THE EFFECTS OF ATTRIBUTIONS ON MOTHERS' BEHAVIORAL AND AFFECTIVE RESPONSES TO CHILDREN'S BEHAVIOR

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CHAPTER I

INTRODUCTION

Parents cite disruptive child behavior as one of the most common reasons for seeking mental health services (Kazdin, 1995). Preschool children frequently exhibit noncompliance, defiance, and aggression, and coping with these behaviors can be very challenging for parents. Parents of children who have been identified as having disruptive behavior problems report greater child-related stress and a lower sense of parenting efficacy than do parents of children who do not have behavior problems (Baker & Heller, 1996). While some degree of aggression and noncompliance is developmentally normative for young children (Loeber & Hay, 1997), the ways in which parents respond to disruptive behavior can have important implications for the resolution or exacerbation of parent-child conflict (Brenner & Fox, 1998; Campbell, 1997).

When a child misbehaves, the parent often seeks to understand the cause of the misbehavior. Causal attributions are defined as statements that identify a factor or factors that contributed to a given outcome (Joseph, Brewin, Yule, & Williams, 1993). By identifying the cause to which the child's behavior can be attributed, the parent is aided in selecting an appropriate response from the repertoire of possible responses. Many parents experience considerable failure and frustration in their efforts to control their children's behavior (Baker & Heller, 1996), and these feelings are especially likely to promote an attribution search (Wong & Weiner, 1981). Dix and his colleagues (Dix & Reinhold, 1991; Dix, Ruble, Grusec, & Nixon, 1986) suggested that parents' reactions to

their children's misconduct may depend on many factors, including the parent's judgment of why the misconduct occurred, whether the child's age-related limitations contributed to the misconduct, the parent's mood at the time of the misconduct, and the parent's ideologies about child rearing. For example, Bondy and Mash (1999) found that attributions of control and hostile intent to children increased with the child's age and predicted both mothers' negative affect and their use of coercive discipline. An attribution of control or intent implies that the child misbehaved purposefully, and thus is more deserving of punishment than a child whose transgression occurred accidentally.

Research has demonstrated that attributions may influence both parents' affective responses to their children (Bondy & Mash, 1999; Miller, 1995; Scott & Dembo, 1993) and parents' behavior toward their children, particularly with regard to discipline (Slep & O'Leary, 1998; Smith & O'Leary, 1995). Evidence suggests that negatively biased attributions for child behavior may increase the likelihood of coercive cycles of interaction (Baden & Howe, 1992; Dix, Reinhold, & Zambarano, 1989). The cyclical nature of parent-child interaction makes it difficult to determine whether disruptive child behavior leads to or is evoked by negative child-rearing styles, but the process is clearly a transactional one (Moffitt, 1993).

The purpose of this paper is to untangle some of these complicated interactions and examine in depth the relationship between parental attributions and child behavior. Furthermore, specific factors that influence parental attributions will be identified and their resulting effects on parental responses to child behavior will be delineated. Cognitive theories of social interaction and information processing as they relate to parenting will be explored, and a review of the limitations of existing research and directions for future research will be presented. Finally, a study designed to investigate

the effects of an experimental manipulation of mothers' attributions for their children's misbehavior on the mothers' behavioral and affective responses to that misbehavior will be presented.

CHAPTER II

REVIEW OF THE LITERATURE

Disruptive Behavior Disorders

Criteria and Symptoms

Although a degree of noncompliance, defiance, and aggression is developmentally normative for young children, a small percentage of children experience an increase in disruptive behavior across development, causing significant impairment in social and academic functioning (Loeber & Hay, 1997). Disruptive behavior disorders, including conduct disorder (CD) and oppositional defiant disorder (ODD), are among the most frequently diagnosed conditions in inpatient and outpatient mental health facilities for children, with prevalence rates ranging from 2% to 16%, depending on the nature of the population and methods of assessment (DSM-IV; American Psychiatric Association, 1994).

To receive a diagnosis of CD, DSM-IV criteria specify that a child must demonstrate a repetitive and persistent pattern of behavior in which the basic rights of others and age-appropriate rules and norms are violated. Three or more behaviors falling into the following categories must have been present in the last 12 months, with at least one present in the last 6 months: aggression toward people and animals, destruction of property, deceitfulness or theft, and serious violations of rules. The diagnosis is specified as either childhood- or adolescence-onset, depending on whether the onset of at least one criterion occurred prior to or after age 10 years.

Criteria for a diagnosis of ODD require that a child demonstrate a pattern of negative, hostile, and defiant behavior lasting at least 6 months, during which four or more of the following are present: often loses temper, often argues with adults, often actively defies or refuses to comply with adults' requests, deliberately annoys people, blames others for his/her mistakes, is touchy or easily annoyed, is angry and resentful, and is spiteful or vindictive. ODD usually becomes evident before age 8 years, and is often a developmental precursor to CD (DSM-IV; American Psychiatric Association, 1994).

Attention-Deficit/Hyperactivity Disorder (ADHD) is also considered a disruptive behavior disorder. To receive a diagnosis of ADHD, a child must exhibit six or more inattention symptoms and six or more symptoms of hyperactivity or impulsivity. ADHD demonstrates high comorbidity with CD and ODD, and children with ADHD often demonstrate secondary oppositional behavior as a result of frequent failures in academic and social situations (DSM-IV; American Psychiatric Association, 1994).

Maladaptive Interactions Associated with Behavior Disorders

Noncompliance is a recurrent component of the disruptive behavior disorders, and is a common cause of parental complaints (Forehand, 1993). Barkley (1997) defined noncompliance as, "the child's failure to initiate behaviors requested by an adult within a reasonable time" (p. 17). Noncompliance may take several forms, including the child's passive avoidance of completing parental commands, active verbal or physical resistance to parental commands, or negotiation to alter parental commands. Scott and Dembo (1993) found that, when compared to passive noncompliance, mothers of preschool and early elementary school-age children regarded direct defiance as more intentional and more reflective of the child's disposition, regardless of the child's age. Furthermore, mothers were more upset, angry, and disappointed with defiant behavior and they

proposed stronger, more power assertive disciplinary responses for direct defiance than for passive noncompliance. Some children appear to understand how their noncompliance affects their mothers: 43% of a sample of 5- and 6- year-old children cited their noncompliance as an explanation for their mother's anger (Covell & Abramovitch, 1987).

Noncompliance and temper tantrums in young children often reflect the child's struggle for autonomy (Campbell, 1997). By the age of 2 years, most children seek greater independence and control over their actions, and this often leads to conflicts with parents (American Academy of Child and Adolescent Psychiatry, 1998). Evidence suggests that mothers' responses to their children's assertions may predict their children's subsequent behavior. Maternal use of direct control strategies (e.g., reprimands, enforcement) in response to young children's noncompliance was associated with direct defiance, whereas the use of persuasive strategies (e.g., distraction, explanations) was associated with negotiation (Kuczynski, Kochanska, Radke-Yarrow, & Girnius-Brown, 1987). Mothers' use of negative control (e.g., threats, physical intervention, anger) following children's self-assertion was more likely than other strategies to result in defiance and less likely to result in compliance (Crockenberg & Litman, 1990). The use of negative control strategies by mothers during unstructured interactions with their 3-year-old children predicted ratings of the children's externalizing symptoms at ages 6 and 9 years (Campbell & Ewing, 1990). These findings illustrate the effects of parental actions on children's subsequent behavior, which, in turn, may influence parents' affective states and may predict future disciplinary actions. Thus, parent-child interactions appear to be of a reciprocal nature, in that the behavior of one member of the

dyad affects the behavior of the other member, whose behavior then affects the behavior of the first member.

Reciprocal negative interaction can lead to an escalating cycle of coercive exchanges. Patterson's (1982) seminal research on parent-child interactions led to the development of a model that explained how maladaptive cycles are often initiated and maintained. According to Patterson's model, problem behaviors in children are inadvertently developed and sustained in the home by maladaptive parent-child interactions, including parental attention to deviant behavior, reinforcement of aggressive behavior, inattention to prosocial behavior, poor monitoring, and failure to set limits. For example, a parent may react to a child's noncompliance by implementing a punishment. The child may protest the punishment by throwing a temper tantrum. The parent may then discontinue the punishment to stop the tantrum. Thus, the removal of the punishment reinforces the child for throwing a tantrum, while the cessation of the tantrum reinforces the parent for withdrawing the punishment. The rate and intensity of conflict increases over time, as family members continue to be reinforced by engaging in inappropriate behaviors, and this cycle may lead to severe child conduct problems (Patterson, 1982). Despite the poor prognosis for durable treatment effects in families with a child demonstrating conduct problems (Kazdin, 1997), a variety of interventions have been developed to help these families.

Parent Training Interventions

Treatment models for children and adolescents with disruptive behavior disorders are typically family-based (e.g., parent training programs), community-based (e.g., residential programs), or school-based (e.g., special education services). Of the available treatments, family-based treatments appear to demonstrate the most promising results for

the modification of disruptive behaviors (Kazdin, 1997; McMahon & Wells, 1998). A thorough review of all the treatment options for disruptive children and adolescents is beyond the scope of this paper. Therefore, the discussion of treatment options will be limited to parent training interventions.

Parent training models are based on the assumption that parenting skills deficits are responsible for the development and/or maintenance of problematic behaviors (McMahon & Wells, 1998). Specific treatments differ in their target age populations, utilization of techniques, and methods of teaching, but have in common a didactic approach aimed at teaching parents to effectively change their children's behavior. Parents are typically provided with information about behavioral principles and techniques, and are instructed in how to apply these techniques to their own families (Kazdin, 1997). Among the more well researched parent training programs are the *Helping the Noncompliant Child* program (Forehand & McMahon, 1981), the *Social Learning Approach to Family Intervention* (Patterson, Reid, Jones, & Conger, 1975), and the BASIC program, which utilizes videotaped modeling (Webster-Stratton, 1996).

Parent training usually incorporates the basic tenets of behavior modification, a mode of therapy that involves the use of operant conditioning procedures. Operant conditioning is a process through which organisms learn to make responses that lead to rewards or avoid punishment (i.e., positive and negative reinforcement, respectively; Skinner, 1938). In his seminal research on operant conditioning, Skinner found that behavior was acquired and maintained by its reinforcement history; therefore, persons directly in contact with target individuals could be trained to administer consequences aimed at achieving behavior change. Behavior therapists proposed that, by utilizing this process, parents could be trained to monitor their children's behavior (i.e., record the

frequency, duration, and context of the behavior) and provide contingent reinforcement directed at increasing prosocial behavior and reducing misbehavior. Procedures that followed from operant conditioning principles include positive reinforcement (e.g., attention, praise, rewards for desirable behavior), extinction (e.g., removal of parental attention for undesirable behavior), and punishment (e.g., time-out, loss of privileges for undesirable behaviors). In parent training programs, parents learn to clearly define the behavior to be changed, monitor the behavior, and specify the behavior that is to occur in its place (Blackham & Silberman, 1975). Parents learn about the impact of antecedents and consequences on their children's behavior and how their responses to their children impact their children's behavior.

Parent training has been evaluated in a number of randomized, controlled outcome trials with children varying in age and severity of behavior problems. Treatment outcome studies have compared parent-training programs to no-treatment or wait-list control conditions and to other viable treatments (e.g., community-based treatment and individual therapy). Results support the efficacy of parent training programs. In a meta-analysis of 26 controlled studies of parent training, Serketich and Dumas (1996) found that the average child with one or more parents receiving parent training was better adjusted after training than 81% of children who received another form of treatment or no treatment at all. Reviews of the parent training literature (Kazdin, 1997; Mabe, Turner, & Josephson, 2001; Serketich & Dumas, 1996) concluded that parent training led to marked improvements in child behavior on parent and teacher reports of deviant behavior and on direct observation of behavior at home and school. Furthermore, these reviews reported that the magnitude of change often reduced conduct problems to within nonclinic levels of functioning at home and at school. Studies have reported maintenance of gains

ranging from 1 to 3 years (Kazdin, 1993; McMahon & Wells, 1998; Patterson, Dishion, & Chamberlain, 1993) to as long as 14 years after treatment (Long, Forehand, Wierson, & Morgan, 1994).

Obstacles to Successful Intervention

Noted researchers have reported that parent training is the treatment of choice for children with disruptive behavior disorders (Kazdin, 1997; McMahon & Wells, 1998). Although generally encouraging, the empirical evidence has not been unanimously supportive, particularly with regard to long-term outcome (Kazdin, Siegal, & Bass, 1992; Tremblay, Pagani-Kurtz, Masse, Vitaro, & Pihl, 1995), and many families fail to benefit from parent training and other family-based interventions (Forehand, 1993; Mabe et al., 2001; Wahler, 1980). Parent social problems beyond those stemming from interactions with the child may constitute one set of variables that predict success or failure in parent training (Wahler & Afton, 1980). Risk factors for poor outcomes include a lack of social support (Cunningham, Bremner, & Boyle, 1995), low socioeconomic status (Webster-Stratton, 1985), parental depressive mood (Forehand, 1993), and negative life events (Webster-Stratton & Hammond, 1990). For example, Mills and Rubin (1990) found that mothers' lower occupational status was associated with negative emotional reactions and the choice of punitive strategies in response to their 4-year-old child's aggression, particularly when there was little perceived social support.

Wahler (1980) used the term "insular" to describe mothers who reported themselves to be both isolated and harassed by their own community members. Insular mothers reported about three social contacts per day, usually with members of their extended families and social service agencies, and they generally rated these interactions as aversive. Noninsular mothers, conversely, reported an average of ten interactions per

day, mostly with friends, and rated these interactions positively. Insular mothers were more likely to be low income, poorly educated, and required to seek treatment, whereas noninsular mothers were usually middle income, high school graduates who sought treatment themselves. Wahler and Afton (1980) observed insular and noninsular mothers and their oppositional children before, during, and after receipt of parent training. They found marked improvement in children's oppositional behavior and mothers' aversive behavior during treatment for both insular and noninsular families. At 1-year follow-up, however, noninsular families maintained their treatment gains, whereas insular families had returned to their coercive interaction patterns, demonstrating mother and child behaviors that were virtually identical to baseline levels.

In addition to the quality and frequency of self-reported social contacts, Wahler and his colleagues observed other differences between insular and noninsular mothers that appeared to predict maintenance of gains in parent training. Despite the similarity between groups in child referral problems (e.g., aggression, oppositional behavior), over the course of treatment, noninsular mothers offered more detail in their reports of their children's behavior and were less likely to attribute blame to the child when describing coercive episodes. Insular mothers, however, continued to describe their children in global terms that included blaming the child for the mother-child coercion problems (Wahler & Afton, 1980). In observations of families referred for treatment to address their children's oppositional behaviors, both insular and noninsular mothers were equally aversive in their responses to their children's oppositional behavior. Both groups had children of similar ages (M = 6.9 years in insular families and 6.8 years in noninsular families) and had similar referral problems (e.g., stealing, fighting, property destruction). However, insular mother-child dyads engaged in significantly longer coercive exchanges

than did noninsular dyads, indicating that insular mothers' aversive responses to oppositional behavior did not terminate the behavior, as they appeared to for noninsular families (Wahler, Hughey, & Gordon, 1981).

The effective implementation of parenting skills may be disrupted under conditions of extreme parental stress, which may be triggered by events including illness, unemployment, divorce, depression, or the accumulation of many minor hassles or crises (Ostberg & Hagekull, 2000; Patterson, 1982). When a mother's daily social contacts are few and/or aversive, her sustained ability to change troublesome interactions with her children could be seriously impaired (Wahler, 1980). Parents who experience depressive moods may perceive their children negatively, when in fact the child is behaving in an age-appropriate manner (Forehand, 1993). The effects of negative life events may be exacerbated by low levels of social support, which may then serve to increase negative child behavior, instigate or exacerbate coercive cycles of interaction, and undermine parent-training efforts. The identification of specific risk factors for poor outcomes in parent training, such as premature termination, lack of treatment effects, and failure to maintain gains, attests to the impact of socioecological circumstances on parental beliefs, behavior, and socialization strategies (Mills & Rubin, 1990).

In addition to behavior modification principles, parent-training programs also utilize social learning principles to teach parents to identify and alter the pattern of interchanges with their children. Cognitive factors, including parents' beliefs about child rearing and attributions for child behavior, and social factors, including economic status and quality of social contacts, are associated with both parent and child behavior and the quality of parent-child interactions, which may have important implications for the application of parent training interventions (Bugental & Johnston, 2000; Dix, 1993; Wahler, 1980).

This paper now turns to a discussion of social learning theory and the mechanisms by which social and cognitive factors directly and indirectly influence parenting and child behavior.

Social Cognitive Theories of Parenting

Social Learning Theory

B. F. Skinner's (1938) study of operant conditioning as the process by which an organism learns new behaviors was criticized by many for omitting the role of social and cognitive experiences in learning (Schultz & Schultz, 1994). Social learning theorists, led by Julian Rotter, proposed that behavior is learned primarily through social experiences and that people are conscious beings able to influence their experiences and make decisions about their internal and external environments (Rotter, 1954). Rotter's social learning theory included the role of internal cognitive processes in determining the selection of behavioral responses, expectancy of outcomes given certain behaviors, and preferences for particular reinforcements. Rotter posited that the "major motivation in life is to maximize positive reinforcement and minimize punishment in all situations" (Schultz & Schultz, 1994, p. 415).

Individuals differ in their expectation for outcomes of a given situation and in their appraisal of particular outcomes as reinforcing (Rotter, 1954). Furthermore, research has demonstrated that individuals differ in their perception of whether reinforcement is dependent upon their own behavior (i.e., internal locus of control) or is controlled by outside forces (i.e., external locus of control; Weiner, Graham, & Chandler, 1982). Social learning theorists view locus of control as a form of expectancy that is a stable and important part of personality (Schultz & Schultz, 1994).

Expectancies and locus of control may have important implications for the selection of behavioral responses in parenting. Parents enter compliance-related interactions with expectations about their child's behavior; chronic negative expectations may stabilize and exacerbate negative interaction cycles (Dix et al., 1990). Physically abusive or neglecting mothers have demonstrated significantly more negative expectations of their children than have nonabusing comparison mothers (Larrance & Twentyman, 1983). Baden and Howe (1992) found that parents' expectancies regarding their ability to manage their children impacted their expectations for the effectiveness of discipline. They found that mothers of adolescents diagnosed with conduct disorder were significantly more likely to view their child's behavior as beyond the parent's control. Furthermore, these mothers were significantly less likely to endorse the effectiveness of discipline responses including punishment, withdrawal of positive reinforcement, and contingent reinforcement than were parents of non-referred children. Baden and Howe suggested that mothers of conduct-disordered children may feel helpless, and that this stance is likely to contribute to ineffectual attempts at discipline and withdrawal from their child's escalating misconduct.

Observational Learning

As the primary social agents for their children, parents serve as models of social functioning. The process of learning by observing the behavior of others, or observational learning, allows children to quickly acquire new behaviors (Bandura, 1977). Children observe their parents engaging in specific interaction styles, and "children's subsequent imitation and transfer of those styles to interactions with other social partners may pay a critical role in the development of children's social competence" (Isley, O'Neil, Clatfelter, & Parke, 1999, p. 555). Children's observation of maladaptive interaction

styles, deficient problem solving, and negative conflict resolution increases the likelihood that they will engage in these behaviors. In their classic study on modeling and aggression imitation, Bandura, Ross, and Ross (1963) found that exposure to aggressive models increased the probability that children would respond aggressively when instigated. For most children, the first opportunity to observe, be reinforced for, and be the target of an aggressive act occurs at home (Huesmann, Eron, Lefkowitz, & Walder, 1984). The observation of an aggressive act has a priming effect; consequently, it is more readily available in memory when a similar situation presents itself and it thus increases the likelihood that the individual will respond aggressively (Bandura et al., 1963). Witnessing aggressive behavior has been established as a significant risk factor for engaging in aggressive behavior (The Addressing Violence in Oklahoma Coalition, 1995).

