cómo los padres típicamente actúan con sus hijos dentro de la casa. Cada madre y padre siente que hace unas cosas mejores que otras con sus hijos. Nos gustaría que contestara, de la manera más honesta y exacta posible, las siguientes preguntas sobre con qué frecuencia ciertos comportamientos ocurren en su casa con respecto a su hijo. Por ejemplo, ¿Con qué frecuencia pide Ud. que su hijo recoja sus juguetes? ¿Diría Ud. que "**nunca**" pide que recoja sus juguetes, que se lo pide "**raramente**", "**de vez en cuando**," "**con frecuencia**," o "**con mucha frecuencia**"? Para cada pregunta, favor de marcar el número que corresponde a la frecuencia con que Ud. cree que ocurre esta acción.

1. ¿Con qué frecuencia dice Ud. "gracias" a su hijo por haber hecho algo, o comenta a su hijo cuando le gusta algo que él ha hecho, o deja que su hijo haga algo especial cuando se porta bien?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
nunca	raramente	de vez en cuando	con frecuencia	con mucha frecuencia

2. ¿Con qué frecuencia le quita cosas de su hijo cuando se porta mal (por ejemplo, no le deja mirar la televisión o no lo deja comer un postre)?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
nunca	raramente	de vez en cuando	con frecuencia	con mucha frecuencia

3. ¿Con qué frecuencia habla Ud. con su hijo cuando se siente mal para ayudarlo a sentirse mejor o más cómodo, o para ayudarlo a resolver su problema?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
nunca	raramente	de vez en cuando	con frecuencia	con mucha frecuencia

4. ¿Con qué frecuencia le dice a su hijo que es "malo," que se equivocó o que no hizo algo bien? ¿Con qué frecuencia lo critica Ud.?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
nunca	raramente	de vez en cuando	con frecuencia	con mucha frecuencia

5. ¿Con qué frecuencia habla Ud. con su hijo, escucha lo que tiene que decir o tiene una buena conversación con él o ella?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
nunca	raramente	de vez en cuando	con frecuencia	con mucha frecuencia

6. ¿Con qué frecuencia ordena Ud. a su hijo, le dice qué hacer, o le da mandatos?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
nunca	raramente	de vez en cuando	con frecuencia	con mucha frecuencia

7. ¿Con qué frecuencia permite Ud. que su hijo decida qué hacer o lo deja resolver sus propios problemas?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
nunca	raramente	de vez en cuando	con frecuencia	con mucha frecuencia

8. ¿Con qué frecuencia lo golpea, o le da Ud. nalgadas a su hijo?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
nunca	raramente	de vez en cuando	con frecuencia	con mucha frecuencia

9. ¿Con qué frecuencia juega Ud. con su hijo, pasan tiempo juntos, o hacen actividades que a su hijo le gustan?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
nunca	raramente	de vez en cuando	con frecuencia	con mucha frecuencia

10. ¿Con qué frecuencia le grita Ud. a su hijo o se enoja con él o ella?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
nunca	raramente	de vez en cuando	con frecuencia	con mucha frecuencia

11. ¿Con qué frecuencia le dice que es buena persona, o le da cumplidos a su hijo?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
nunca	raramente	de vez en cuando	con frecuencia	con mucha frecuencia

12. ¿Con qué frecuencia le amenaza Ud. a su hijo o le dice que va a sufrir las consecuencias si hace algo malo?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
nunca	raramente	de vez en cuando	con frecuencia	con mucha frecuencia

13. ¿Con qué frecuencia deja Ud. que su hijo haga algo que los otros niños de su edad hacen o lo deja hacer actividades por sí mismo?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
nunca	raramente	de vez en cuando	con frecuencia	con mucha frecuencia

14. ¿Con qué frecuencia manda Ud. que su hijo vaya a su cuarto (o al rincón) cuando se ha portado mal?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
nunca	raramente	de vez en cuando	con frecuencia	con mucha frecuencia

15. ¿Con qué frecuencia ayuda Ud. a su hijo cuando lo necesita (con un trabajo muy duro o con algo que no puede hacer)?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
nunca	raramente	de vez en cuando	con frecuencia	con mucha frecuencia

16. ¿Con qué frecuencia regaña Ud. a su hijo o le dice repetidas veces que haga algo?

1	2	3	4	5
nunca	raramente	de vez en cuando	con frecuencia	con mucha frecuencia

17. ¿Con qué frecuencia abraza, besa, da cosquillas o sonr e Ud. a su hijo?

1	2	3	4	5
nunca	raramente	de vez en cuando	con frecuencia	con mucha frecuencia

18. ¿Con qu  frecuencia no presta atenci n a su hijo o no habla con  l/ella?