Social Information Processing

Extensive research on aggressive children has led to the identification of particular deficits in cognitive problem-solving skills that contribute to the development of aggression (Dodge & Crick, 1990; Dodge & Newman, 1981; Dodge & Somberg, 1987; Fraser, 1996). These same deficits may underlie parental attribution biases and aggressive responses to child misbehavior. Applying Dodge and Crick's (1990) social information processing model to parent-child interactions, the complex sequence of interrelated steps may progress in the following manner. First, a stimulus, or cue, from the environment initiates the sequence. In most situations, there are multiple cues. The parent encodes relevant information about the current situation by attending to and selecting from the multitude of cues present in the environment. For example, Dix and Reinhold (1991) posited that authoritarian beliefs might predispose a parent to process

information that pertains to obedience and blame, and to selectively attend to belief-consistent information while failing to attend to inconsistent information.

When a child fails to encode the relevant cues about a peer's intention, deficits are likely to appear in each subsequent step of processing (Dodge & Crick, 1990). Further extending this theory to parenting, a parent's failure to encode relevant cues about a child's behavior may lead to an erroneous interpretation of those cues that are encoded. Parents may overlook or ignore mitigating information that may potentially lessen the child's responsibility for misbehavior by signaling that the misbehavior was situationally bound, unintentional, or not representative of the child's usual behavior (Milner & Foody, 1994). For example, parents who are aggressive, stressed, or depressed may be more likely to interpret intent (Scott & Dembo, 1993; Smith & O'Leary, 1995), particularly in ambiguous situations (Dix et al., 1990; Miller, 1995), than are parents whose affect is neutral.

After encoded cues are interpreted, the parent uses social knowledge and past experiences to draw a conclusion about the situation. Stable beliefs about a child's behavior or dispositional traits may lead to a bias in interpretation such that "lower standards of evidence are required for inferring that negative motives are present than for inferring that they are absent (Dix & Reinhold, 1991, p. 266). Parents may make negative attributions about their children because of biases in information processing that are independent of, and may even cause, negative behavior in their children (Dix, 1993). Finally, after reaching a conclusion about the situation, the parent formulates goals, which may involve disciplinary actions. If the conclusions are drawn based on deficient cue encoding, the goals may be inappropriate. Attributions of intentionality or responsibility demonstrated positive correlations with use of spanking (Scott & Dembo,

1993), power assertive discipline (Dix et al., 1990), and harsh parenting (Smith & O'Leary, 1995). The parent may respond to the child's behavior in a punitive manner, which produces more negative stimuli (e.g., child's negative affect, defiance, or disobedience), and starts the process over again. As the development of attributional biases in children initiates and perpetuates a coercive cycle of aggressive interactions with peers (Dodge & Crick, 1990), the development of attributional biases in parents may initiate and perpetuate a coercive cycle of parent-child interaction.

Milner and Foody (1994) provided an illustration of biased attributional processing in their study examining the interaction between mothers' child abuse risk status and use of mitigating information in forming attributions for hypothetical children's behaviors. Following receipt of mitigating information, women at high risk for child abuse (as measured by the Child Abuse Potential Inventory; Milner, 1986) maintained their internal attributions for children's behavior, while women at low risk showed significant changes toward unstable and unintentional attributions. Both groups recognized and reported using mitigating information, which suggests that the observed attributional differences might involve differences in the evaluation of the importance of the mitigating information. Alternatively, parents at high risk for child abuse may have rigid belief systems regarding their children that are resistant to change despite intervention (Kolko, 1996). Therefore, they may have more difficulty integrating mitigating information into their attributions for child behavior than do low-risk parents, despite acknowledging the importance of the information.

Bickett, Milich, and Brown (1996) suggested that parents of aggressive children might have attribution biases that prevent them from identifying or considering potentially mitigating information. They found that mothers of elementary school-aged boys

identified as aggressive made significantly more hostile attributions about the ambiguous actions of a classmate and teacher toward their child in hypothetical situations than did mothers of nonaggressive boys. Bickett and her colleagues hypothesized that mothers of aggressive boys may model a hostile attributional bias when making assessments of another's behavior by failing to investigate intent in ambiguous situations. Dix and Lochman (1990), however, found that mothers of aggressive children showed no obvious deficits in their use of mitigating information when such information was readily apparent. When fairly obvious cues to undesirable parenting were present in video segments of parent-child interaction, mothers of 9- to 15-year-old aggressive boys appeared to interpret those cues similarly to mothers of non-aggressive boys. Like mothers of non-aggressive boys, mothers of aggressive boys appeared to consider the parenting context of children's behavior when assessing how to react (Dix & Lochman, 1990). An important difference between these studies may be the ease by which the nature of the interaction is identified. Biases in attribution processes are likely more apparent when the nature of the interaction is ambiguous.

That two groups shown to be at high risk for negative attribution biases, women at high-risk for child abuse (Larrance & Twentyman, 1983) and mothers of aggressive boys (Bickett et al., 1996) both report recognizing and utilizing mitigating information in their attributions for child behavior is somewhat unexpected. Perhaps high-risk, compared to low-risk, individuals process child-related information differently (Milner & Foody, 1994), or fail to activate basic social-cognitive structures during social interaction as reliably as low-risk individuals (Dix & Lochman, 1990). Additional research examining the process by which mitigating information loses its impact for or is not integrated by

particular high-risk groups may suggest potential avenues for reducing attributional biases and decreasing negative cycles of parent-child interaction.

Social cognitive theories provide the theoretical foundation for specific parent training interventions. Evidence suggests that Rotter's (1954) concepts of expectancies and locus of control clearly influence parents' selection of responses to their children's behavior. Bandura and his colleagues (1963) demonstrated a process by which adult models influence children's behavior. Dodge and Crick (1990) outlined the process by which biases develop that may have important implications for a host of parent and child factors. The applications of the principles derived from these theories and the research to support them are delineated below.

Reciprocal Parent-Child Interaction

The Effects of Parenting Styles on Child Behavior

Observational learning is but one of the many ways by which parents influence the emotional and behavioral development of their children. Diana Baumrind's (1967) prominent research on parenting styles was instrumental in providing evidence that different child-rearing styles also have important implications for child development. Baumrind found that parents generally used one of three parenting styles—authoritative, authoritarian, or permissive—and that these styles were associated with different child outcomes. Parents categorized as authoritarian were more restrictive with their children and often used physical punishments, coercion, or negative affect to control their children's behavior. Permissive parents made few demands, did not closely monitor their children's activities, and rarely exerted control over their children's behavior. Authoritative parents were more flexible, were more likely to use suggestions and positive incentives, provided rationales for complying with the limits they set, and made

more reasonable demands on their children than did authoritarian parents (Baumrind, 1967).

Children of permissive parents have been found to be impulsive, aggressive, and lacking in self-control, while children of authoritarian parents have been found to be easily annoyed, unpleasant to be around, aggressive, and unsuccessful in interactions with peers; these behaviors appeared to be relatively stable for both groups (Baumrind, 1967). Adolescents who characterized their parents as authoritarian reported being less confident about their abilities and less competent in areas of achievement, and were more likely to get into trouble than were adolescents who characterized their parents as authoritative (Lamborn, Mounts, Steinberg, & Dornbusch, 1991). Parents of children with externalizing behavior problems engage in more authoritarian and more permissive child-rearing practices than do parents of children without externalizing behavior problems (Baker & Heller, 1996), providing further evidence of the reciprocal nature of parent-child interaction.

Research demonstrates a strong association between authoritarian child rearing and negative parental cognitions. Mothers' endorsement of authoritarian childrearing attitudes when their children were 2 years old was the most consistent predictor of their beliefs about their children's aggression 2 years later (Hastings & Rubin, 1999). Authoritarian mothers reported more negative affect and made more critical attributions than did non-authoritarian mothers. Furthermore, authoritarian mothers reported higher expectations of their children, inferred higher levels of knowledge, capacity, and responsibility, reported that they would respond to child misbehavior with greater sternness, and reported that they would be more upset about child misbehavior than did nonauthoritarian mothers (Dix, Ruble, & Zambarano, 1989). Authoritarian mothers were

also more likely to infer that their children's misconduct was intentional and that it reflected the children's derogatory traits (Dix & Reinhold, 1991).

The association between authoritarian child rearing attitudes and negative beliefs about the child has implications for disciplinary preferences. Coercive discipline is more likely to be used if the parent attributes behavioral control and intent to the child (Bondy & Mash, 1999). Consistent with this finding, Hastings and Rubin (1999) found that authoritarian mothers were more likely to suggest high power techniques to control their children's aggression than were nonauthoritarian mothers. Kochanska (1992) found that 5-year-old children of mothers who used physical enforcements to influence their children's behavior were aggressive and unsuccessful in interactions with peers, and this interaction style was evident at 2-years follow-up. Endorsement of authoritarian attitudes was positively related to the frequency of mothers' use of direct commands, reprimands, physical enforcements, and prohibitive interventions, whereas endorsement of authoritative attitudes was positively associated with the use of suggestions and positive incentives and negatively associated with direct commands, reprimands, physical enforcements, and prohibitive interventions (Kochanska, Kuczynski, & Radke-Yarrow, 1989). Nonauthoritarian mothers were more likely to use supportive or structuring behaviors in response to their child's aggression, which Hastings and Rubin (1999) suggested could serve to decrease early aversive behaviors, thereby leading to more positive long-term results. Overall, authoritative parenting has been associated with more favorable outcomes than the authoritarian or permissive parenting styles (Baumrind, 1967).

In an effort to uncover whether mothers or children are primarily responsible for cycles of maladaptive interactions, Anderson, Lytton, and Romney (1986) observed

mothers of boys diagnosed with CD and mothers of normal boys in interactions with their own child and other CD and normal children (ages 6 to 11 years). Their results suggested that it was the type of child that determined how the mother behaved toward the child, not the type of mother. Mothers of CD boys and normal mothers did not differ in the quality of their behaviors; both types of mothers made more negative responses to CD boys than to normal boys. Furthermore, CD boys complied significantly less than normal boys, regardless of the type of mother or relationship with the mother. This suggests that the noncompliance of CD boys cannot be attributed to characteristics shared by mothers of CD boys or to the uniqueness of their own mothers. Anderson and her colleagues acknowledged that there is correlational evidence linking specific parenting characteristics with child CD, but noted, "none of these studies show conclusively that these parental behaviors are the primary cause of problem behavior in the child, rather than being exacerbating factors in recurring vicious circles" (p. 608).

Maternal Affect and Child Behavior

Not surprisingly, evidence suggests that negative affective reactions are common maternal responses to oppositional or defiant child behavior (Bondy & Mash, 1999; Kochanska et al., 1989; Scott & Dembo, 1993). Negative affect typically refers to the extent to which an individual experiences an aversive mood state, including distress, anger, upset, guilt, disappointment, or anxiety; whereas positive affect reflects the degree to which an individual experiences a positive mood state, including feeling energetic, enthusiastic, or engaged (Lovejoy, Graczyk, O'Hare, & Neuman, 2000). Negative affect tends to increase when parents infer their child's understanding, intention, control, and responsibility for negative behavior (Dix, 1993).

Negative maternal affect may play a causal role in children's negative behavior. Dix and his colleagues (Dix et al., 1990) found that mothers' anger altered their judgments and expectations of their own and videotaped unknown 6- to 8-year-old children and appeared to predispose them to make negative attributions for the children's noncompliance, especially when the children's behavior was ambiguous. Angry mothers were more likely to form negative judgments, expected subsequent interactions with their children to be more unpleasant, blamed children more, and reported feeling more upset than did happy or neutral mothers. Arnold and O'Leary (1995) found that exposing mothers to videotaped displays of child negative affect increased overall maternal reports of anger and irritation relative to a control group. Furthermore, preschool children of mothers who were exposed to child negative affect tended to display more misbehavior during parent-child interaction tasks than did children of control mothers, which suggests that exposure to child negative affect may have caused changes in maternal behavior that contributed to increased child misbehavior. Mothers reporting higher rates of subjective anger demonstrated harsher responses to their preschool child during mother-child interactions than did mothers reporting low rates of anger (Slep & O'Leary, 1998). Mothers' overt behavioral displays of negative affect during interactions with their preschool children were positively related to children's resistance and negatively related with their cooperation in response to maternal control interventions (e.g., commands, suggestions, incentives, and enforcement; Kochanska et al., 1989). Mothers of children who display high rates of negative affect may benefit from parent training techniques to reduce the harsh discipline practices that contribute to child negative affect (Arnold & O'Leary, 1995).

Maternal depression in particular has been associated with dysfunctional parenting behavior. Lovejoy and her colleagues (2000) conducted a meta-analytic review of 46 observational studies and found that depressed mothers exhibited significantly higher levels of disengaged behavior (e.g., ignoring, withdrawal, silence during gaze aversion) and negative behavior (e.g., threatening gestures, negative facial expression, expressed anger, intrusiveness) than did nondepressed mothers. Depression appeared to be most strongly associated with irritability and hostility toward the child, and the effect size was larger in studies with currently depressed mothers than in studies with mothers with a lifetime history of depression. These effects are not limited to depressed mothers, however. Mothers who experience high levels of anxiety, stress, or interpersonal problems may also demonstrate hostile, critical, intrusive, and coercive parenting behaviors, thus leading to parenting problems similar to those of depressed mothers (Lovejoy et al., 2000). Dix and Reinhold (1991), however, found that positive maternal mood increased negative reactions to 6- to 8-year-old children's disobedience, and theorized that misbehavior may contrast more with positive mood or be particularly aversive because misbehavior reduces the positive feelings that mothers are motivated to maintain.

In contrast to the findings of Anderson et al. (1986) indicating that the type of child determines how the mother behaves toward the child, Lovejoy and her colleagues (2000) suggested that the parenting difficulties of depressed mothers do not originate from differences in child behavior. Lovejoy et al. found that the pattern of age differences in their meta-analysis of depression and parenting "argues against strong child effects in the development of depression and parenting difficulties" (2000, p. 585). Maternal negative affect or depression may exert its effects on child behavior by undermining parents'

competence and capacity to regulate interactions so that children comply and respond positively. Negative parent affect increases coerciveness and inconsistency and reduces patience, reasoning, and concern for children's needs and wants (Dix, 1993). Furthermore, when negative affect is chronic and intense, as often occurs with abusive, coercive, or depressed parents, "anger-induced cognitive biases may distort appraisals of interactions with children, promote negative conceptions of children, and thereby, stabilize and exacerbate negative interaction cycles" (Dix et al., 1990, p. 483).

Parenting Efficacy and Control

Research has demonstrated that parenting efficacy (i.e., parents' beliefs about their skill and knowledge as parents) and perceived control over caregiving outcomes are related to disciplinary and affective reactions. Lower parenting efficacy scores were significantly associated with a greater likelihood of using coercive discipline in response to misbehavior (Bondy & Mash, 1999). Low scores on a measure of perceived control over caregiving failure predicted a higher probability of physical abusiveness and more frequent use of coercive disciplinary tactics than did high perceived control scores (Bugental, Blue, & Cruzcosa, 1989). Mothers who perceived themselves as having low power relative to their daughters were more authoritarian and protective, less consistent, and had daughters who were more fearful than did mothers who perceived themselves as having high power (Mills, 1998). Finally, Bugental, Blue, and Lewis (1990) found that mothers' low perceived control over caregiving outcomes (i.e., high attributed control to children over negative outcomes) was associated with mothers' dysphoric reactions. These findings highlight the importance of parents' belief systems in parenting behaviors and suggest that parents' beliefs of incompetence or ineffectiveness may be important contributors to maladaptive parent-child interactions.

Child-rearing style, parental affect, and perceptions of parenting efficacy have demonstrated reciprocal influences on parents and children's behavior. The original cause of the problematic interactions may be less significant than the fact that both participants engage in negative and mutually unresponsive interactions that begin early in the child's life and have potential for long-term negative consequences (Mash & Johnston, 1982). Cognitive factors, including parents' attributions about the cause of behavior and their processing of cues about the behavior, may play a mediating role in parents' behavioral and affective reactions to their children's actions (Arnold & O'Leary, 1995; Dix et al., 1986; Mills & Rubin, 1990). The focus of this paper now turns to attributions and their impact on parenting behavior.

Attributions: Causes for Negative Behavior

When an outcome is negative, unexpected, and/or important, a causal search is generally undertaken to determine why the outcome occurred (Wong & Weiner, 1981). The decision is based on factors including available information and causal rules. The stability of a cause is related to subsequent expectancies, and the causal properties are linked to affective reactions (Weiner, 1988).

To determine if parents make spontaneous attributions for their children's behavior, Johnston, Reynolds, Freeman, and Geller (1998) asked parents, "What were you thinking when …[insert specific child behavior observed during a structured interaction task]?" The data demonstrated that 31-43% of parents' spontaneous responses to the open-ended question were characterized as causal attributions, and that this was not an artifact of direct questioning about attributions. Given the propensity of parents to make causal attributions about their children's behavior, this is clearly an area that warrants further exploration.

Dimensions of Causality

Weiner, Graham, and Chandler (1982) identified three dimensions of causality that determine an individual's affective reaction to an event: locus (i.e., whether the cause is internal or external to the individual), stability (i.e., whether the cause is temporary or enduring), and controllability (i.e., whether the cause is subject to influence). In their meta-analysis of eight parent-child interaction studies, Joiner and Wagner (1996) found that seven dimensions of attributional style were commonly examined: internal, stable, controllable, global, intentional, blameworthy, and selfishly motivated. The global dimension refers to the extent to which the attribution about current behavior can be generalized to other situations (Doherty, 1981), whereas intent typically refers to the extent to which the child purposefully engaged in a particular behavior (Dix & Reinhold, 1991). Less evidence supports blameworthiness and selfish motivation as distinct attribution dimensions (Joiner & Wagner, 1996), and for the purposes of this paper, they will be subsumed under the other dimensions.

Miller (1995) stated that parental attributions can be divided into three overlapping categories: the immediately present causes or reasons that explain why the child behaved the way he/she did (dispositional-situational dimension); the long-term distal determinants of behavior (i.e., influence of genetics and environment on children's development); and general attributional dimensions along which specific behaviors are classified (e.g., locus, stability, controllability). Trope (1986) proposed that through the attribution process, the observer integrates information from several sources, including aspects of the situation, the other's ongoing behavior, and prior knowledge about the other, to arrive at an attribution of personal disposition. Although different researchers

may utilize different labels or organizational methods, the different attribution dimensions are relatively consistent across studies.

Attributions as Mediating and Moderating Influences

Dix and Lochman (1990) proposed a three-step model to illustrate the way in which parents' attributions might mediate their affective reactions to children's negative behavior. According to the criteria for establishing mediation outlined by Baron and Kenny (1986), an independent variable (e.g., child behavior) must be significantly related to a dependent variable (e.g., maternal affect). The independent variable must also be significantly related to a mediating variable (e.g., maternal attributions). The mediating variable must be significantly associated with the dependent variable. Mediation is demonstrated when the relationship between the independent variable and the dependent variable is no longer significant in the presence of the mediating variable. That is, mediation is demonstrated when child behavior is no longer related to maternal affect when maternal attributions are controlled.

In the first step of Dix and Lochman's model (1990), parents encode and interpret the information immediately available in the environment to determine whether constraints on the child, such as developmental limitations or situational factors, are present. In step 2, parents use their assessment of constraints to make an attribution about the child's intentions, disposition, and responsibility for negative behavior. Parents may determine that negative intentions and dispositions caused the child's negative behavior if the child chose to act negatively in the absence of constraints. Finally, the attribution made by the parents about the child's misbehavior influences the parents' reactions to the misbehavior. Determination that negative behavior resulted from situational or developmental constraints should cause the parent to be sympathetic to the child and to

reject forceful discipline. However, belief that the child intended and controlled misconduct should cause the parent to become upset and to select forceful discipline as an appropriate response.

Attributions may also serve as moderators to influence an outcome. A moderating variable affects the magnitude and/or the direction of the relationship between an independent and dependent variable (Baron & Kenny, 1986). When moderation is demonstrated, a moderating variable (e.g., maternal attributions) is (ideally) unrelated to a predictor variable (e.g., child behavior) and an outcome variable (e.g., maternal affect), but the interaction between the predictor variable and moderating variable is significant. In this example, the effects of child behavior on maternal affect would vary as a function of maternal attributions. Bugental and Shennum (1984) proposed a model of reciprocal parent-child effects with caregiver attributions in a moderating role. They found that caregiver attributions did not have direct consequences for caregiver behavior (i.e., dependent variable); rather, attributions acted as moderators wherein child behavior (i.e., independent variable) influenced caregiver behavior only for adults with a particular set of caregiving beliefs (i.e., low self-perceived power in the caregiving role and high power attributed to the child).

In the preceding pages, this paper reviewed research on the reciprocal relationships between parents' and children's behavior with regard to parenting efficacy, parenting style, and maternal affect. The focus now turns to the process by which attributions may mediate or moderate the relationships between child behavior and parent cognitions and behavior.

Parental Satisfaction. Evidence suggests that attributions contribute to the quality of interactions and relationship satisfaction for parent of children across the age range. The

global and stable dimensions of parent attributions about their children's behavior (ages preschool through late adolescence) were supported as correlates of parental satisfaction, with dispositional attributions for negative behavior associated with parental dissatisfaction (Joiner & Wagner, 1996). Sacco and Murray (1997) tested attributions in a mediating role and found that mothers' conceptions of their children's trait characteristics and their attributions for child behavior mediated the relationship between mothers' relationship satisfaction and presence of a diagnosed disorder in their children. Mothers were least satisfied in their relationships with their 6- to 12-year-old children when they held relatively negative trait conceptions of the child and made dispositional causal attributions about negative events occurring to the child. The contribution of attributions to relationship satisfaction, however, only approached significance when trait ratings were controlled, suggesting that attributions made a relatively weaker contribution to relationship satisfaction than did trait conceptions.

Socialization. Attributions may serve to regulate the socialization experiences to which children are exposed. In addition to influencing adults' reactions, parents' attributions about children affect children's conceptions of themselves, their conceptions of their parents' expectations, and their internalization of adult values (Dix, 1993; Dix & Lochman, 1990). Dix posited that parents' negative reactions to behaviors of which they disapprove convey important interaction goals and values about how they believe children should act. Children internalize the beliefs and attributions they hear when they are young, and they use this information to conceptualize their personal characteristics and to understand what others expect from them. Young children are developmentally incapable of evaluating the accuracy of attributions about them, which may lead them to accept others' appraisals uncritically. Children's conceptualizations of themselves and

their parents' expectations of them, in turn, influence their behavior; when these conceptualizations are based on biased or inaccurate information, the parent-child relationship is potentially compromised (Dix, 1993).

Bickett et al. (1996) proposed that the hostile attribution biases noted in aggressive children (e.g., Dodge & Newman, 1981; Dodge & Somberg, 1987; Nasby, Hayden, & DePaulo, 1980) may stem from the values and norms to which aggressive children have been exposed, and for which they may have been reinforced, by their parents and significant others. Bickett and her colleagues hypothesized that mothers of aggressive boys may be more likely to model a hostile attributional bias when making assessments of another's behavior. Furthermore, by failing to ask questions about another's intent, these mothers may fail to model the importance of determining intent prior to formulating a response. Perhaps parents of aggressive boys socialize such a bias by justifying negative reactions with reference to the negative intentions and dispositions of others (Dix & Lochman, 1990). Given the correlational nature of this research, it is impossible to determine whether mothers' hostile attribution biases develop in response to their children's behavior or whether children develop their attributional biases from observing their mothers. Regardless of initiating factors, it seems likely that reciprocal paths of influence between mother and child may foster the child's continuation of or change in aggressive behavior (Hastings & Rubin, 1999).

Discipline Choices. Dix and his colleagues (Dix et al., 1990) put forth an attributional model of parent judgment in discipline situations that clarifies how attributions influence parent response. According to this model, parents first enter compliance-related interactions with expectations about how the interaction will proceed and whether their children will comply. When noncompliance occurs, parents make an attribution about

the cause of the noncompliance. For example, parents will infer whether the noncompliance is intentional, controllable, and the result of an underlying disposition (e.g., stubbornness or defiance). Based on their attributions, parents will then determine whether the children are responsible or blameworthy for their noncompliance. Finally, parents will decide how forceful or blaming to be in response to the noncompliance. At each step in this process, parental beliefs or biases may influence the parent's processing of information and enacting of the next step in the sequence.

Evidence supports the role of parents' attributions about their children's competence and responsibility as mediators of the effects of children's behavior on parents' disciplinary choices. Dix and his colleagues (Dix et al., 1989) found that varying mothers' beliefs about children's understanding of their own behavior altered mothers' affective reactions and disciplinary choices. Mothers read descriptions of misbehavior by hypothetical children of the same age and gender as their own (kindergarten and second grade), with varying degrees of child knowledge present, absent, or unspecified. Mothers reported feeling more upset with older than with younger children and more upset with children who knew they were acting badly than with children who did not know or children for whom knowledge was unspecified. The more upset mothers reported being, the more pressure they thought was needed to respond to the situation, the more favorably they rated punishment, and the less favorably they rated calm induction.

Alternately, discipline practices may mediate the relationship between mothers' attributions and their children's externalizing behavior problems. Mothers' hostile attribution tendencies, measured prior to their child's entry to kindergarten, predicted increases in children's externalizing behavior problems over the first 4 years of school, according to teacher reports (Nix, Pinderhughes, Dodge, Bates, Pettit, & McFadyen-

Ketchum, 1999). Mothers with greater tendencies to attribute hostile intentions to their children's ambiguous problem behaviors were also more likely to use harsh discipline practices. Moreover, the relationship between mothers' hostile attribution tendencies and children's externalizing behavior problems at school was reduced to nonsignificance when the effect of mothers' harsh discipline practices was controlled. Nix and his colleagues suggested that mothers' hostile attribution tendencies might function as self-fulfilling prophecies because they increase the likelihood that mothers will respond to children's problem behaviors with harsh discipline practices, which, in turn, increases the likelihood that children will behave aggressively.

While attributions may mediate the relationship between behavior and disciplinary response at times (Dix et al., 1989), this does not occur consistently. Dix and Lochman (1990) found that affect was a stronger predictor of disciplinary response than were mothers' causal attributions for misbehavior. Mothers watched video segments depicting child misbehavior and were asked to rate, using a Likert scale, how upset they were with the child for that behavior. Dix and Lochman found that these affect ratings predicted mothers' ratings of the forcefulness of the disciplinary response required to address the child's behavior, independent of both dispositional attributions and attributions of responsibility. Neither dispositional attributions nor attributions of responsibility predicted ratings of forcefulness independent of affect.

Parental Affect. Weiner (1988) proposed that different attribution dimensions are linked with particular affective reactions. For example, pride and self-esteem are linked to the locus dimension, whereas anger, gratitude, guilt, pity, and shame are linked to the controllability dimension. Specifically, anger, gratitude, and guilt are associated with attributions of control to oneself or others, whereas pity and shame are products of

uncontrollable events. Weiner stated that affect and expectancy are believed to be the main determinants of action, consistent with parenting research indicating that specific attributions (e.g., intentionality, controllability, and responsibility to the child) mediate the relationship between children's misbehavior and mothers' behavioral and affective reactions (Dix et al., 1986; Dix & Reinhold, 1991; Smith & O'Leary, 1995).

Parental affect in response to misconduct appears to become increasingly negative as the child ages, as parents perceive behavior to be increasingly intentional and under the child's control, and decreasingly influenced by external factors (Dix et al., 1986). Attributions for a child's aversive behavior that have a locus in the child and that are relatively trait-like, stable, global, voluntary, and intentional elicit greater negative affect from the parent, increase emotional arousal (Smith & O'Leary, 1995), and demonstrate positive associations with the affective reactions of being upset, angry, and disappointed (Scott & Dembo, 1993).

Parenting Goals. Although researchers consider parenting goals to be important determinants of parenting behavior, these goals have received little empirical attention (Hastings & Grusec, 1998). Dix (1993) postulated that parents generally seek to promote child behaviors that advance parental concerns and discourage behaviors that undermine parental concerns. Therefore, dispositional attributions are often appraisals of how the child's disposition contributes to the parent's attainment of the desired outcome. Inexperienced, stressed, or coercive parents may have children who are no more difficult than other children, but their use of inappropriate parenting strategies increases the likelihood of experiencing difficulty with their children, which they attribute in part to their children's dispositions.

The process described above is supported by findings from research on authoritarian parenting. Studies have demonstrated that authoritarian mothers, who use predominately harsh disciplinary strategies, are more likely than authoritative mothers, who use more nurturing disciplinary strategies, to make negative dispositional attributions about their children (Dix & Reinhold, 1991; Dix et al., 1989). Further, children of authoritarian mothers are more easily annoyed, unpleasant, and aggressive than are children of authoritative mothers (Baumrind, 1967). Hastings and Rubin (1999) found that authoritarian mothers reported parenting goals that centered on ending their children's aversive behaviors and discouraging further disruption, rather than on socializing the values or skills in their children that could lead to self-regulation and reduce subsequent behavior problems.

Hastings and Grusec (1998) described goals as parent-centered when they were aimed at achieving outcomes that fulfilled the parent's own needs, such as attaining compliance or reducing parental discomfort. Child-centered goals included making the child happier or teaching something to the child. Relationship-centered goals focused on maintaining a loving relationship and using compromise to settle disagreements. They found that concern for achieving parent-centered goals was directly proportional to the use of power assertion and coercion and inversely proportional to reasoning and responsive parenting among parents and nonparents in response to vignettes describing interactions between a parent and a 6-year-old child. To determine if the goal-behavior relations obtained in response to hypothetical situations would be replicated when real-world events were being recalled, Hastings and Grusec conducted interviews with parents about an actual conflict with their children (ages 5 to 7 years old). The data indicated that parents who were most concerned with meeting parent-centered goals used more dominating power

assertion than did parents who focused on relationship-centered or child-centered goals. Parents primarily concerned with relationship goals used the most responsive and least dominating behavior.

Parents' attributions for their children's actions seemed to mediate some of the relations between parenting goals and behavior, suggesting that goals may influence behavior indirectly by affecting other cognitions (Hasting & Grusec, 1998). Parents were more likely to suggest that their children's misbehaviors were deliberate and dispositionally caused when they were highly concerned with meeting parent-centered goals; controlling for attributions attenuated the relations between these goals and dominating behaviors. However, controlling for goals also weakened the correlation between attributions and dominating behavior, suggesting that attributions may also shape goals during interactions. Hastings and Grusec concluded that parenting goals and attributions might function interdependently in contributing to a given outcome.

Potential Effects of Parental Attributions on Child Behavior

Researchers have demonstrated continuing interest in the relationship between parents' social cognitions and children's internalizing problems, externalizing problems, and generalized problems of adaptation to changing life events (Bugental & Johnston, 2000). Numerous studies have documented a relationship between aggressive child behavior and global, stable, and internal parental attributions (e.g., Baden & Howe, 1992; Bickett et al., 1996). The accuracy of adults' attributions may determine the direction of the effects of attributions on parenting and parent-child interaction. Misperceptions compromise parents' ability to understand and influence their children effectively, which could lead to the use of inappropriate parenting techniques (Dix, 1993). Inappropriate parenting could then, in turn, lead to negative child behavior (Kochanska et al., 1989) that

serves to justify the parent's attribution, despite the initial attribution error. As Joiner and Wagner (1996) observed, "To the extent that parents make dispositional, child-centered attributions about their child's negative behavior, a host of problems may ensue" (p. 37). Whether parents' negative views of their children's dispositions stem from accurate appraisals or self-fulfilling prophecies may be immaterial, as the resulting parent-child conflict may serve to increase negative behavior.

Children (aged 3-13 years) who were identified as difficult by their mothers manifested greater behavioral unresponsiveness and inappropriateness during individual unstructured interactions both with their own and with an unrelated mother (Bugental et al., 1990), apparently confirming their identification as difficult. Children from dysfunctional families typically demonstrate behaviors that are perceived as problematic by others, which supports the parents' negative dispositional attributions (Dix, 1993). However, that behavior could reflect maternal factors such as poor parenting, low investment, and negative biases in appraisals of children's behavior (Dix & Lochman, 1990).

Parents' reports about their children's degree of misbehavior may conflict with observer accounts of the same behavior. Mash and Johnston (1982) found that mothers of hyperactive children (aged 7 to 9 years) perceived their children as having marked behavioral disturbance compared to mothers' of children without hyperactivity, despite the overall lack of child behavior differences coded by trained and experienced observers. The authors speculated that early negative experiences might have a continuing effect on maternal perceptions, even when observed rates of negative behavior have diminished in mother-child interaction.

Evidence suggests that some types of misbehavior elicit more attributions of intent than do others. Scott and Dembo (1993) found that mothers regarded direct defiance as more intentional and dispositional than passive noncompliance, whereas mothers did not regard passive noncompliance as a deliberate attempt to misbehave. Direct defiance was seen as equally controllable in terms of intentionality and disposition regardless of the child's age, and it evoked more anger, disappointment, and power assertive responses than passive noncompliance. Dix and Reinhold (1991) found that authoritarian mothers, who place a high value on obedience, were more likely to attribute intent and responsibility to children who engaged in disobedient acts. Similarly, Bondy and Mash (1999) found that oppositional-defiant behavior elicited more attributions of control and intent of the child; greater likelihood of attributing control was associated with greater likelihood of using coercive discipline.

Again, the correlational nature of this research makes establishing causality impossible. It could be that experience with difficult children leads to altered attributional patterns and characteristic patterns of affect. Conversely, particular ways of explaining the behavior of children may lead to affective response patterns that foster difficult child behavior. Family systems may be best understood as reciprocal processes in which both the triggering properties of the child and the reactive properties of the adult act to define the nature and maintenance of the total system (Bugental et al., 1990).

Positive and Self-Serving Biases

Mothers' attributions about their children are positively biased under most circumstances (Dix & Grusec, 1985). According to social identity theory (Tajfel & Turner, 1986), one's affiliations have implications for the establishment and maintenance of self-esteem. Self-esteem is increased by association with successful and attractive

others. Extending this theory to parent-child relations, parents' self-esteem may be enhanced by maintaining a positive image of their children. Gretarsson and Gelfand (1988) assessed mothers' attributions for both positive and negative child characteristics (child ages ranging from 4 to 12 years), and found strong and consistent evidence that mothers perceive their children to be dispositionally good. Mothers rated positive characteristics as inborn and stable over time, whereas negative characteristics were rated as transitory and extrinsically caused. The authors speculated that parents' feelings of self-worth may be enhanced by believing that their children are especially praiseworthy. An exception, however, was noted in mothers' ratings of the negative behavior of difficult-to-manage children as dispositionally based. The authors suggested that this might be a functional bias in that it eases parents' feelings of responsibility for the children's behavior and for improving it.

While most parents are motivated to maintain a positive view of their child's disposition, parents of a child diagnosed with a behavior or learning disorder, which are often stable and intrinsic, may have greater difficulty in doing so. Parents of children with these disorders were more likely than were their children to make internal attributions for both their child's success and problem behaviors. Parents displayed an attributional pattern that is more representative of observers, wherein problem behaviors are generally attributed to internal factors and successes attributed to external factors (Compas, Friedland-Bandes, Bastein, & Adelman, 1981). The difference in causal attributions between parents and children for a long-term distressing problem may contribute to family conflict and frustration and even exacerbate the problem.

The Role of Attributions in Coercive Cycles

The evidence indicates that parents' cognitive biases can play a causal role in the development of negative cycles of parent-child interaction. For example, mothers' tendency to attribute hostile intent to their children predicted the children's subsequent externalizing behavior problems at school, and data indicated that mothers' hostile attribution bias preceded their children's aggressive behavior (Nix et al., 1999). Bickett and her colleagues (1996) found that mothers of aggressive boys were significantly more likely to make hostile attributions about the hypothetical behavior of their children in ambiguous conditions than were mothers of nonaggressive boys. The authors speculated that mothers of aggressive boys may have longstanding histories with their children of disruptive, noncompliant behavior and thus may have developed negative expectations that predispose them to making negative attributions about their children's behavior. On the other hand, mothers' biased cognitions may in fact be reactions to their children's aggressive behavior and may be relatively accurate perceptions of difficult children that generalize to other children. Regardless of the source, negative cognitive sets can negatively affect interaction even in the absence of negative child behavior (Dix & Lochman, 1990).

Parental characteristics that are associated with inadequate parenting are likely to predict negative attributions about children because inadequate parenting is unlikely to elicit cooperative, compliant behavior (Dix, 1993). Evidence of hostile attribution biases observed in mothers and their aggressive children suggests that these biases may serve to maintain coercive patterns of interaction (Bickett et al., 1996). Baden and Howe (1992) hypothesized that parents' attributions regarding the intentionality of their children's misbehavior are related to parents' tendency to initiate and engage in aversive conflict

with their child. The most consistent predictor of self-reported conflict between mothers and their adolescent children was the belief that the other's negative behavior was globally determined and pervasive, as opposed to situational (Grace, Kelley, & McCain, 1993). Parents who attribute their child's behavior to global, stable, and uncontrollable-by-parent causes are at risk for withdrawing from negative interactions and failing to apply consistent discipline (Baden & Howe, 1992). Applying this hypothesis to a group of mothers of adolescents referred for treatment of CD and a group of control mothers, Baden and Howe demonstrated that mothers in the CD group were more likely to view their child's behavior as intentional, to ascribe the behavior to causes that were global, stable, and beyond the parent's control, and to expect that attempts to influence their children would be unsuccessful. The blameful stance of mothers with children identified as conduct-disordered may increase the likelihood that the mothers will continue to initiate and participate in cycles of reciprocated aggression with their children, which may play an important role in family coercion cycles.

Treatment Implications

The demonstrated associations between attributions and parental affective and behavioral responses suggest potential implications for therapeutic interventions. Parent training programs might usefully extend their focus beyond specific management practices to include consideration of parents' observations of their children's behavior, stress reactions to problem behaviors, and selection of childrearing strategies (Baker & Heller, 1996). Given that the insular mothers studied by Wahler and Afton (1980) did not become objective observers of their children's behavior as a result of the parent training intervention, the authors concluded that it was not surprising that the mothers did not continue to accurately apply parent training strategies after treatment ended. Parent

training programs that teach new parenting behaviors without helping parents modify their characteristic emotional and cognitive responses to their child's behavior may have difficulty changing parents' behavior and maintaining changes that do occur (Smith & O'Leary, 1995).