1	2	3	4	5
nunca	raramente	de vez en cuando	con frecuencia	con mucha frecuencia

19. ¿Con qu  frecuencia da Ud. explicaciones o razones cuando le dice que debe o no debe hacer algo?

1	2	3	4	5
nunca	raramente	de vez en cuando	con frecuencia	con mucha frecuencia

20. ¿Con qu  frecuencia castiga Ud. injustamente a su hijo cuando no merece un castigo tan fuerte o no merece ning n castigo?

1	2	3	4	5
nunca	raramente	de vez en cuando	con frecuencia	con mucha frecuencia

C. Favor de pensar en un incidente espec fico cuando Ud. le dijo a su hijo que hiciera algo y no lo hizo. Al contestar las siguientes preguntas, acu rdese de ese incidente. (Favor de s lo pensar en su hijo o hija que est  matriculado en el programa pre-escolar del centro de desarrollo infantil de Oregon State University.)

- |    |   |                 |   |   |   |   |   |   |
|----|---|-----------------|---|---|---|---|---|---|
| 1. | ¿Cree Ud. que lo que caus  el incidente fue algo que hizo <u>su hijo</u> o fue por <u>otras personas o circunstancias</u> ? | por su<br>hijo  | 1 | 2 | 3 | por otras<br>personas o<br>circunstancias | 4 | 5 |
| 2. | ¿Cree Ud. que lo que caus  el incidente fue algo que <u>nunca cambia</u> o que <u>cambia mucho</u> ?                        | nunca<br>cambia | 1 | 2 | 3 | cambia<br>mucho                           | 4 | 5 |

3. ¿Cree Ud. que lo que causó el incidente fue algo que su hijo no podía controlar o algo que podía controlar completamente?  
 no podía controlar                      podía controlar  
 1            2            3            4            5
4. ¿Cree Ud. que lo que causó el incidente fue algo que Ud. no podía controlar o algo que podía controlar completamente?  
 no podía controlar                      podía controlar completamente  
 1            2            3            4            5
5. ¿Cree Ud. que lo que causó el incidente fue algo que sólo ha influido en esta situación o que ha influido en muchos aspectos de la vida de su hijo?  
 sólo en esta situación                      ha influido en muchos aspectos  
 1            2            3            4            5
6. ¿Cómo se sintió Ud. cuando ocurrió ese incidente? (Conteste con una o dos palabras.)  
 \_\_\_\_\_
7. ¿Cuánto se molestó Ud.?                      nada                      mucho  
 1            2            3            4            5
8. ¿Cuánto se enojó con su hijo?                      nada                      mucho  
 1            2            3            4            5
9. ¿Cuánto se compadeció Ud. con su hijo?                      nada                      mucho  
 1            2            3            4            5
10. ¿Cuánta frustración sintió Ud.?                      ninguna                      mucha  
 1            2            3            4            5
11. ¿Cuánta desesperación sintió Ud.?                      ninguna                      mucha  
 1            2            3            4            5
12. ¿Hasta qué punto cree Ud. que su hijo tuvo la culpa por su conducta?                      no la tuvo                      la tuvo completamente  
 1            2            3            4            5
13. ¿Hasta qué punto cree Ud. que Ud. tuvo la culpa por la conducta de su hijo?                      no la tuvo                      la tuvo completamente  
 1            2            3            4            5

- |     |  |  |  |
|-----|--|--|--|
| 14. | ¿Hasta qué punto cree Ud. que las circunstancias u otras personas tuvieron la culpa por la conducta de su hijo?                  | no la<br>tuvieron<br>1      2      3                     | la tuvieron<br>completamente<br>4      5           |
| 15. | ¿Hasta qué punto cree Ud. que su hijo actuó así intencionalmente o a propósito?  | no lo hizo<br>a propósito<br>1      2      3             | lo hizo a<br>propósito<br>4      5                 |
| 16. | ¿Hasta qué punto podía entender su hijo antes de portarse mal, que a Ud. no le gustaría su comportamiento?                       | no lo podía<br>entender<br>1      2      3               | lo podía<br>entender<br>4      5                   |
| 17. | ¿Hasta qué punto cree Ud. que su hijo se comportó así sólo para molestar a Ud.?  | no lo hizo<br>sólo para<br>molestarla<br>1      2      3 | lo hizo<br>sólo para<br>molestarla<br>4      5     |
| 18. | ¿Hasta qué punto cree Ud. que su hijo estaba conciente de lo que hizo en la situación en que Ud. está pensando?                  | no estaba<br>consciente<br>1      2      3               | estaba<br>consciente<br>4      5                   |
| 19. | ¿En esta situación, hasta qué punto podía entender su hijo cómo debería de portarse?   | no lo<br>podía<br>entender<br>1      2      3            | lo podía<br>entender<br>completamente<br>4      5  |
| 20. | ¿Al suponer que su hijo sabía cómo comportarse, hasta qué punto podía controlar su comportamiento para que pudiera portarse así? | no lo<br>podía<br>controlar<br>1      2      3           | lo podía<br>controlar<br>completamente<br>4      5 |