According to Weiner (1988), attribution therapies have as their goal the substitution of adaptive attributions for dysfunctional ones, with the expectation that this will produce positive changes in behavior. Although research on attributional therapies has largely been confined to achievement-related contexts, the theoretical underpinnings of attribution therapy can be applied to many different problem areas, including parent-child interaction. Attributional therapists may intervene on several different levels of a problematic issue. For example, a therapist may work with the client to change the client's attribution for a negative outcome, change the client's perception of the outcome, change the client's expectations for success, change the client's goals, or help the client to identify and evaluate potentially mitigating information. When a parent makes a causal attribution, a chain reaction is initiated. The attribution leads to a behavioral response that occurs in the presence of others and may affect them. This, in turn, could lead to a change in the parent's environment, potentially change future attributions, cause a further change in behavior, and so forth (Munton & Antaki, 1988). The attribution therapist may target interventions at any or all of these levels.

Parents' attributions for the cause of their children's behavioral problems have been shown to influence their receptivity to different types of treatment programs. Internal, physical attributions for children's problems demonstrated an inverse relationship with acceptability of behavioral treatments (Reimers, Wacker, Derby, & Cooper, 1995). The investigators speculated that parents who primarily attributed their children's behavioral

problems to a physical cause may have implemented the behavioral interventions with less integrity, thus possibly resulting in decreased treatment effectiveness, which may have served to confirm the parents' belief that the child's behavioral difficulties were due to physical and not environmental causes. Conversely, parents who implemented interventions with good integrity may have increased the likelihood of effectiveness, thereby confirming their beliefs that their child's problems were due to environmental factors. Assessment of parents' attributions about their children may provide critical information for the therapist. Additional research is needed to determine whether parental attributions can be modified prior to recommendation and implementation of treatment interventions and whether attributions influence adherence to and acceptance of parent training interventions.

The assumption that clinical change will be synonymous with attribution change has been challenged. Munton and Antaki (1988) assessed families that did and did not demonstrate improvements over the course of treatment and found that non-improved families had a tendency to perceive the cause of negative outcomes as more stable than did improved families. However, this attributional difference was significant at both the first and final therapy sessions, suggesting that any attributional differences between the two groups were present prior to treatment. Furthermore, therapy was not responsible for bringing about any change in attributions, and the perception of how stable the causes of the problems were remained constant over treatment. While families may indeed change their perceptions of causality over the course of treatment, the changes may differ for each family and family member, masking any between-group differences.

Only two published studies have evaluated parent-training programs with an attribution component, and results were mixed (Goddard & Miller, 1993; White,

McNally, & Cartwright-Hatton, 2003). Goddard and Miller evaluated a program that included recommendations from attribution research, notably teaching parents to recognize their cognitive biases and explore children's understanding of their behavior. However, the global assessment measures used to detect change were not particularly sensitive and did not show significant improvement, indicating that the use of a single assessment method may limit findings. White and her colleagues found more promising results from their pilot study of a program that encouraged parents to challenge their thinking about the causes of their children's behavior and formulate alternate beliefs, with the goal of altering parents' subsequent feelings and behavior. However, as this was a pilot study, results are preliminary and further investigation is required. Future research is needed to determine what role attributions may play, if any, in treatment failure or success.

Limitations and Future Directions

A major methodological issue concerns the assessment of direction of effects among cognitions, behaviors, and affects in the family, and the nature of the processes mediating these relationships (Bugental & Johnston, 2000). The correlational nature of many of the studies cited in this review prevents any firm conclusions about the direction of causality. The numerous associations found between attributions and maternal affect, behavior, and satisfaction may signify direct relationships or spurious relationships influenced by a third, unmeasured variable (Grace et al., 1993). The data often support contradictory interpretations. Parental attributions of negative child disposition and low perceived parental efficacy might be precursors to coercive cycles of interaction or the result of established, ongoing coercive cycles. By the time a disruptive child reaches adolescence, parents may experience so many failures in controlling their child's behavior that they

accurately perceive themselves as unsuccessful in controlling their child, and their negative attributions may be justified. Alternatively, the parents' attributions during their child's early years may be developmentally inappropriate and may set a course for a lifelong pattern of conflict.

The links between attributions and parents' emotions and behaviors with children are typically indirect and are based on reports about, rather than actual, emotions and behaviors; relatively little is know about the complex factors that inhibit or promote attribution-behavior relations (Dix, 1993). Assessment of parental attributions typically requires parents to remember or imagine a particular outcome, and there is considerable variability in the presentation of the stimulus behavior across studies. The multiple methods include presenting parents with descriptions of hypothetical events involving their children (Sacco & Murray, 1997) or hypothetical children (Milner & Foody, 1994), requiring parents' to recall their own children's behaviors (Hastings & Grusec, 1998), and presenting parents with videotaped presentations of their own (Slep & O'Leary, 1998) or a confederate child's behavior (Dix et al., 1990; Smith & O'Leary, 1995). Considerably less is known about how often and under what circumstances parents actually make attributions and whether the factors and dimensions that characterize spontaneous attributions are the same as those emphasized in attribution research (Miller, 1995).

The way in which attributions are measured is also likely to influence the researchers' findings. Milner and Foody (1994) speculated that their open-ended attribution question, which did not yield the expected differences between groups of subjects at high- and low-risk for abusiveness, may have been too broad to capture the different types of attributions, as responses often did not contain enough information to allow them to be

coded into each of the attribution categories. However, attributional differences may represent only modest statistical associations and may be difficult to detect. Clearly, the use of multiple modes of attribution assessment is recommended. As the sequelae of parental attributions appear to have major implications for child development, this is an area that warrants further research.

In an effort to address some of the methodological limitations in available parenting research, Slep and O'Leary (1998) experimentally manipulated mothers' attributions for child behavior and were the first to document the causal processes underlying the relationship between mothers' attributions for child misbehavior and parenting. Their research indicated that experimentally induced differences in the degree of child responsibility in mothers' attributions for child misbehavior caused differences in both mothers' discipline styles and their subjective anger. Furthermore, differences were noted in the amount of children's negative affect. Mothers who were given information designed to elicit child-responsible attributions for misbehavior were more overreactive in their discipline and reported more subjective anger than did mothers who were given information designed to elicit child-not-responsible attributions. Children of mothers in the high responsibility condition whined, cried, and screamed more than children of mothers in the low responsibility condition. This study provided the first empirical evidence of the effect of attributions on parent and child behavior and illustrates the need for further experimental manipulation of attributions.

Summary

As young children struggle to gain autonomy, problematic behaviors occur with increasing frequency. For many parents, coping with these behaviors is both stressful and challenging, and the strategies parents choose can have long-term implications for

the resolution of current and future parent-child conflict. The causes to which parents attribute their child's misbehavior are likely to influence their disciplinary and emotional responses, in part by establishing intentionality and expectations for future behavior. In a reciprocal fashion, the parent's responses to a child's misbehavior are then likely to influence the child's subsequent behavior by providing a model of problem solving strategies, conflict resolution, and interpersonal interaction.

Copious research has demonstrated that negative or coercive cycles of interaction are influenced by a variety of parental factors, including, but not limited to, experience of negative life events and stress, beliefs about child-rearing, and quality of available social support. The cyclical nature of parent-child interaction leaves researchers with the tricky chicken-or-the-egg conundrum. Parental attention to deviant behavior, reinforcement of aggressive behavior, inattention to prosocial behavior, poor monitoring, and failure to set limits may play a causal role in children's deviant behavior. On the other hand, research has failed to demonstrate conclusively that negative parental behaviors are the primary cause of problem behavior in the child. The many factors that may perpetuate negative parent-child interaction obscure the most effective point at which to intervene in the coercive cycle.

Parental attributions for children's behavior appear to influence parent-child interaction from several angles. Parents who attribute their child's misbehavior to causes that are controllable by the child are generally more upset, angry, and disappointed, and are more likely to select forceful discipline as an appropriate response, whereas parents who determine that misbehavior resulted from situational or developmental constraints are generally more sympathetic and forgiving. Mothers who attribute negative behavior to their child's disposition report less satisfaction in their relationships with their child

than do mothers who attribute misbehavior to situational factors. Children internalize the beliefs and attributions they hear from their parents, and they use this information to conceptualize who they are and what they believe their parents' expect from them, which has implications for their future behavior. Research in these areas indicates that parental attributions appear to affect children's behavior indirectly by directly influencing the parent's affective and behavioral responses.

While most parents demonstrate a positive bias in their attributions for their children's behavior (e.g., attributing positive behavior to dispositional factors and negative behavior to situational factors), parents of a child who exhibits behavior problems may be less likely to do so. Parents who experience repeated failures in managing their child's behavior may be more likely to attribute negative behavior to characteristics of the child in an effort to relieve themselves of the guilt and frustration that often accompany perceived parenting failures. Negative attribution biases, once established, are resistant to alteration, even in the absence of negative child behavior. This increases the likelihood that parents will perpetuate negative and coercive cycles of parent-child interaction and maintain family conflict.

Researchers have continued to explore the relationship between parents' social cognitions and children's behavior problems in an effort to identify causal pathways and improve interventions. The association between parental attributions, parental behavior, and child behavior suggests potential avenues for therapeutic intervention. Therapists utilizing parent-training methods may wish to consider targeting parental attributions for child behavior in addition to teaching social learning techniques. The attributions that parents make for their children's negative behavior may serve as obstacles for the successful implementation of new parenting techniques and strengthen resistance to

change. However, the addition of an attribution component to parent training programs awaits empirical study to demonstrate its effectiveness and utility.

The attribution literature, though vast, is limited by a variety of methodological issues, not the least of which is the correlational nature of much of the research. Causality is often merely implied, which leads to potentially conflicting interpretations of the results. The measurement of attributions varies across studies, limiting comparability of findings, and the artificial nature of attribution measurement may fail to uncover the process by which parents actually make attributions about child behavior. Furthermore, the results of attribution research await an appropriate method of dissemination. The implications of this body of research for parent training, while compelling, have yet to be fully explored, implemented, and evaluated. The aim of the present investigation is to take a small step toward exploring some of these implications.

CHAPTER III

CURRENT INVESTIGATION

The present research was conducted to address some of the unanswered questions and contribute to the existing information about the types of attributions that parents make for child behavior and the relationship between attributions and behavioral and affective responses. This study had two primary goals. The first goal was to manipulate mothers' attributions for young children's behavior and examine the effects of this manipulation on maternal and child affect and on disciplinary responses to child behavior. Extensive research has suggested strong relationships between attributions and both affective and behavioral reactions, but causality is generally implied, not demonstrated (Grace et al., 1993). Slep and O'Leary (1998) were the first to document the direction of causality suggested by social cognitive models of parenting. The current study was conducted in an attempt to replicate and extend the findings of Slep and O'Leary, thus providing supporting experimental evidence of the causal role that maternal attributions play in mothers' behavioral and affective responses to child behavior.

The second goal of this study was to identify maternal characteristics that may influence mothers' attributions and their consideration of mitigating information in the formation of their responses to child behavior. The establishment of a direct causal link between negatively biased maternal attributions and harsh parenting has important implications for the refinement of parenting interventions (Slep & O'Leary, 1998), although the addition of an attribution component to parenting programs has not been

sufficiently investigated (Goddard & Miller, 1993; White et al., 2003). Despite the overall success of parent training, specific risk factors have been identified that decrease the likelihood that parents will benefit from these interventions (Forehand, 1993; Mabe et al., 2001; Wahler, 1980). These risk factors are also associated with negatively biased attributions for child misbehavior. Women at high risk for child abuse (Milner & Foody, 1994) and mothers of aggressive boys (Dix & Lochman, 1990) both reported recognizing and utilizing mitigating information in their attributions for child behavior, but appeared to differ from low-risk women and mothers of nonaggressive boys in how they used this information. Mothers at risk for negative outcomes may be less open to alternative explanations for their children's behavior than are mothers not at risk. This study examined whether specific maternal characteristics were associated with characteristic attribution style and the use of attribution information in the formation of a response to child misbehavior.

As part of the experimental manipulation, participants were instructed that their children's behavior was primarily due to factors that were either internal or external to the child. Participants engaged in a series of tasks with their children, some of which were designed to elicit misbehavior. To determine mothers' typical attribution style without interfering with the experimental manipulation, an assessment of the types of attributions mothers make regarding their children's behavior was conducted by telephone prior to mothers' participation in the experimental tasks. Mothers also completed questionnaires assessing their child's behavior and their parenting in discipline situations. Further information was provided by an assessment of mothers' levels of stress and social support. These factors were considered likely to influence attributions for child misbehavior and thus were assessed prior to the manipulation.

After the experimental manipulation, mothers followed a procedure similar to that designed by Slep and O'Leary (1998). Each mother was shown two brief segments of the interaction she had with her child. The experimenter selected these segments while watching the interaction on a remote monitor as it occurred. Segments were selected to show instances of noncompliance, negative affect, or both in response to maternal directives or reprimands. After viewing these segments, mothers were asked to rate their emotional states and to make attribution assessments regarding their children's misbehavior.

To achieve the primary goal of examining the effects of an experimental manipulation of mothers' attributions for their children's behavior on maternal affect, child affect, and disciplinary responses to child behavior, four hypotheses were tested. First, it was hypothesized that mothers who were instructed that their children's misbehavior was caused by factors internal to the child (i.e., internal attribution condition) would attribute greater intent, responsibility, stability, and controllability to their children than would mothers who were instructed that their child's misbehavior was caused by factors external to the child (i.e., external attribution condition). Second, it was predicted that mothers in the internal attribution condition would exhibit and report more negative affect in response to their children's behavior than would mothers in the external attribution condition. Third, it was expected that mothers in the internal attribution condition would report a stronger need to respond to their children's misbehavior and would use more harsh disciplinary strategies in interactions with their children than would mothers in the external attribution condition. Finally, it was expected that children of mothers in the internal attribution condition would exhibit more negative affect and

noncompliance in response to their mothers' directives than would children of mothers in the external attribution condition.

Two hypotheses were proposed to accomplish the second goal of identifying maternal characteristics that may influence mothers' attributions and their consideration of mitigating information in the formation of their responses to child behavior. It was predicted that mothers reporting lower levels of social support, greater dissatisfaction with the parenting role, higher levels of stress, more frequent and intense child behavior problems, or more dysfunctional parenting style would report more internal attributions for child misbehavior in the pre-interaction assessment compared to mothers reporting higher levels of social support, greater satisfaction with the parenting role, lower levels of stress, fewer child behavior problems, or more adaptive parenting style. Finally, mothers experiencing greater problems related to parenting (i.e., higher stress, less satisfaction, more child behavior problems) were expected to rate the attribution information provided to them prior to the interaction task as less important in the formation of their responses to child misbehavior occurring during the interaction task compared to mothers experiencing fewer problems related to parenting.

CHAPTER IV

METHOD

Participants

Fifty mothers of children between the ages of 36 and 59 months were recruited through local daycare and head start centers, the local public school system, newspaper and radio advertisements, and flyers posted on campus and in the community. Flyers were placed in locations selected to reach families of various income levels, including laundry facilities, recreation centers, shopping centers, and the Payne County Health Department. Some flyers and advertisements targeted mothers of hard-to-manage preschoolers. As compensation for their participation, mothers received gift certificates from local businesses or $10 in cash and children received a small toy. In addition, mothers received a brief developmental report that included scores from a measure of the intensity and frequency of children's behavior problems (Eyberg Child Behavior Inventory) and a brief screening device for identifying language comprehension difficulties (Peabody Picture Vocabulary Test-Third Edition). Communication deficits are a common cause of disruptive behavior problems in young children (Prizant, Wetherby, & Roberts, 1993), and may indicate a strong need for intervention. All reports included referrals and recommendations for increasing children's language skills and managing children's behavior problems.

Twenty children (40% of the total sample) did not exhibit sufficient misbehavior for inclusion in all parts of the study (i.e., the child complied with all maternal directives).

Therefore, videotaped segments of misbehavior were not available for the mother's viewing and these participants were excluded from post-interaction analyses. This resulted in a final sample of thirty mother-child dyads, 15 in each condition, for analyses of observational data and post-interaction assessment. Those mothers excluded from analyses of observational data were included in analyses of questionnaire data collected prior to the interaction task.

Children in the 36- to 59-month age range were targeted as participants, as this age range is beyond the developmental level when autonomy struggles typically begin (American Academy of Child and Adolescent Psychiatry, 1998). Furthermore, parents of children in this age range were expected to have some experience with responding to their child's noncompliance and negative behaviors (Campbell, 1997), and were expected to have formulated some attributions about their child's disposition. Lastly, this age range was somewhat older than that used by Slep and O'Leary (1998), whose child participants ranged in age from 24 to 42 months, allowing for potential replication and extension of study findings.

Participating mothers ranged in age from 20 to 45 years of age (M = 31.68, SD = 5.82) and were predominately Caucasian (84%). Demographic information for the complete sample is presented in Table 1. Most mothers were married (82%) and living with the biological father of the participating child (88%). Mothers had a minimum education level of a high school diploma (M = 15.56, SD = 1.47); 68% were college graduates and 28% held advanced degrees. Nearly half of the mothers did not work outside the home (46%). Mothers reported that their spouses had an average age of 34.41 years (SD = 6.03) and an average of 15.8 years of education (SD = 1.85), which is equivalent to a high school diploma and over three years of college (57.8% held advanced degrees). Mothers

had additional children in 74% of families (M = 1.76, SD = 1.01), with a mean of 4.32 people living in the home (SD = 1.32).

Participating children ranged in age from 36 to 59 months (M = 42.8, SD = 5.75) and, like their mothers, were predominately Caucasian (80%; see Table 2). Fifty-four percent were female. Most children reached developmental milestones (i.e., sitting, crawling, and walking) within normal limits, and no child evidenced significant developmental delays. Twenty-two percent of children were taking medication at the time of their participation; in most cases, the medication was being taken to treat allergies or asthma. Most children were attending a childcare or preschool program at the time of their participation (56%), which they attended a mean of 14.23 days per month (SD = 6.01). Of those children who were not currently attending a daycare/preschool program, 25% had previously attended a preschool/daycare program.

Pre-Interaction Measures

Demographic questionnaire. For descriptive purposes, mothers completed a demographic questionnaire (Appendix A) that assessed the following information about themselves and their spouse or partner: age, race, and relationship to child, education level completed, marital status, and income. In addition, the child's age, race, and gender were assessed. The demographic questionnaire provided descriptive information about the participants.

Eyberg Child Behavior Inventory (ECBI). The ECBI (Burns & Patterson, 1990; Eyberg & Pincus, 1999; Eyberg & Ross, 1978) is a 36-item measure that identifies specific behaviors in children ages 2 to 16 years (Appendix B). The ECBI yields a Problem Score that consists of the sum of items endorsed by parents as problematic. Each item also has a seven-point rating scale that measures how frequently a particular

behavior occurs, the sum of which yields an Intensity Score. The data suggest that Problem Scores at or above 15 and Intensity Scores at or above 131 indicate clinically significant behavior problems (Eyberg & Pincus, 1999). The ECBI demonstrates significant correlations with observations of parent-child interactions and with Externalizing scores on the Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1983), a widely used parent-rating scale of specific behaviors in children (Boggs, Eyberg, & Reynolds, 1990; Eyberg & Ross, 1978). Robinson et al. (1980) reported internal consistency coefficients of .98 for both the Problem and Intensity Scores. In a restandardization study of the ECBI, Colvin, Eyberg, and Adams (as cited in Eyberg & Pincus, 1999) reported internal consistency coefficients of .95 for the Intensity Score and .93 for the Problem Score. The ECBI has demonstrated adequate reliability and validity for discriminating between children with and without behavior problems (Burns & Patterson, 1990). The ECBI Problem and Intensity scores were used both for descriptive purposes and to examine the relationship between children's behavior problems and mothers' characteristics. Furthermore, ECBI scores were compared to observations of child behavior to determine consistency and were used to examine the relationship between mother-reported child behavior problems and maternal attributions for misbehavior assessed prior to the manipulation.

Parenting Scale (PS). The Parenting Scale is a 36-item rating scale developed for use with parents of children ages 18 months to 4 years to assess dysfunctional parenting in discipline situations (Arnold, O'Leary, Wolff, & Acker, 1993; Appendix C). The PS yields a Total score and three factor scores: Laxness, Overreactivity, and Verbosity. Verbosity refers to the extent to which parents discuss and reason with their children during discipline encounters. Laxness is characterized by giving in to children's

demands or failing to enforce rules, whereas overreactivity refers to parents' displays of anger or irritation in response to children's behavior (Arnold & O'Leary, 1995). High total scores on the PS indicate use of dysfunctional disciplinary practices. The authors reported that the PS has adequate test-retest reliability, with coefficients ranging from .79 (Verbosity) to .84 (Total). Further, the PS has good internal consistency, with coefficients of .83 (Laxness), .82 (Overreactivity), .63 (Verbosity), and .84 (Total). Scores on the PS were strongly correlated with scores on the CBCL and were related closely to observational measures of both mother and child behavior coded in laboratory observations. The authors concluded that the PS is a valid measure for discriminating between groups of clinic and nonclinic families on Laxness, Overreactivity, and Total scores. Scores on the PS were used for descriptive purposes and to examine the relationship between mothers' parenting in discipline situations and maternal attributions for child misbehavior assessed prior to the manipulation.

Parenting Stress Index-Short Form (PSI-SF). The PSI-SF (Abidin, 1990) is a 36-item questionnaire that assesses stress in the parent-child system (Appendix D). It was derived from the 101-item Parenting Stress Index (PSI) and includes original PSI items. The PSI-SF yields a Total Stress score that is comprised of three subscale scores: Parental Distress, Parent-Child Dysfunctional Interaction, and Difficult Child. Total Stress scores above 90 indicate that the parent is experiencing clinically significant levels of stress associated with parenting. The PSI-SF was standardized on 800 parents from two pediatric practices and is appropriate for parents of children ages 3 months to 18 years. The PSI-SF measures the presence and degree of parental stress using a six-point scale (ranging from *strongly disagree* to *strongly agree*). Abidin (1990) reported 6-month alpha reliabilities of .91 (Total Score), .87 (Parental Distress), .80 (Parent-Child

Interaction), and .85 (Difficult Child). Test-retest reliability coefficients ranged from .68 (Parent-Child Interaction) to .85 (Parental Distress). The PSI-SF demonstrated good concurrent validity with the PSI, with Total Stress scores obtaining a correlation of .94 and subscale correlations ranging from .50 to .92. Scores from the PSI-SF were used for descriptive purposes and to examine the relationship between maternal stress and maternal attributions for child misbehavior assessed prior to the manipulation.

Maternal Attribution Questionnaire (MAQ). The MAQ was developed for this study to assess mothers' expectations and attributions of intentionality for their children's misconduct (Appendix E). The experimenter orally administered the MAQ over the telephone prior to mothers' scheduled appointments to avoid excessive focus on attributions immediately preceding the experimental manipulation. The experimenter read four vignettes of child behavior and asked mothers to rate four items related to the child's competence and responsibility in the situations described. Mothers rated the items on a 1 to 6 scale, with higher numbers indicating greater child competence, responsibility, and intent. The vignettes featured examples of different types of misbehavior common to young children. The work of Dix and his colleagues (Dix et al., 1986; Dix et al., 1989) served as the model for this measure. Two of the vignettes were used in Dix's previous research and two vignettes were adapted from those used in his research to depict behaviors that were developmentally appropriate for children between 36 and 59 month of age. Pilot testing indicated that mothers believed the vignettes to be representative of normal child misbehavior and understood all questions. Furthermore, a range of responses was obtained. Mothers' responses to the vignettes were used as indicators of typical attributions they made for their children's behavior in the past and were compared with their post-interaction attributions for exploratory purposes.

Parenting Sense of Competence Scale (PSOC). The PSOC is a parent-report measure of parenting efficacy and satisfaction that was originally developed for use with parents of infants (Gibaud-Wallston & Wandersman, 1978). Johnston and Mash (1989) provided normative and psychometric information for the PSOC with parents of 4- to 9-year-old children. For the purposes of this study, only the Satisfaction scale, containing 9 items, was used (Appendix F). This measure provides an indicator of the degree to which parents feel frustrated, anxious, and poorly motivated in the parenting role. Each item is answered on a 6-point scale ranging from 1 (*strongly agree*) to 6 (*strongly disagree*), with higher scores indicating greater satisfaction. Gibaud-Wallston and Wandersman reported satisfactory internal consistency (.82 for the Satisfaction scale) and 6-week test-retest reliability (ranging from .46 to .82 for both scales) for the PSOC. Johnston and Mash (1989) reported an internal consistency alpha of .75 for the Satisfaction scale. Furthermore, the Satisfaction scale of the PSOC demonstrated a significant inverse correlation with a measure of externalizing behavior problems (Johnston & Mash, 1989). This measure was used for descriptive purposes and to examine the relationship between maternal satisfaction and maternal attributions for child misbehavior assessed prior to the manipulation.

Perceived Social Support Scale (PSSS). The PSSS (Procidano & Heller, 1983; Appendix G) is a two-scale measure of the extent to which an individual perceives that his/her needs for support, information, and feedback are fulfilled by friends (PSS-Fr) and by family (PSS-Fa). Each scale contains 20 statements to which the individual responds "Yes," "No," or "Don't Know." Responses indicative of perceived support have a two-point value, so that scores on each scale range from a low of 0 (i.e. *no perceived support*) to a high of 40 (i.e., *maximum perceived support*). Both PSS Scales demonstrate good

internal consistency, with alphas ranging from .88 to .92 (Meyers, 1998; Procidano & Heller, 1983). Furthermore, both scales demonstrated significant negative correlations with a measure of psychiatric symptom scores (Procidano & Heller, 1983) and significant positive correlations with mothers' warmth and effective control toward their young children (Meyers, 1998). PSSS scores were better predictors of symptomatology than were life events or social network characteristics (Procidano & Heller, 1983). This measure was used for descriptive purposes and to examine the relationship between maternal perceived social support and maternal attributions for child misbehavior assessed prior to the manipulation.

Peabody Picture Vocabulary Test-Third Edition (PPVT-III). The PPVT-III (Dunn & Dunn, 1997) is a brief measure of receptive language skills that requires a child to point to one of four pictures in response to a question from the evaluator. The PPVT-III is appropriate for use with children over the age of 2 years, 6 months and has good reliability and validity. Scores from the PPVT-III were included in a brief developmental report that was provided to the mother, along with recommendations and referrals, as compensation for participation in this study and was not used for research purposes.

Post-Interaction Measure

Post-Interaction Assessment. The questionnaire method was selected to assess mothers' attributions for their children's misbehavior during the videotaped interaction. Johnston and her colleagues (1998) demonstrated that parents' responses to an open-ended attribution question (why do you think your child [insert behavior]?) and dimensional attributional ratings on a Likert-type rating scale were substantially more congruent than would be expected by chance, although agreement was not complete. To facilitate the assessment of attributions and reduce the potential for coding errors, the

rating scale method was selected and a questionnaire, the Post-Interaction Assessment (PIA), was developed for this study (Appendix H). Portions of this questionnaire were adapted from a revision of the Relationship Attribution Measure (RAM-R; Fincham & Bradbury, 1992; Pape & Arias, 2000), originally designed to assess battered women's perceptions of their husbands' violent behavior. The RAM-R yielded reliable assessments of causal and responsibility attributions and has demonstrated good concurrent validity (Fincham & Bradbury, 1992) and internal consistency (Pape & Arias, 2000).

Mothers were asked to rate their children's behavior in the videotaped segments on the following dimensions: locus (i.e., whether the cause is internal or external to the individual), intent (i.e., whether the child purposefully engaged in the behavior), globality (i.e., whether the behavior affects other areas of the relationship), stability (i.e., whether the behavior is likely to change), selfish motivation, blame, controllability (i.e., whether the cause is within or out of the child's control), and disposition (i.e., whether the child's behavior is due more to dispositional or situational characteristics). In order to control for a possible response bias, half of the items are keyed so that low scores indicate internal attributions and half are keyed so that low scores indicate external attributions. After reverse scoring was applied to those items for which low scores indicate internal attributions, scores were summed to obtain a total attribution score, with high scores indicating more attributions to internal factors and low scores indicating more attributions to external factors.

In addition to attributions, the PIA assessed the extent to which mothers found the attribution information provided to them prior to the interaction useful in answering the questions about their child's behavior (i.e., mitigating information). An additional

question assessed how strongly mothers felt the need to discipline their children for the behavior displayed on the videotape. Mothers were asked to rate the extent to which they felt angry, irritated, annoyed, and ashamed in response to each of the video segments containing aversive child behavior. To facilitate comparison of results, the assessment of mothers' emotional states subsequent to the videotaped interaction was based on the procedure described in Slep and O'Leary (1998). Subjective reports of anger appeared to alter mothers' judgments and expectations of their children and appeared to predispose them to make negative attributions for videotaped children's noncompliance (Dix et al., 1990). Slep and O'Leary (1998) found high internal consistency ($\alpha = .90$) for the anger items and stated, "these adjectives constitute a subjective anger factor that is related to dysfunctional attributions and harsh parenting" (p. 238). These items were analyzed separately and were not included in the total attribution score.

Materials

A Panasonic VHS video camera (Model #AG-1250-P) was used to record mother and child behaviors during the interaction tasks. The experimenter observed the ongoing interaction in an adjacent room using a Panasonic color monitor (Model #BTS1300N). A Bug-in-the-ear™ device (Model B-312, Farrall Instruments, Inc.), which consists of a microphone and hearing aid, was used in order for the experimenter to cue the mother to proceed to the next situation.

Observational Code

An observational code was used to record the mother and child behaviors seen in videotaped interactions in 10-second intervals. Maternal behaviors coded included the following: (a) directives, which encompassed reprimands and all verbal commands to engage in any behavior and may or may not be accompanied by reasons; (b) prompts,

which included short verbal statements, questions, or brief physical contact to focus the child's attention or orient the child; (c) physical prompts, which included any physical contact during a reprimand situation; (d) modeling, which included any maternal action directed at showing the child what to do or helping the child with the task; (e) interaction, which included any parental comment or statement other than that which was defined as a directive, praise, modeling, or prompt, and also included affectionate gestures and playing with the child; (f) praise, which included any statement of approval in response to the child's behavior; and (g) maternal negative affect, which included expressed anger, negative facial expressions, and threatening gestures (Appendix I).

After maternal behaviors observed during the interaction tasks were coded according to the above criteria, directives were further coded according to the type of disciplinary response they represent. Discipline was considered harsh if a directive was accompanied by maternal negative affect. This included yelling, angry reprimands, and pushing or pulling the child. Discipline was considered lax if the mother issued another directive without additional prompts (i.e., verbal, orientation, or physical), modeling, or interaction. Discipline was considered nurturant if a directive was accompanied by reasoning or followed by modeling, interaction, or praise. Each instance of maternal behavior that met the above criteria was recorded, resulting in a frequency count for each discipline encounter that was summed within conditions. The percentage of harsh disciplinary responses was calculated by dividing the number of directives accompanied by negative affect by the total number of directives given. The number of directives accompanied by reasoning, modeling, interaction, prompts, or praise was divided by the total number of directives given to yield a percentage of nurturant disciplinary responses, with the remainder indicating the percentage of lax disciplinary responses.

Child behaviors coded included the following: a) negative affect, which included whining, crying, throwing temper tantrums, all verbal defiance (i.e., child says "no" in response to a command, directive, or direct request from the mother), and all aggressive behaviors (e.g., hitting, slapping, kicking, biting, and throwing toys or objects); b) solicitation for attention, which included all behaviors initiated by the child to gain the mother's attention, such as calling her name, initiating physical contact, and repeating statements; c) touching forbidden objects, which was indicated when the child purposefully touched objects in the room that the mother had forbidden him/her to touch; d) toy contact, which included any contact with the toys during clean-up in a manner inconsistent with task goals; e) leaving the area, which was indicated any time at least two-thirds of the child's body was outside the designated area; f) appropriate play, which included playing nicely with the toys when permitted to do so; g) picking up appropriately, which included putting the toys away when instructed to do so; and h) sorting appropriately, which included sorting toys into the correct bins when instructed to do so (Appendix J).

Two undergraduate research assistants and two graduate student research assistants independently coded the videotaped interactions in 10-second intervals. Three coders were blind to the hypotheses of this study and one coder was not. No differences in reliability were found across "blind" and "non-blind" coders. The experimenter trained the coders until they reached 80% agreement. Coders independently viewed each tape twice, once to code maternal behaviors and a second time to code child behaviors. Two coders independently coded each tape. Intervals in which one or more disagreements existed were marked on the coding sheets by the experimenter or other research assistants for independent review by the coders. If a coder determined an error was made in his/her

coding, the coding was changed to be consistent with coding definitions. If the coder determined that his/her original coding was correct, it was left as originally marked.

Inter-rater reliability was calculated using a kappa coefficient. For all observations, a kappa coefficient was tabulated for each of the measured child and maternal behaviors. Kappa coefficients were averaged across videotaped interaction tasks and did not significantly differ between conditions. Agreement using kappa ranged from .87 to .96 for maternal behaviors, with the exception of maternal negative affect, which was somewhat lower (ranged from .76 to .83). Kappa coefficients for child behaviors ranged from .89 to .98.

Procedure

The experimenter contacted mothers who expressed interest in participating in the study to set up appointments for the videotaped observation and to administer the Maternal Attribution Questionnaire (MAQ). The MAQ was administered during the initial telephone contact rather than during the appointment to avoid interfering with the experimental manipulation of attributions. Participants were randomly assigned to conditions of either internal or external attributions for child misbehavior. Children were matched across conditions according to gender and age. Children of ethnic minority status were equally distributed across conditions, as the small number of participants prevented matching according to ethnicity. Each mother and child dyad participated in a single visit lasting approximately one and one-half hours.

Each mother and child dyad met the experimenter in the anteroom of the laboratory. The experimenter read an overview of the study from a script (Appendix K) and obtained the mother's consent (Appendix L). After obtaining consent, the experimenter gave the mother several brief questionnaires to complete, including the EBCI, PSI-SF, PS, and

PSOC, and administered the PPVT-III to the child. The mother was instructed to complete the PSI-SF and ECBI first; while she filled out the other questionnaires, the experimenter went into another room to "score" the ECBI and PSI-SF. In actuality, these measures were scored after the mother's participation was completed. Following completion of the questionnaires, the mother and her child were offered a brief break. The experimenter then gave standardized instructions for the videotaped parent-child interaction and demonstrated the use of the bug-in-the-ear device. The mother also received feedback ostensibly based on the ECBI and PSI-SF. In fact, the feedback was determined by random assignment to either the internal or external attribution condition. The videotaped interaction was then conducted, after which the mother was asked to rate her affect and to make attribution assessments regarding her child's noncompliance.

Experimental Manipulation. Two feedback scripts served as the independent variable manipulation (Appendix M). Both scripts stated that the child was expected to misbehave, but differed in the causal explanation given for misbehavior. The internal attribution script was designed to elicit attributions for child misbehavior that were high in child responsibility, intent, and controllability by suggesting that children misbehave to get their own way and to get their mother's attention. The external attribution script was designed to elicit attributions for child misbehavior that were low in child responsibility, intent, and controllability by suggesting that children misbehave because of their age, undeveloped self-control skills, and fear of new situations. These scripts were developed by Slep and O'Leary (1998) and were shown to successfully manipulate maternal attributions.

General Protocol

The study took place in a 17' by 8' room with chairs, low tables, toys (e.g., Mr. Potatohead, plastic blocks, and animal figures that were appropriate for preschool children), and a telephone. To elicit misbehavior, the room also contained objects that were considered attractive to young children but are not toys, including a manual typewriter, a plate of cookies, a fiber optic lamp, a tabletop waterfall, and a lamp in the shape of a school of fish. Mothers were informed that their children were forbidden to touch these objects.

Mothers and their children participated in one 35-minute interaction with tasks designed to elicit typical child behaviors. Mothers were first given 5 minutes to play with their children in any manner they chose. Following the period of free play, mothers were instructed to have their children play independently while they engaged in a simulated telephone conversation with the experimenter. Mothers were then instructed to complete two additional questionnaires (Demographic Questionnaire and PSSS). Finally, mothers were instructed to supervise their children in picking up the toys and sorting them into two plastic buckets. Throughout the interaction, mothers were encouraged to handle their children and the situations in their usual manner. The experimenter utilized the bug-in-the-ear device to cue the mother to proceed to the next situation but did not offer any advice or instruction about how to interact with their children.

Interaction Protocol. Prior to the interaction, mothers were asked to instruct their children to stay within the enclosed area and not to touch the objects on the tables. Mothers were instructed not to move any forbidden objects out of the child's reach, not to play with the child after the initial play segment, and not to hold the child during the telephone or questionnaire tasks. Mothers were then instructed via the bug-in-the-ear

device to initiate play with their children by sitting on the floor next to piles of blocks and other toys. The play segment lasted 5 minutes and was intended to allow the mother and child to become comfortable with the surroundings. After 5 minutes, the experimenter instructed mothers to excuse themselves to make a telephone call at a table next to the toys. During the next 10 minutes, the experimenter asked mothers questions about their children's development and behavior, and then instructed mothers to hang up the phone and remain seated at the table to complete two questionnaires. Mothers were given 10 minutes to complete the additional questionnaires. Magazines were available on the table for the mothers to read if they completed the questionnaires before 10 minutes had elapsed. Mothers were then cued to have the child pick up the toys and sort them into two plastic buckets. Mothers were instructed to utilize their normal methods of directing their children to clean up; however, they were asked to refrain from assisting the child during the first 4 minutes of the clean-up task, which lasted a total of 10 minutes.

Post-Interaction Assessment. After the interaction tasks, mothers completed the post-interaction assessment. Mothers were shown two 15- to 30-second segments from the videotaped interaction that were selected to begin with a directive from the mother and end with the child's noncompliance, negative affect, or both. When possible, segments were selected to show different types of misbehavior. After viewing each segment, mothers were asked to rate their emotional states and to make attribution assessments regarding their children's affect and behavior.

Debriefing

After completing the post-interaction assessment, mothers were given accurate information about the manipulation and reasons for children's typical misbehaviors. They were then interviewed and given the opportunity to ask questions about the study.

The debriefing (Appendix N) began with a general statement, "At the end of the study, we like to explain the study and get feedback from the mothers about the study." The debriefing interview included an explanation of children's misbehavior as rarely being due to a single cause, as it is often due to situational factors or a combination of situational factors and children's wishes. Mothers were then asked specific questions, such as "Did your child behave in his or her typical manner?" Following the debriefing, mothers were given a copy of the consent form and a list of community resources, and allowed to select a gift certificate from a local business or $10 in cash. In addition, children were given a small, age-appropriate prize, such as a stuffed animal or toy car. Mothers were informed that the developmental report would be mailed to them. Both mother and child were thanked for their time and participation.

CHAPTER V

RESULTS

Descriptive Information

Mean scores and standard deviations for all participants are presented in Table 3. Scores are presented for the full sample, the subsample that did not complete the post-interaction assessment, and the subsamples in each condition. Descriptive information for the full sample is provided below.