D. En esta sección del cuestionario, nos gustaría saber qué importancia da Ud. a varios factores como causas posibles de un problema con la interacción entre Ud. y un niño. Nos interesa descubrir cómo piensa la gente acerca de los niños--no hay ninguna respuesta correcta ni incorrecta. Sólo nos interesa su opinión.

Ejemplo: Si Ud. intentaba enseñar un deporte a un niño y él no entendía lo que le explicaba, ¿qué importancia tendría cada una de las siguientes posibles causas del problema?

- |   |   |                                 |
|---|---|---------------------------------|
|   | no tendría<br>ninguna<br>importancia  | tendría<br>mucha<br>importancia |
| a) Que él no es bueno para los deportes en general. | <div style="text-align: center;">           /   /   /   /   /   /   /   /   /<br/>           _____         </div> |                                 |

(Favor de poner una flechita entre las líneas.)

	no tendría ninguna importancia	tendría much importancia
b) Que Ud. no sabe enseñar bien.	/ / / / / / / /	
c) La dificultad del juego.	/ / / / / / / /	

Conteste Ud. las siguientes preguntas de la misma manera.

1. Suponga Ud. que cuidó a un niño del vecino por una tarde y no se llevaron bien. ¿Qué importancia cree Ud. que los siguientes factores tendrían como posibles explicaciones de su experiencia?

	no tendría ninguna importancia	tendría much importancia
a) Que Ud. tuvo mala suerte y por eso todo resultó mal.	/ / / / / / / /	
b) Que el niño tenía un mal carácter.	/ / / / / / / /	
c) Que el niño tenía sueño o no se sentía bien.	/ / / / / / / /	
d) Que a Ud. le gustan o no le gustan los niños.	/ / / / / / / /	
e) Que al niño no le gusta que otros lo cuiden.	/ / / / / / / /	
f) Que era un mal día para el niño. (si no había un programa interesante en la televisión, o si llovió y el niño no pudo jugar afuera.)	/ / / / / / / /	
g) Que su vecina no preparó bien a Ud.	/ / / / / / / /	
h) Que Ud. estuvo preocupada por otras cosas y no le dio toda su atención al niño.	/ / / / / / / /	



- |    |  | no tendría<br>ninguna<br>importancia | tendría<br>muchísima<br>importancia |
|----|--|--------------------------------------|-------------------------------------|
| i) | Que Ud. no sabía la manera más apropiada para tratar a este niño.  | / / / / / / / / /                    |                                     |
| j) | Que el niño era necio y resistía sus esfuerzos.  | / / / / / / / / /                    |                                     |
| k) | La manera de se lleva Ud. con los niños en general.  | / / / / / / / / /                    |                                     |
| l) | Lo inadecuado que era el ambiente. (ejemplo: no había suficiente campo para jugar ni los juegos necesarios para ocupar al niño.) | / / / / / / / / /                    |                                     |
| m) | El humor que tenía Ud. ese día.  | / / / / / / / / /                    |                                     |

E. Las siguientes preguntas piden información sobre Ud. y su familia. Esta información es muy importante para la investigación. Favor de contestar todas las preguntas.

1. ¿Cuántos hijos hay en su familia? (El número de hijos que actualmente residen en su casa.)

\_\_\_\_\_

2. Favor de indicar el sexo y la edad de cada hijo que vive en su casa. (Por ejemplo, si Ud. contestó 3 en la pregunta anterior, favor de escribir niña - 8, niño - 4, niño - 2.)

\_\_\_\_\_

3. ¿Cuál es su estado civil?