Eyberg Child Behavior Inventory. Mothers endorsed a mean of 9.44 child behaviors as problematic (*SD* = 7.06). Eleven children received problem scores in the clinically significant range. On average, mothers rated the intensity of problem behaviors in the nonsignificant range (*M* = 117.04, *SD* = 24.20); however, 30% of mothers rated the intensity of their children's problematic behaviors in the clinically significant range. Coefficient alpha was calculated to determine internal consistency for this measure with the participants in the present study. The internal consistency coefficient was .9065 for the Intensity Scale and .8964 for the Problem Scale. This is consistent with the coefficients reported in the standardization samples (Eyberg & Ross, 1978; Eyberg & Pincus, 1999).

Parenting Scale (PS). The Parenting Scale yields a Total score and three factor scores: Laxness, Overreactivity, and Verbosity, with higher total scores indicating greater use of dysfunctional disciplinary practices. Arnold et al. (1993) provided mean scores and standard deviations for their clinic and control samples. Mean factor scores for the

current sample were between the clinical and control group mean scores for Laxness, Overreactivity and the Total score, and exceeded the clinic sample mean score for Verbosity (see Table 4). The internal consistency coefficient for the PS Total Score with the current sample was .8374, which was consistent with the coefficient reported by the authors of the PS.

Parenting Stress Index-Short Form (PSI-SF). The PSI-SF yields a total stress score that is comprised of three subscale scores: Parental Distress, Parent-Child Dysfunctional Interaction, and Difficult Child. Total scores above 90 indicate that the parent is experiencing clinically significant levels of stress associated with parenting. For the current sample, the mean Total Stress score was 72.16 (*SD* = 15.66). The Defensive Responding raw score indicated that 84% of mothers provided responses that were considered valid. Eight mothers (16%) responded in an unusually positive manner, consistent with a defensive, potentially invalid, protocol. On average, mothers rated their personal distress related to parenting (*M* = 23.66, *SD* = 6.82), their distress related to the parent-child relationship (*M* = 19.16, *SD* = 4.90), and their distress related to their child's behavior (*M* = 29.34, *SD* = 6.99) in the average range. However, 16% of mothers received Total Stress scores above 90, indicating clinically significant levels of parenting-related stress. The internal consistency coefficient for the PSI Total Stress Score with the current sample was .9046, which is consistent with the .91 Total Stress Score alpha reported by Abidin (1990).

Maternal Attribution Questionnaire (MAQ). Overall, mothers demonstrated substantial variability in their attribution ratings for different types of child misbehavior (See Table 5). Mothers attributed the greatest amount of responsibility and intent to their child for aggressive behavior, whereas ratings for noncompliance with parental directives

ranged from no child responsibility to complete child responsibility. Coefficient alpha was calculated to determine internal consistency for this measure; the internal consistency coefficient was .8940 for the Total Score.

Parenting Sense of Competence Scale (PSOC). Scores on this measure range from a low of 6, indicating an extremely low level of parenting satisfaction, to a high of 54. Overall, mothers reported moderate to high levels of parenting satisfaction (M = 38.98, SD = 6.96). Only 2 mothers received scores below the midpoint on the scale. Internal consistency for this measure (α = .7799) was consistent with that reported by Gibaud-Wallston and Wandersman (1978) and Johnston and Mash (1989).

Perceived Social Support Scale (PSSS). Scores on this measure range from a low of 0 points to a high of 40 points. Overall, mothers reported moderate to high levels of support from both friends (M = 31.52, SD = 8.48) and family (M = 32.41, SD = 9.42). However, six mothers (12%) rated their support from friends as low and 9 mothers (18.4%) rated their support from family as low, as indicated by scores of 20 or below. Internal consistency for the current sample was .9116 for the combined scales (Friends Scale α = .8670; Family Scale α = .9091). Again, internal consistency was consistent with previous reports (Meyers, 1998; Procidano & Heller, 1983).

Conditions

Mothers were randomly assigned to one of two conditions that determined the type of information they received prior to engaging in the interaction task (i.e., internal or external). The information was designed to influence mothers' attributions about the misbehavior their child displayed during the interaction task. A total of twenty children did not misbehave during the videotaped tasks and, therefore, no stimuli were available for the completion of the post-interaction measure. Analyses were conducted to

determine if those mothers whose children did not misbehave (n = 20) differed from those mothers whose children did misbehave (n = 30). Independent samples *t*-tests revealed no significant differences in reported frequency or intensity of behavior problems (ECBI Problem and Intensity raw and T-scores), parenting stress (PSI Total, defensive responding, and subscale scores), parenting style (Parenting Scale Total and factor scores), parenting satisfaction (PSOC Total score), attributional style (MAQ Total and subscale scores), or social support (PSSS Friends and Family scores).

With regard to demographic variables, no differences were found between groups in child age or education level of mothers or spouses. However, some significant differences did emerge on parent ages: Mothers of children who did not misbehave during the interaction task were significantly older (M = 34.10 years, SD = 5.74) than mothers whose children did misbehave (M = 30.07 years, SD = 5.36), t (48) = 2.53, p = .015 (two-tailed). Furthermore, their spouses were older (M = 36.74 years, SD = 5.92 versus M = 32.64 years, SD = 5.60), t (42) = 2.345, p = .024 (two-tailed). In addition, they had significantly more children on average (M = 2.17, SD = 1.20 versus M = 1.37, SD = .60), t (35) = 2.582, p = .014 (two-tailed), but were equally likely to have children older than the participating child, $\chi^2(2, N=37) = 1.46$, p = .482. Chi-square analyses revealed no differences between groups in reported income per month, ethnicity, marital status, or child gender.

Additional analyses were conducted on data from the sample included in observational analyses to verify that randomization led to equivalence of groups. Two-tailed, independent samples *t*-tests were conducted with demographic data to determine equivalence with regard to children's ages, mothers' ages, and mother and spouses' years of education. A significant difference was found between groups in spouse/partners'

education level, with fathers in the internal group attaining a higher level of education than did fathers in the external group (M = 16.33, SD = 1.37 versus M = 14.71, SD = 2.20), t (24) = 2.206, p = .037. Chi-square analyses were conducted to ensure that randomization led to equivalence with regard to child gender, ethnicity, family income, marital status, and the child's birth order position. No significant differences were found. Additional two-tailed, independent samples t-tests were conducted to ensure that groups were equivalent with regard to parenting style (PS Total and Factor scores), child behavior problems (ECBI Problem and Intensity T-scores), parenting stress (PSI Total and subscale scores), parenting satisfaction (PSOC Total score), social support (PSSS Friend and Family scores), and attribution style (MAQ Total and subscale scores). No significant differences were found.

Because analyses revealed a group discrepancy on spouse/partners' education level, Pearson product-moment correlation coefficients were obtained to determine the relationship between spouse/partners' education level and the dependent variables of mothers' post-interaction attributions and subjective affect ratings; percentage of nurturant, harsh, and lax directives given; and percentage of child negative affect observed. Spouse/partners' education level was not correlated with any dependent variable; therefore, analyses continued as planned. For the variables in question, randomization led to equivalent groups.

Manipulation Check

A manipulation check was completed to ensure that the independent variable, attribution condition, was implemented correctly. A one-way between-groups analysis of variance (ANOVA) was used to test the hypothesis that groups would differ in the types of attributions made. It was expected that there would be a significant difference

between conditions on total Post-Interaction Assessment (PIA) attribution scores, with mothers in the internal attribution condition expected to make more attributions of internal locus, intent, globality, stability, selfish motivation, blame, controllability, and disposition with regard to their children's misbehavior than were mothers in the external attribution condition. However, no differences between groups were found on total PIA scores, F (1, 29) = .037, p = .848, or on any PIA items, indicating that the information provided to mothers prior to engaging in the interaction task did not influence their attributions regarding their children's misbehavior during the task.

Data Reduction for Coded Observational Data

Maternal behaviors of directives, directives with reasoning, physical prompts, verbal/ orienting prompts, praise, interaction, modeling, and maternal negative affect were tabulated for the percentage of occurrences. Directives with reasoning and directives related to leaving the area and to nonspecified behavior were observed at low frequencies across phases and conditions. The percentage of occurrence for directives related to leaving the area ranged from 0 (Free Play phase) to 2.06% (Questionnaire phase). Directives related to nonspecified behaviors ranged from 2.67% (Telephone phase) to 5.22% (Free Play phase). Directives with reasoning occurred in fewer than 5% of intervals across phases and conditions. Due to this low frequency of occurrence, directives with reasoning and directives related to leaving the area and to nonspecified behavior were dropped from further analyses of observational data, but were included in analyses of disciplinary responses.

Maternal directives were further coded according to the type of disciplinary response they represented. The number of directives accompanied by maternal negative affect was tabulated for the percentage of occurrence and was categorized as harsh. Maternal

directives that were accompanied by reasoning or followed by prompts, modeling, interaction, or praise were tabulated for the percentage of occurrence and were categorized as nurturant. Directives that were not accompanied by any other coded maternal behavior were tabulated for the percentage of occurrence and were categorized as lax.

Child behaviors of appropriate play, picking up appropriately, sorting appropriately, toy contact, negative affect, and solicitation for attention were tabulated for the percentage of occurrence. Child behaviors of touching forbidden objects and leaving the area were tabulated for the average number of new instances, the average duration of occurrences, and percentage of intervals in which they occurred.

Main Analyses

One-way between-groups ANOVAs were selected for the analyses to facilitate an examination of the subtleties in maternal and child behavior. Univariate analyses were expected to allow a more thorough examination of the data with regard to individual scores than would multivariate analyses, thereby decreasing the likelihood of missing any significant effects.

Separate one-way between-groups ANOVAs were conducted to examine the effects of the independent variable on maternal affect and behavior, the first overall goal of this study. As stated in the manipulation check analyses, the hypothesis that the manipulation would result in a significant difference between conditions in the direction of attributions for child misbehavior was not supported. Attributions were measured with the PIA, with total scores representing a tendency toward dispositional or situational explanations for child behavior. Total PIA attribution scores ranged from 18.5 to 39, indicating sufficient variability to detect differences in mothers' responding. Internal consistency for Total

Attribution Score with the current sample was adequate ($\alpha = .7652$). However, scores did not vary across conditions (see Table 3 for mean scores).

Hypothesis two stated that mothers in the internal attribution condition would exhibit and report more negative affect in response to their children's behavior than would mothers in the external attribution condition. First, it was predicted that mothers in the internal attribution condition would display a significantly higher percentage of negative affect across the interaction tasks than would mothers in the external attribution condition. This hypothesis was not supported. A repeated measures ANOVA, with phase (i.e., Free Play, Telephone, Questionnaire, and Toy Clean-up) as the within-subjects variable and attribution condition (i.e., internal and external) as the between-subjects factor, revealed no significant difference in the percentage of occurrence of negative affect between conditions. Moreover, no differences were found between conditions on any other coded maternal behavior. Mean percentages of maternal directives, interaction, praise, prompts, and modeling did not differ between conditions during any phase (See Table 6).

Second, it was predicted that mothers in the internal attribution condition would endorse stronger feelings of anger, irritation, annoyance, and shame in response to their children's behavior across the interaction tasks than would mothers in the external attribution condition. To test this hypothesis, four one-way between-groups ANOVAs were conducted using subjective affect ratings from the PIA. Scores for each item ranged from 1 to 6, again demonstrating variability in responding. Mean scores for each group are presented in Table 3. No significant differences in subjective affect ratings were found between conditions.

The third hypothesis stated that mothers in the internal attribution condition would report a stronger need to respond to their child's misbehavior and would use more harsh disciplinary strategies in interactions with their children than would mothers in the external attribution condition. A one-way between-groups ANOVA was used to test the first part of this hypothesis. It was expected that mothers in the internal attribution condition would give a significantly higher rating to the need to respond to their children's misbehavior than would mothers in the external attribution condition. PIA scores for this item ranged from 1 to 6, again demonstrating variability in responding. However, there was no significant difference in scores between conditions.

It was further predicted that observational data would demonstrate that mothers in the internal attribution condition engaged in a higher percentage of harsh disciplinary actions and a lower percentage of nurturant disciplinary actions during interactions with their children than did mothers in the external attribution condition. Mothers were not expected to differ in the percentage of lax disciplinary strategies observed. Separate one-way between-groups ANOVAs were used to test this hypothesis. In both conditions, discipline was predominately nurturant, with a mean percentage of 86.65 nurturant directives (SD = 14.33) for mothers in the internal condition and a mean percentage of 88.37 nurturant directives (SD = 11.91) for mothers in the external condition. No significant differences in the total number of directives or the numbers of nurturant, harsh, or lax directives were found between conditions (see Table 7). Sixteen mothers (53.3%) displayed no negative affect during any of the interaction tasks, and these mothers were evenly distributed across conditions.

Repeated measures ANOVAs, with phase (i.e., Free Play, Telephone, Questionnaire, and Toy Clean-up) as the within-subjects factor and condition (i.e., internal and external)

as the between-subjects factor, were conducted to examine the effects of the independent variable on child behavior. The fourth hypothesis stated that children of mothers in the internal attribution condition would display more negative affect and noncompliance in response to their mothers' directives than would children of mothers in the external attribution condition. It was predicted that observational data would indicate that children in the internal attribution condition exhibited a significantly higher rate of negative affect across the interaction tasks than did children in the external attribution condition. It was further predicted that children in the internal attribution condition would be coded as displaying higher rates of inappropriate toy contact, solicitation for attention, leaving the area, and touching forbidden objects, and more new instances of leaving the area and touching forbidden objects. Children in the internal attribution condition were also expected to demonstrate lower percentages of appropriate play, picking up appropriately, and toy sorting. This hypothesis was not supported. There were no differences across conditions in any coded child behavior (see Table 8).

To achieve the goal of identifying maternal characteristics that may have influenced mothers' attributions, Pearson product-moment correlation coefficients were calculated to determine the relationship between pre-existing attribution style (MAQ situation and Total scores) and parenting style (Parenting Scale subscale and Total scores), child behavior problems (ECBI problem and intensity scores), parenting stress (PSI subscale and Total scores), parenting satisfaction (PSOC score), and social support (PSSS scores). It was expected that mothers reporting a more dysfunctional parenting style, more frequent and intense child behavior problems, higher levels of stress, greater dissatisfaction with their family, or lower levels of social support would report more internal attributions for child misbehavior in the assessment conducted by telephone prior

to the experimental manipulation than would mothers who did not report these characteristics. This hypothesis was not supported, and only one mildly significant relationship was found. The MAQ Situation 3 score (a noncompliance scenario) had a small, but significant association with the Parenting Scale Laxness Factor Score, $r = -.286$, $p = .044$. However, after modified Bonferroni correction for familywise error was made ($\alpha = .0125$), this correlation was no longer significant. Due to the many correlations computed and the internal consistency within the individual measures, modified Bonferroni corrections were employed as a more conservative approach to calculating statistical significance. No other associations were found between MAQ Situation Scores or the MAQ Total Score and scores from any of the above measures.

For exploratory purposes, relationships between MAQ scores and mothers' demographic information were examined, but no directional relationships were predicted. Mothers' education level was significantly and negatively associated with attributions of greater intent and responsibility for minor misbehavior (i.e., child cuts up mother's favorite magazine before mother has read it), $r = -.335$, $p = .017$. Spouses' education level was also negatively related to attributions of greater intent and responsibility for the same behavior, $r = -.317$, $p = .034$, and positively associated with attributions of greater intent and responsibility for noncompliance with a parental request, $r = .352$, $p = .018$. Again, these relationships were no longer significant after modified Bonferroni correction ($\alpha = .0125$).

Although no significant relationships were found between maternal characteristics and preexisting attributions as measured by the MAQ, expected relationships were found among maternal characteristics. Consistent with the literature, children's behavior problems were positively associated with parenting stress (e.g., Eyberg, Boggs, &

Rodriguez, 1992; Ross & Blanc, 1998) and negatively associated with parenting satisfaction (e.g., Johnston & Mash, 1989; Joiner & Wagner, 1996; Sacco & Murray, 1997). ECBI Problem scores were positively correlated with the PSI Parental Distress, Difficult Child, and Total Stress scores and negatively correlated with the PSOC Satisfaction Score; correlations remained significant after modified Bonferroni correction (α =.0025, see Table 9). The Parenting Scale Overreactivity Factor Score was positively correlated with all scales on the PSI, although none of these correlations remained significant after modified Bonferroni correction was applied. Perceived Support from Friends was negatively associated with Parental Distress, r = -.545, p = .0001 and Total Stress, r = -.419, p = .002, again consistent with the literature (Ostberg & Hagekull, 2000; Rodgers, 1998). Perceived Support from Family was not significantly associated with any variable after modified Bonferroni corrections were applied.

Additional correlation coefficients were calculated to determine the relationship between the above factors and mothers' ratings of the usefulness of the attribution information provided to them prior to the interaction task, the sixth hypothesis. It was expected that mothers would be more receptive to the attribution information provided prior to the interaction task, and thus would rate the information as more important, when ratings of social support and satisfaction were higher and ratings of parenting stress, child behavior problems, and dysfunctional parenting were lower (i.e., high importance will be positively related to support and satisfaction, and negatively related to stress, behavior problems, and dysfunctional parenting). Scores ranged from 1 to 6 on this item, indicating that mothers varied on whether they found the information useful. However, the expected associations were not demonstrated and the hypothesis was not supported.

Some significant relationships between ratings of usefulness and maternal characteristics did emerge. Mothers' ratings of the usefulness of the information presented to them were positively correlated with PSI Parent-Child Dysfunctional Interaction scores, $r = .531$, $p = .003$, and negatively correlated with Perceived Support from Families, $r = -.534$, $p = .002$, indicating opposite associations from those hypothesized. These correlations remained significant after modified Bonferroni correction ($\alpha = .0038$). As distress associated with the parent-child relationship increased, so did mothers' ratings of the usefulness of the information. Further, as mothers' reports of family support decreased, their ratings of the usefulness of the information increased.

Because mothers' attributions for hypothetical examples of misbehavior on the MAQ did not demonstrate the expected associations with maternal characteristics, additional analyses were conducted to determine if MAQ scores were related to mothers' attribution ratings on the PIA for observed misbehavior. Only one significant relationship was found. Mothers' ratings of attributions for child aggression were significantly related with the Total Score on the PIA, $r = .507$, $p = .004$. Greater internal attributions for hypothetical aggressive behavior toward another child were associated with greater internal attributions for misbehavior during the videotaped interaction. No other significant associations were found between the two measures, suggesting that mothers' attributions for their child's misbehavior in hypothetical situations may differ from their attributions for their children's misbehavior in actual situations.

The unexpected disconnection between attribution scores for hypothetical and in vivo situations generated additional questions. Supplementary exploratory analyses were conducted with the PIA to determine if the relationships hypothesized between the MAQ and maternal characteristics might be demonstrated instead with the PIA (see Table 10).

Given the exploratory nature of these analyses, modified Bonferroni corrections were made for each individual measure, rather than for all measures as a group. Total PIA attribution scores were positively correlated with ECBI Problem scores, $r = .418$, $p = .021$ ($\alpha = .025$), suggesting that greater numbers of reported behavior problems were associated with attributions of greater intent and responsibility for misbehavior during the videotaped interaction. No relationships were found between mothers' reports of behavior problems and subjective affect ratings made after the videotaped interaction. PIA ratings of Anger were positively associated with PS Overreactivity Factor scores, indicating that mothers' who reported reacting strongly to misbehavior were more likely to feel angry after their child's misbehavior in the videotaped situation, $r = .463$, $p = .010$ ($\alpha = .0125$). Numerous significant relationships were found between PIA subjective affect ratings and PSI scores, although most were no longer significant after modified Bonferroni correction ($\alpha = .0125$; See Table 10). After corrections were applied, Difficult Child, Parent-Child Dysfunctional Interaction, and Total Stress scores were positively correlated with ratings of Shame. Total Stress scores were also positively correlated with Annoyance. Parenting Satisfaction scores were significantly and negatively related to PIA Total attribution scores and ratings of Shame. These results suggest that the experimental manipulation was not sufficient to alter the existing strong interrelationships among maternal characteristics, attributions, and affective responses.

CHAPTER VI

DISCUSSION

The present study was designed to assess the impact of a brief explanation for children's misbehavior on mothers' attributions for their child's misbehavior during a series of parent-child interaction tasks. The overall goal of this study was to replicate and extend the findings of Slep and O'Leary (1998) and thus provide supporting experimental evidence of the role that maternal attributions play in mothers' behavioral and affective responses to child misbehavior. However, analyses indicated that the explanation given to mothers prior to engaging in the parent-child interaction tasks did not impact mothers' causal attributions for their children's misbehavior, nor did it impact mothers' subjective ratings of their affect in response to their child's misbehavior. Although Slep and O'Leary were able to demonstrate a significant between-groups difference in attribution ratings for mothers of children between the ages of 24 and 42 months, the same difference was not found between groups of mothers with children ages 36 to 59 months.

Replication and Extension of Slep and O'Leary

The current study served as a replication of Slep and O'Leary (1998) by employing similar procedures, including an identical manipulation: one of two scripted explanations for the misbehavior expected from the child during the interaction task attributing the misbehavior to either the child's characteristics (i.e., internal, dispositional factors) or the characteristics of the situation (i.e., external, situational factors). In both studies, mothers were instructed to have the child play quietly while mothers engaged in a 10-minute

simulated telephone call with the experimenter, have the child play quietly while mothers completed questionnaires for 10 minutes, and have the child put away toys. Following the interaction task, mothers in both studies viewed two segments of the videotaped interaction containing child noncompliance, negative affect, or both. These segments served as stimuli for the assessment of mothers' attributions for their child's behavior and subjective affect in response to their child's behavior.

The current study was designed to extend the findings of Slep and O'Leary by raising the age range from 24 to 42 months to 36 to 59 months and by assessing other parenting dimensions that may be associated with different attributions for children's behavior. Whereas both studies assessed parenting behaviors and children's behavior problems, the current study also assessed mothers' satisfaction with parenting, parenting stress, perceived social support, and pre-existing attributions for common, but hypothetical, misbehaviors. These dimensions were assessed with the expectation that maternal characteristics would be identified as correlated with specific types of attributions.

Comparisons of sample means from the current study and the study conducted by Slep and O'Leary (1998) revealed that, with the exception of child age, both samples were demographically similar. Mothers in both studies were of similar ages and income levels; however, on average, mothers in the current study had over one additional year of education and had more children. Further comparisons revealed other differences that may have significantly impacted study findings. Mothers in the Slep and O'Leary study demonstrated higher levels of Overreactivity on the Parenting Scale and lower levels of both Verbosity and Laxness than did the sample in the current study. Furthermore, ratings of children's behavior problems differed between the two studies. Whereas children in the Slep and O'Leary study obtained overall behavior problem scores in the

clinically significant range, children in the current study obtained mean scores in the average range. This indicates that mothers participating in the Slep and O'Leary study were more likely to report anger or irritation in response to their children's behavior problems, were less likely to report reasoning with their child during discipline encounters, reported greater levels of behavior problems, and were raising fewer children. The combination of less experience with childrearing, more child behavior problems, and greater negative emotional reaction to behavior problems may have led mothers in the Slep and O'Leary study to be more accepting of the explanations offered for their children's misbehavior.

Interpretation of Results

The current study did not replicate the findings of Slep and O'Leary (1998) with respect to the manipulation of maternal attributions, nor were the same differences found between groups in mothers' overreactive disciplinary responses, subjective reports of anger, or children's negative behavior. In the current study, mothers in the internal attribution condition did not exhibit or report more negative affect in response to their child's behavior than did mothers in the external attribution condition. Although it was predicted that mothers in the internal attribution condition would exhibit a significantly higher percentage of negative affect across the interaction tasks and would report stronger feelings of anger, irritation, annoyance, and shame in response to their child's behavior than would mothers in the external attribution condition, this hypothesis was not supported.

Consistent with the lack of differences in observed and reported negative affect, no differences were found between groups in mothers' ratings of the need to respond to their child's misbehavior, nor were differences found in the percentage of harsh disciplinary

strategies used by mothers in the videotaped interactions. All mothers engaged in predominantly nurturant disciplinary actions, employing praise, prompting, modeling, reasoning, and general interaction in their efforts to gain compliance from their children. Few instances of negative affect (e.g., yelling, expressing anger or frustration, or grabbing the child) were observed in either condition.

Children's behavior did not differ as a result of mothers' group assignment. Although it was predicted that children of mothers in the internal attribution condition would exhibit more negative affect and noncompliance in response to their mothers' directives than would children of mothers in the external attribution condition, this hypothesis was not supported. As would be expected given the lack of differences between groups in mothers' behavior, there were no differences between conditions in any coded child behavior.

Numerous factors may have contributed to the failure of the current study to replicate the results of Slep and O'Leary. Results of the current study may indicate that attributions are inconsequential in the determination of mothers' responses to children's behavior. This explanation presupposes that mothers make disciplinary decisions without regard for their assessment of the child's intentions or the characteristics of the situation, and is inconsistent with the large body of published literature that supports a relationship between maternal attributions and both affective and behavioral responses to misbehavior. For example, Dix and his colleagues (1989) found differences in mothers' affective reactions and disciplinary choices as a function of the information mothers were given about children's understanding of their own negative behavior. Mothers rated punishment more favorably for and reported feeling more upset with children who purposefully acted badly than with children who were not purposeful or children for

whom purpose was unspecified. Scott and Dembo (1993) found that internal attributions were positively correlated with mothers' negative affective reactions. Further, internal attributions were positively correlated with harsh disciplinary strategies, including spanking and removal of privileges, and negatively correlated with lax or nurturant strategies, such as repeating the directive or offering an explaination and helping the child to comply. Dix and Lochman (1990) found that mothers' attributions of responsibility to the child for misconduct were positively associated with reports of feeling upset and endorsement of forceful response. Other research has also documented that attributions of intentionality or responsibility are positively correlated with use of power assertive discipline (Bondy & Mash, 1999; Dix et al., 1990) and harsh parenting (Nix et al., 1999; Smith & O'Leary, 1995). Therefore, it does not appear likely that the absence of a relationship between attributions and behavioral and affective responses to misbehavior could explain the results of the current study.

A more plausible explanation is that the manipulation employed in this study was not sufficiently strong or salient to effect change in mothers' attributions for the behavior of their older children. Children in the current study had a mean age of nearly 12 months older compared to children in the Slep and O'Leary (1998) study. The noncompliance and temper tantrums that usually accompany children's pursuit of greater autonomy and control (Campbell, 1997) and herald "the terrible 2s" were presumably relatively recent developments for mothers in the Slep and O'Leary study, whereas the mothers in the current study had been coping with these behaviors for a comparatively longer time. Mothers in the current study, therefore, had additional experience conducting attributional analyses for their children's difficult behaviors. As mothers' views of the stability of their child's characteristics increase over time (Gretarsson & Gelfand, 1988),

it is likely that consistent displays of child misbehavior eventually elicited stable attributions and response patterns from the mothers, which may have made the information intended to manipulate mothers' attributions less salient.

Dadds, Mullins, McAllister, and Atkinson (2003) found that maternal attributions were not predictive of parenting behavior in response to familiar behavior from their own children. In contrast, Dadds et al. found that mothers' attributions were predictive of their reported behavioral and affective responses to videotaped scenarios of an unfamiliar child engaged in ambiguous behavior and in familiar types of aversive behavior. The authors explained the discriminant findings by positing that mothers may once have formed attributions for these types of behaviors from their own child, but repetition of the behavior led mothers to respond routinely with set interpretations about the cause of the behavior (Azar, 1986). With regard to the present study, the very familiarity of the child behavior that the experimenter sought to elicit may have prevented mothers from forming new attributions or considering information designed to alter the already existing attributions. In contrast to the Slep and O'Leary study (1998), children in the current study had repeated the behaviors elicited during the interaction tasks (e.g., noncompliance with parental directives) over a longer period of time, providing their mothers with sufficient experience to reach firm conclusions about the cause of the behavior. Thus, further attributional analyses or consideration of information designed to alter existing attributions may have been unnecessary.

In addition, mothers in the current study had substantial additional time, compared with mothers in the Slep and O'Leary study, to become better acquainted with their children's disposition, personality characteristics, and developmental capabilities. Sacco and Murray (1997) found that when mothers' global trait ratings of their children were

controlled, the contribution of attributions to parent-child relationship satisfaction was only marginally significant. This suggests that mothers' global trait perceptions of their children may be a stronger contributor to mothers' reactions to their children than are attributions for negative behaviors. In the current study, mothers' responses to their children's behavior may have been less influenced by attributions than by their understanding of their children's dispositions and familiar behaviors.

Clearly, the information intended to manipulate their attributions had little salience to these mothers. Further evidence of this was demonstrated by mothers' ratings of the usefulness of the manipulated information provided to them prior to the interaction task. Mean scores indicated that mothers felt neutral toward the information, and consistent with the lack of observable effects resulting from the manipulation, no difference in the utility of the information was found between groups. Although the full range of scores was found, most mothers simply did not have strong feelings about the information given to them. In fact, none of the mothers who participated in the study questioned the accuracy of the information as it pertained to their children. All mothers indicated that they understood the information and most expressed agreement with the appraisal of their child's behavior, despite the random assignment of the information. Taken together, these findings suggest that mothers' beliefs about their children's behavior and disciplinary decisions may become increasingly difficult to alter over time and that doing so would require a more powerful manipulation than was employed in the current study.

The attribution information provided in the current study was not universally meaningless, however. Those mothers experiencing greater levels of distress associated with the parent-child relationship rated the information as more useful than did mothers reporting lower levels of this type of distress. Furthermore, as mothers' reports of family

support decreased, their ratings of the usefulness of the information increased. Children's temper tantrums and behavior problems can be extremely challenging, and many mothers rely on family for advice regarding appropriate development, expectations, and strategies to manage problems (Kliman & Vukelich, 1985). It is possible that distress, combined with a lack of family support and, consequently, a lack of close sources of information about child development, may have served to increase these mothers' amenability to the information provided by an individual viewed as being in the "expert" position (i.e., the experimenter). As a result, these mothers may have given the information stronger consideration in the formation of their attributions and disciplinary actions. Unfortunately, the small sample size in the current study prevents further investigation of this relationship. As Slep and O'Leary (1998) did not include parenting stress and perceived social support in their investigation, it is not possible to compare the two samples on these measures. Thus, differences between the samples may have existed in one or more of these areas, which also may have contributed to the different results.

Relations among Maternal Characteristics and Attributions

It was hypothesized that mothers reporting a dysfunctional parenting style (e.g., lax in supervision and discipline, frequent use of punitive discipline, overreactive), more frequent and intense child behavior problems, higher levels of stress, greater dissatisfaction with parenting, or lower levels of social support would report more internal attributions for child misbehavior in the assessment conducted by telephone prior to the experimental manipulation than would mothers who did not report these characteristics. This hypothesis was not supported, as no significant relationships emerged after modified Bonferroni corrections were applied. Significant relationships consistent with those reported in the parenting literature did emerge among the measures

of maternal characteristics, suggesting that the current sample was similar to other samples in the literature with regard to attitudes about parenting, social support, and child behavior. Consistent with the literature (e.g., Eyberg, Boggs, & Rodriguez, 1992; Johnston & Mash, 1989; Joiner & Wagner, 1996; Ross & Blanc, 1998; Sacco & Murray, 1997), children's behavior problems were positively associated with parenting stress and negatively associated with parenting satisfaction. Social support from friends was negatively associated with parenting distress.

The pre-interaction attribution measure was expected to provide an estimation of the types of attributions that mothers tended to make and to reveal a valence toward dispositional or situational attributions. As scores on the pre-interaction measure were not significantly related to any measured maternal characteristic, exploratory analyses were conducted to determine if the relationships hypothesized might be demonstrated instead with the post-interaction measure. Two significant relationships emerged between mothers' attributions for observed misbehavior and parenting characteristics. Greater numbers of reported behavior problems and lower levels of parenting satisfaction were associated with mothers' internal attributions and with each other. These relations are not surprising, as previous research has reported similar results. Joiner and Wagner (1996) conducted a meta-analysis of primarily clinical population studies and found that global and stable dimensions of parents' child-centered attributions were supported as correlates of parental satisfaction. Furthermore, parents' attributions of intent, selfish motivation, and blame received preliminary support, although these dimensions were not included in enough studies to draw firm conclusions. Sacco and Murray (1997) found that parent-child relationship satisfaction was significantly related to attributions for negative, but not positive behaviors, with the lowest levels of satisfaction occurring when

both negative trait conceptions and the tendency to make dispositional attributions were greater.

Child behavior problems have a demonstrated inverse association with parenting satisfaction (Johnston & Mash, 1989). While evidence suggests most mothers have a positive bias toward their children, attributing positive behavior to children's dispositional traits and negative behavior toward external influences (Chiang, Barrett, & Nunez, 2000; Gretarsson & Gelfand, 1988), this may not be the case for mothers of children with externalizing behavior problems. Mothers of children diagnosed with attention-deficit/hyperactivity disorder (ADHD) made attributions for prosocial behaviors exhibited by their children that were less stable and less internal than were the attributions for the same behaviors made by mothers of control children (Johnston & Freeman, 1997). Moreover, mothers of young boys with oppositional behavior problems were more likely than control mothers to interpret standard stimuli depicting emotional expressions as indicating resistance and hostility when instructed to think of the stimuli as their own child; the same differences were not found when mothers were instructed to think of the stimuli as an unfamiliar child (Snarr, Strassberg, & Slep, 2003).

The current study provides evidence that internal attributions are linked to child behavior problems and parenting satisfaction, but it does not allow for a determination of whether internal attributions precipitate negative outcomes or arise from them. It is likely that no one model would adequately fit each family experiencing parenting problems, as a reciprocal cycle of negative interactions may be initiated through numerous processes. For example, a parent experiencing difficulties stemming from dissatisfaction with the parental role (e.g., unhappiness, poor coping, social isolation) may provide a poor model of social competence to her young child, which, in turn, may lead the child to have

difficulties with peers (Krantz, Webb, & Andrews, 1984). Low social competence is associated with externalizing behavior problems in young children that may be stable over time (Campbell, 1994). As behavior problems become more severe as the child ages, mothers may be correct in making internal attributions for their children's misbehavior. In another example, a mother may have inappropriate developmental expectations for her young child. Unrealistic expectations have been shown to be characteristic of abusive mothers (Azar & Rohrbeck, 1986), and abusive mothers report more internal attributions for their children's behavior (Larrance & Twentyman, 1983). An attributional bias may predispose mothers to respond in an overly harsh manner to their children's misbehavior, thus increasing the likelihood that the misbehavior will continue (Nix et al., 1999). Although these examples may be extreme, at any given assessment point, each mother may produce similar profiles with regard to attributional style, child behavior problems, and parenting satisfaction. Identifying an overall direction of causality may prove to be an impossible task, and one that is ultimately less important than identifying appropriate points for intervention.

Methodological Issues

Consideration of the lack of significant results in the current study would not be complete without attention to methodological issues. The measurement of attributions varies widely across studies, and there is no empirically supported, published measure of parents' attributions for their children's behavior available in the literature. In the current study, mothers' preexisting attribution styles were assessed in a manner similar to that employed by Dix and his colleagues (Dix et al., 1986; Dix et al., 1989); that is, utilizing hypothetical scenarios to assess mothers' attributions for children's typical misbehaviors. As Dix and his colleagues examined mothers' attributions for the behavior of children

over the age of 4 years, some modifications were necessary to make the scenarios appropriate for mothers of younger children. It is possible that the adaptation of vignettes for mothers in the current study may have failed to capture some essential aspect of the attribution process. Vignettes used by Dix and his colleagues usually depicted norm violations (e.g., lying, stealing, or fighting), failures to be altruistic (e.g., failing to help, share, or be sensitive), or failures to fulfill requests (e.g., hang up washcloth and towel before leaving bathroom). These behaviors are not routinely demonstrated by children in the 3- to 4-year age range. Therefore, two new vignettes were written to depict behaviors that were developmentally appropriate for children in the current study and that mothers in the current study were likely to have encountered; two other vignettes were taken verbatim from Dix and his colleagues (Dix et al., 1986; Dix et al., 1989). Two vignettes depicted different acts of noncompliance with a parental command, one depicted a rule violation, and one depicted an act of aggression.

In addition, the current study may have used an insufficient number of vignettes to adequately tap into attribution style. Dix and his colleagues reported using up to nine vignettes in different studies (Dix & Reinhold, 1991; Dix et al., 1986; Dix et al., 1989), whereas the present study used four vignettes. Presentation of the vignettes was followed by four questions taken directly from Dix et al. (1989) that addressed the child's understanding that he/she was misbehaving (i.e., intent, controllability), mothers' expectations for the child's behavior in the situation (i.e., capacity for understanding), and the amount of blame the child deserved. Dix and his colleagues reported asking from six to ten questions after each vignette in other studies (Dix & Reinhold, 1991; Dix et al., 1986; Dix et al., 1990), which likely resulted in a more fine-grained assessment of mothers' attributions. The number of vignettes and questions were limited for the current

study due to time constraints, as the measure was administered over the telephone, and because it was expected that this number would provide sufficient information to indicate mothers' general attribution style in response to negative child behavior. Given the lack of significant findings with this measure in the current study, this expectation may have been too conservative. Additional questions and vignettes may have led to different results.

Overall, the assessment of attributions is an imprecise endeavor and the results of the current study call into question exactly what is being measured. Attributions are typically assessed through the presentation of written descriptions of hypothetical behavior or through the presentation of a videotaped confederate (Dix et al., 1990; Milner & Foody, 1994; Sacco & Murray, 1997; Smith & O'Leary, 1995). As a measure of their pre-manipulation attribution style, mothers in the current study were asked to imagine their own child in a hypothetical situation and make attributions for the cause of the child's behavior. Scores from this measure were not correlated with any assessed maternal or child characteristic. Surprisingly, these scores were also unrelated to scores on a measure of attributions for actual misbehavior observed during the interaction task, with one exception. Mothers' ratings of internal attributions for child aggression were significantly correlated with the Total Score on the Post-Interaction Assessment, indicating that mothers who endorsed more internal attributions for hypothetical aggressive behavior toward another child also made more internal attributions for misbehavior during the videotaped interaction. This relationship was unexpected, as the misbehavior observed during the interaction task typically involved noncompliance with a parental request. That no significant relationship emerged between attributions for hypothetical noncompliance scenarios, as measured by the MAQ and attributions for

actual noncompliance observed during the interaction, as measured by the PIA, underscores the lack of psychometric data on attribution measurement in the literature.

This lack of relationship between two measures purporting to assess the same beliefs calls into question the reliability of both measures, but is especially troubling for the hypothetical measure, as this is among the most popular methods of assessing attributions. Perhaps mothers' attributions for their children's hypothetical misbehavior are not representative of their attributions for their children's actual misbehavior. A search of the literature yielded no studies comparing parents' attributions for hypothetical and actual events, although studies comparing similar assessment methods were found. Dadds et al. (2003) found that mothers' affective and attributional ratings in response to videotaped scenarios involving an unknown child were consistent with similar ratings of a realistic interaction with the mother's own child, providing support for the use of analogue videotaped measures in assessing parents' affective reactions and attributions. Hastings and Grusec (1998) found a high level of consistency between mothers' ratings of parenting goals in response to hypothetical situations compared to recall of actual events; however, asking parents to recall past events may introduce an additional source of bias into the results. The method of attribution assessment is likely to impact the types of results obtained. The artificial nature of most attribution assessment methods may fail to uncover the process by which parents actually make attributions about child behavior as it occurs. As much of the attribution literature is based upon research conducted with measures utilizing hypothetical stimuli, additional research of the reliability and validity of these attribution measures is clearly warranted.