\_\_\_\_\_ nunca casada  
 \_\_\_\_\_ divorciada  
 \_\_\_\_\_ separada  
 \_\_\_\_\_ viuda  
 \_\_\_\_\_ casada  
 \_\_\_\_\_ casada de nuevo  
 \_\_\_\_\_ otro (favor de explicar) \_\_\_\_\_

4. Favor de indicar cuántos años de educación Ud. ha recibido para cada nivel.

\_\_\_\_\_ la escuela primaria  
\_\_\_\_\_ el colegio/la preparatoria  
\_\_\_\_\_ la universidad

Favor de indicar si Ud. ha recibido:

\_\_\_\_\_ una licenciatura  
\_\_\_\_\_ una maestría  
\_\_\_\_\_ un doctorado

5. Si Ud. está casada, favor de indicar cuántos años de educación su esposo ha recibido para cada nivel.

\_\_\_\_\_ la escuela primaria  
\_\_\_\_\_ el colegio/la preparatoria  
\_\_\_\_\_ la universidad

Favor de indicar si Ud. ha recibido:

\_\_\_\_\_ una licenciatura  
\_\_\_\_\_ una maestría  
\_\_\_\_\_ un doctorado

6. ¿Cuál es su ocupación? ¿A qué se dedica Ud.?

\_\_\_\_\_

7. ¿Si Ud. está casada, cuál es la ocupación de su esposo? ¿A qué se dedica?

\_\_\_\_\_

8. ¿Cuál de las siguientes categorías incluye los ingresos anuales de su familia?

\_\_\_\_\_ menos de \$4,999  
\_\_\_\_\_ \$5,000 a \$9,999  
\_\_\_\_\_ \$10,000 a \$14,999  
\_\_\_\_\_ \$15,000 a \$19,999  
\_\_\_\_\_ \$20,000 a \$29,999  
\_\_\_\_\_ \$30,000 a \$49,999  
\_\_\_\_\_ más de \$50,000

9. ¿Cuál es su origen étnico?

- ☐ caucásico
- ☐ afroamericano
- ☐ indígena de los Estados Unidos (native american)
- ☐ asiático
- ☐ latino o hispano
- ☐ otro

10. Si Ud. está casada, ¿cuál es el origen étnico de su esposo?

- ☐ caucásico
- ☐ afroamericano
- ☐ indígena de los Estados Unidos (native american)
- ☐ asiático
- ☐ latino o hispano
- ☐ otro

11. ¿Cuántos años tiene Ud.?

\_\_\_\_\_

12. Si Ud. está casada, ¿cuántos años tiene su esposo?

\_\_\_\_\_

## Appendix J: Preschool Behavior Questionnaire

Child's Name \_\_\_\_\_

Sex (circle)    M    F

Rated by \_\_\_\_\_

Following is a series of descriptions of behaviors often shown by preschoolers. After each statement are three columns, "Doesn't Apply," "Applies Sometimes," and "Certainly Applies." If the child shows the behavior described by the statement frequently or to a great degree, place an "X" in the space under "Certainly Applies." If the child shows behavior described by the statement to a lesser degree or less often, place an "X" in the space under "Applies Sometimes." If, as far as you are aware, the child does not show the behavior, place an "X" in the space under "Doesn't Apply."

Please put ONE "X" for EACH statement.

	Doesn't Apply	Applies Sometimes	Certainly Applies
1. Restless. Runs about or jumps up and down. Doesn't keep still	_____	_____	_____
2. Squirmy fidgety child	_____	_____	_____
3. Destroys own or others' belongings	_____	_____	_____
4. Fights with other children.	_____	_____	_____
5. Not much liked by other children	_____	_____	_____
6. Is worried. Worries about many things	_____	_____	_____
7. Tends to do things on his own, rather solitary	_____	_____	_____
8. Irritable, quick to "fly off the handle"	_____	_____	_____
9. Appears miserable, unhappy, tearful, or distressed	_____	_____	_____
10. Has twitches, mannerisms, or tics of the face and body	_____	_____	_____
11. Bites nails or gingers	_____	_____	_____
12. Is disobedient	_____	_____	_____

	Doesn't Apply	Applies Sometimes	Certainly Applies
13. Has poor concentration or short attention span	_____	_____	_____
14. Tends to be fearful or afraid of new things or new situations	_____	_____	_____
15. Fussy or over-particular child	_____	_____	_____
16. Tells lies	_____	_____	_____
17. Has wet or oiled self this year	_____	_____	_____
18. Has stutter or stammer	_____	_____	_____
19. Has other speech difficulty	_____	_____	_____
20. Bullies other children	_____	_____	_____
21. Inattentive	_____	_____	_____
22. Doesn't share toys	_____	_____	_____
23. Cries easily	_____	_____	_____
24. Blames others	_____	_____	_____
25. Gives up easily	_____	_____	_____
26. Inconsiderate of others	_____	_____	_____
27. Unusual sexual behaviors	_____	_____	_____
28. Kicks, bites, or hits other children	_____	_____	_____
29. Stares into space	_____	_____	_____
30. Do you consider this child to have behavior problems?	_____	_____	_____

Source: Lenore Behar, Ph. D. and Samuel Stringfield, Ph. D. (1974)  
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