In summary, this study found no significant differences in the types of attributions made by mothers for their children's misbehavior during a series of parent-child

interaction tasks. The brief explanation for misbehavior expected during the tasks that was provided to mothers in an attempt to manipulate their attributions for their child's misbehavior had no significant effect on mothers' subjective ratings of affect or observed behavior during the interaction tasks. Mothers did not differ across conditions in the types of disciplinary strategies they employed, nor did they differ in the percentage of negative affect or positive interaction displayed during interactions with their children.

This study also found no significant relationships between maternal characteristics and types of attributions made for hypothetical situations. Attributions of intent and responsibility made for misbehavior observed during the interaction tasks were positively associated with reports of children's behavior problems and low levels of parenting satisfaction. Attributions of child responsibility, intent, and capability for hypothetical misbehavior assessed prior to the interaction task showed no significant relationship with attributions assessed shortly after an in vivo example of misbehavior.

Limitations and Strengths

There are several limitations to this study that must be noted. First, the sample size was small in comparison to similar research, and was ten subjects fewer than the sample size used by Slep and O'Leary (1998). The small sample available for analyses of observational data may have further contributed to the failure of the current study to find significant results. Forty percent of the full sample was dropped from observational analyses because the children did not exhibit misbehavior sufficient to serve as stimuli for the assessment of maternal attributions and affect. The laboratory setting may have influenced children's behavior, with the novel setting eliciting more compliant behavior than the children normally exhibit during similar tasks at home. Dadds and his colleagues (2003) reported similar difficulties in eliciting sufficient misbehavior to assess

parental reactions. In their study, young children referred for treatment of behavior problems were generally well-behaved, comparable to their group of control children.

The current sample was biased toward high socioeconomic status, with most participants in the highest income range and having attained advanced levels of education. Furthermore, their children were in the average range overall with regard to behavior problems. Clearly, the results of the current study cannot be generalized to other populations. The current sample was not drawn from the population most likely to seek or be referred for treatment for child behavior problems or parenting difficulties. Copious research has suggested that mothers in low socioeconomic environments are more likely than their higher SES peers to report favoring and utilizing harsh discipline (Dodge, Pettit, & Bates, 1994; Dunn, Deater-Deckard, Pickering, O'Connor, & Golding, 1998; Hashima & Amato, 1994), and lower occupational status has been shown to be associated with increased negative emotional reactions to child aggressive behavior (Mills & Rubin, 1990). Low SES was predictive of mothers' increased criticisms and physically negative behaviors with their children 1 year after completing a parenting intervention (Webster-Stratton & Hammond, 1990). Furthermore, mothers of children in low-income households tend to report more conduct problems than do mothers in households with higher incomes (Dunn et al., 1998). In addition to poor generalizability, the restricted socioeconomic range of the current sample may have led to an insufficient range of data, and thus significant differences were not detectable.

Another major limitation of this study is the difficulty in assessing attributions, as indicated by the lack of relationship between the two measures used in the current study. Unfortunately, there is no standardized measure of parents' attributions for children's behavior available in the literature. Researchers have employed numerous methods of

assessing attributions, ranging from vignettes of hypothetical situations to videotaped confederates to recall of past events, and psychometric data is seldom reported. The lack of consistency in methodology hampers efforts to compare results across studies, and calls into question the reliability and validity of the numerous assessment methods employed.

The exploratory nature of many of the analyses performed for the current study prevents any firm conclusions. The pre- and post-interaction attribution measures, although adapted from previous research, were modified for the current study and are not supported by psychometric data. The manipulation of attributions is a relatively new field of research and only one study has provided evidence that attributions can be manipulated in a brief time period. Clearly, additional efforts at replicating the study by Slep and O'Leary (1998) are still needed to provide support for the causal relationship these authors found between mothers' attributions and parenting behavior.

Limitations notwithstanding, the current study has several strengths that should also be noted. Inspection of the data revealed a range of responses on all measures, and correlational analyses of questionnaire data led to results that were consistent with the literature. As has been reported elsewhere (e.g., Oestberg & Hagekull, 2000; Rodgers, 1998), results indicated that children's behavior problems were positively associated with parenting stress and negatively associated with parenting satisfaction, while social support from friends was negatively associated with parenting stress. These results indicate that the current sample did not differ from other samples in the research literature regarding their attitudes, feelings, and beliefs related to parenting, social support, and children's behavior. Therefore, the current sample was likely sufficient for the detection

of differences, and the failure to uncover significant effects was probably not due to restricted range issues.

The current study used standardized procedures for the assessment of different dimensions of parenting to facilitate comparison with existing research across parenting dimensions. This study used both parent report and observational data to assess the types of parenting strategies used in discipline situations to provide more reliable and complete information than can be gained from a single method of assessment. The measures used in the current study were selected for their wide range of coverage and, in the case of the ECBI, PS, PSI-SF, PSOC, and PSSS, for their strong psychometric properties.

Future Directions

The assessment of attributions is still in the early stages of development, with no clear consensus on the most accurate method of measurement. By utilizing two different methods of assessing mothers' attributions, the current study demonstrated that attributions for hypothetical misbehavior may not be representative of mothers' attributions for actual misbehavior. This result calls into question the validity of previous attribution research and signals a strong need for further direct comparison of these assessment methods.

Although evidence has shown that dimensional attributional ratings on a Likert-type rating scale were congruent with parents' responses to an open-ended attribution question about their children's actual behavior (Johnston et al., 1998), additional empirical support is necessary to draw firm conclusions and promote the use of one method over another. Future research comparing open-ended interview responses with rating scale and other types of responses would provide valuable information about the validity of these assessment methods. Johnston et al. (1998) reported that, despite their overall

congruence, each method provided unique information. Perhaps some essential element of the attribution process is lost when one method is selected over another. Researchers comparing open-ended interview methods with other methods could elicit further details from mothers about discrepancies in their responses between measures that may further elucidate the process by which mothers actually make attributions. Furthermore, research utilizing multimodal methods of assessment would likely provide a more fine-grained delineation of the attribution process.

In addition, research examining possible biases resulting from the passage of time would also contribute to the assessment literature. Parents generally make attributions for their children's behavior as it occurs or as they are reacting to the behavior. Perhaps the opportunity to contemplate the child's behavior before providing an attributional response influences the mother's response. The delay present in the current study between the child's misbehavior and the mothers' attribution assessment, in some cases as long as 30 minutes, may have introduced an additional source of measurement error. Researchers may wish to examine the differences between attributions assessed immediately after the behavior occurs compared with attributions assessed at a later point.

In light of the recent work by Dadds and his colleagues (2003) suggesting that mothers stop making attributions when a specific type of misbehavior becomes familiar, the stimuli that researchers use to elicit parents' attributions must be reexamined. This is particularly relevant for studies examining changes in mothers' attributions, such as current study and its inspiration (Slep & O'Leary, 1998). The idea that attributions become rigid and difficult to alter is not new. Munton and Antaki (1988) found that family therapy did not bring about any change in attributions over the course of treatment

and that attributional differences in families who did and did not improve over treatment were present prior to treatment. Habitual patterns of responding may take precedence over attributional activity as a behavior becomes increasingly familiar (Azar, 1986). Future efforts at manipulating parents' attributions may benefit from the use of novel child tasks as stimuli to elicit parents' attributions. This may increase the likelihood that attributional activity would occur, thus making differences between attribution conditions easier to detect.

One purpose of the current study was to provide additional evidence of a direct causal link between negatively biased maternal attributions and harsh parenting in an effort to provide information to further the refinement of parenting interventions, as this is a component that has not received sufficient investigation (Dadds et al., 2003; Goddard & Miller, 1993; White et al., 2003). Parenting interventions have demonstrated promising results for the modification of disruptive behaviors (Kazdin, 1997; McMahon & Wells, 1998; Serketich and Dumas 1996), and are among a handful of treatments to have the necessary empirical support to be considered "probably efficacious" (Brestan & Eyberg, 1998). However, issues such as low levels of change during treatment, failure to maintain gains, and attrition rates over 50% continue to plague the treatment literature (Mabe et al., 2001; Snow, Frey, & Kern, 2002), suggesting that for some families, these interventions are not meeting their needs. The abundant findings documenting a connection between attributions and maladaptive parenting suggest that this pathway may eventually lead to bountiful gains for parenting interventions.

White and her colleagues (2003), acknowledging the importance of cognition in other behaviorally-oriented therapies, proposed a "cognitively enhanced" parent training program in which the therapist introduces concepts to parents in reference to the

"thoughts, feelings, and behavior (TFB) cycle." Parents are encouraged to challenge their thinking about the causes of their children's behavior and formulate alternate beliefs, which subsequently alter their feelings and behavior. Pilot investigation of this program demonstrated positive results that remained statistically significant at 12-month follow-up. Although additional research is needed to support the efficacy of this program, the authors suggest that the addition of a cognitive component may improve the outcomes of traditional parent training programs.

Attributions appear to be related to the presence and severity of young children's behavior problems and low levels of parenting satisfaction. Mothers experiencing distress associated with parenting or who do not feel supported by their family may be at increased risk for developing chronic attributional biases. Children's behavior problems can be extremely challenging, and parents' responses to these challenges can have important implications for future interactions (Brenner & Fox, 1998; Campbell, 1997). The results of the current study suggest that the study of attributions as they relate to parenting is a worthwhile endeavor, with much ground yet to be covered.

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Table 1.

Sample Characteristics: Mothers

Ethnicity	***n = 50***	
Caucasian	42	84%
Native American	2	4%
African American	1	2%
Hispanic/Latino	1	2%
Middle Eastern	1	2%
Biracial	3	6%
Marital Status		
Married	41	82%
Single	4	8%
Divorced	2	4%
Living with Partner	2	4%
Separated	1	2%
Occupation		
Homemaker	18	36%
Professional	9	18%
Student	6	12%
Home business	5	10%
School teacher	4	8%
Customer service	3	6%
Childcare provider	2	4%
Other	3	6%
Family Income		
Over $2,500	28	56%
$2,001 to $2,500	5	10%
$1,501 to $2,000	4	8%
$1,001 to $1,500	6	12%
$800 to $1,000	2	4%
Less than $800	5	10%
Spouse/Partner's relationship to child	***(n = 45)***	
Biological father	44	88%
Step-parent	1	2%

Table 2.

Sample Characteristics: Children

Child Ethnicity	***n = 50***	
Caucasian	40	80%
Native American	3	6%
Biracial	5	10%
Other	2	4%
Attending out-of-home program		
Daycare	23	46%
Preschool	5	10%
Head Start	5	10%
None	16	32%
Developmental Milestone (age attained in months)	***Mean***	***SD***
Sitting independently	5.54	1.55
Crawling	7.43	1.89
Walking independently	11.16	1.94

Table 3.

Group Characteristics

	Full Sample (n = 50)		**No Misbehavior** (n = 20)		**Observational Sample** (n = 30)			
					Internal Condition		**External Condition**	
	Mean	*SD*	***Mean***	*SD*	***Mean***	*SD*	***Mean***	*SD*
Eyberg Child Behavior Inventory								
Problem Raw Score	**9.44**	7.06	**10.30**	7.49	**7.33**	6.79	**10.40**	6.75
Intensity Raw Score	**117.04**	24.20	**111.95**	24.97	**121.40**	26.89	**119.47**	20.40
Problem T-score	**52.74**	9.32	**53.45**	10.25	**50.27**	8.69	**54.27**	8.73
Intensity T-score	**55.32**	6.16	**53.35**	4.74	**54.27**	8.73	**56.33**	5.91
Parenting Scale								
Laxness Factor Score	**2.58**	1.27	**2.50**	0.77	**2.70**	0.97	**2.56**	0.87
Overreactivity Factor Score	**2.76**	0.61	**2.82**	0.51	**2.73**	0.58	**2.70**	0.77
Verbosity Factor Score	**3.52**	0.89	**3.47**	0.75	**3.65**	1.05	**3.45**	0.96
Total Score	**2.93**	0.59	**2.93**	.46	**3.00**	0.69	**2.87**	0.67
Parenting Stress Index-SF								
Parental Distress	**23.66**	6.82	**23.90**	6.66	**24.60**	6.41	**22.40**	7.68
Parent-Child Dysfunctional	**19.16**	4.90	**18.90**	4.93	**20.33**	5.16	**18.33**	4.69
Difficult Child	**29.34**	6.99	**28.90**	7.64	**29.87**	7.52	**29.40**	5.89
Total Score	**72.16**	15.66	**71.70**	15.99	**74.80**	15.62	**70.13**	15.96
Parenting Sense of Competence								
Satisfaction Score	**38.98**	6.96	**38.45**	7.70	**39.13**	4.87	**39.53**	8.03
Perceived Social Support Scale								
Friends Support Score	**31.52**	8.48	**30.20**	9.40	**32.00**	7.56	**32.80**	8.38
Family Support Score	**32.41**	9.42	**33.37**	8.22	**32.67**	10.36	**30.93**	10.33
Maternal Attribution Questionnaire								
Cutting Magazine	**11.66**	5.51	**11.40**	6.07	**10.27**	4.03	**13.40**	5.90
Aggression	**19.52**	3.27	**18.75**	4.00	**19.93**	2.79	**20.13**	2.53
Making Noise	**16.30**	4.64	**16.35**	4.96	**16.00**	4.24	**16.53**	4.88
Noncompliance	**15.92**	4.77	**15.70**	5.18	**15.40**	4.26	**16.73**	4.91
Total Score	**63.22**	9.36	**62.20**	15.45	**61.60**	12.08	**66.20**	13.43
Post Interaction Assessment								
Total Attribution Scores	**31.12**	5.12	---	---	**31.93**	5.54	**32.30**	4.84
Usefulness of Information	**2.52**	1.30	---	---	**2.60**	1.45	**2.43**	1.16
Need to Discipline	**3.87**	1.39	---	---	**3.93**	1.66	**3.80**	1.11
Anger	**2.20**	1.13	---	---	**2.40**	1.12	**2.00**	1.15
Irritation	**3.18**	1.45	---	---	**3.40**	1.31	**2.97**	1.59
Annoyance	**3.17**	1.53	---	---	**3.33**	1.40	**3.00**	1.68
Shame	**2.43**	1.24	---	---	**2.43**	1.18	**2.43**	1.33

Table 4.

Parenting Scale Factor Scores

	Clinic		**Control**		**Current Sample**	
	M	*SD*	*M*	*SD*	*M*	*SD*
Laxness	2.8	1.0	2.4	.8	2.58	1.27
Overreactivity	3.0	1.0	2.4	.7	2.76	.61
Verbosity	3.4	1.0	3.1	1.0	3.52	.89
Total	3.1	1.7	2.6	.6	2.93	.59

Table 5.

MAQ Items and Range of Responses

MAQ *(Scores range from 4 to 24, with higher scores indicating greater responsibility and intent)*	***Score Range***			
	Full Sample n = 50	**No Misbx** n = 20	**Internal Group** n = 15	**External Group** n = 15
You come home and pick up your favorite magazine that has just arrived in the mail. You find your child has drawn in it and has cut pictures out of it.	**4 - 24**	**4-22**	**4-17**	**4-24**
Your child is playing a game with a friend or sibling. The two children began to disagree about how the game is played, and the discussion becomes heated. Suddenly, your child punched his/her friend (or sibling) hard on the arm, knocking him/her over.	**11-24**	**11-24**	**14-24**	**14-24**
Your child is noisily playing pretend with another child. You have an important telephone call to make regarding an error on your bank statement, so you direct your child to play quietly so that you can make the phone call. Your child continues to yell and make noise.	**4 - 24**	**4-24**	**6-22**	**7-24**
Your child is playing in the living room and has scattered toys all around. You have company coming over soon, so you have asked your child to pick up the toys while you are straightening up the kitchen. When you come out of the kitchen, your child is still playing with the toys.	**4 - 24**	**5-24**	**10-22**	**4-24**
Total Score (range from 16 to 96)	**24 - 96**	**24-93**	**34-80**	**40-96**

Table 6.

Mean Percentages of Maternal Behaviors during Task Phases

	Free Play		**Telephone**		**Questionnaire**		**Toy Clean-Up**	
	Int.	**Ext.**	**Int.**	**Ext.**	**Int.**	**Ext.**	**Int.**	**Ext.**
Behavior	Means *SD*	Means *SD*	Means *SD*	Means *SD*	Means *SD*	Means *SD*	Means *SD*	Means *SD*
Directives: Toys	.22 *.86*	.00 *.00*	6.11 *5.59*	6.56 *6.19*	5.44 *4.90*	6.67 *5.81*	48.95 *23.11*	40.74 *18.08*
Directives: Forbidden Objects	8.89 *4.66*	7.56 *8.11*	7.89 *8.92*	6.11 *8.92*	7.22 *6.38*	4.56 *4.06*	1.69 *2.46*	2.99 *4.28*
Modeling	.00 *.00*	.22 *.86*	.11 *.43*	.00 *.00*	.22 *.86*	.22 *.86*	47.39 *17.13*	37.86 *21.43*
Prompt	26.22 *11.04*	21.11 *14.62*	8.11 *7.18*	5.22 *7.34*	7.11 *8.01*	3.67 *3.52*	16.62 *8.81*	17.56 *12.02*
Physical Prompt	1.56 *2.78*	2.22 *6.98*	1.78 *4.48*	1.22 *3.91*	1.00 *2.58*	.78 *1.65*	4.46 *9.83*	1.84 *2.10*
Praise	7.11 *7.11*	2.00 *2.46*	1.22 *2.22*	1.00 *2.07*	3.67 *2.97*	1.44 *3.88*	15.81 *13.85*	10.62 *10.26*
Interaction	89.78 *16.55*	94.89 *7.00*	16.44 *10.71*	12.33 *8.42*	38.78 *18.22*	33.56 *20.11*	64.69 *18.46*	65.76 *20.57*
Negative Affect	.44 *1.72*	.00 *.00*	2.22 *6.45*	1.00 *2.16*	1.56 *3.59*	2.00 *2.90*	2.47 *4.22*	4.03 *7.80*

Note: Int. = Internal; Ext. = External.

Table 7.

Mean Numbers and Percentages of Directives and Disciplinary Responses

	Internal		**External**	
Directives	**Mean**	**SD**	**Mean**	**SD**
Total	61.87	28.78	55.07	24.90
Total w/Reasons	4.80	3.19	4.53	3.52
Harsh	5.20	11.14	6.33	8.56
(Percent)	(6.10)	(10.15)	(7.71)	(10.49)
Nurturant	57.67	25.27	50.67	19.05
(Percent)	(86.65)	(14.33)	(88.37)	(11.91)
Lax	3.80	4.57	2.53	3.31
(Percent)	(7.24)	(8.31)	(3.73)	(5.41)

Table 8.

Mean Percentages of Child Behaviors during Task Phases

	Free Play		**Telephone**		**Questionnaire**		**Toy Clean-Up**	
	Int.	**Ext.**	**Int.**	**Ext.**	**Int.**	**Ext.**	**Int.**	**Ext.**
Behavior	Means *SD*	Means *SD*	Means *SD*	Means *SD*	Means *SD*	Means *SD*	Means *SD*	Means *SD*
Appropriate Play	86.00 *12.36*	8.22 *12.40*	69.44 *20.82*	75.22 27.62	62.56 *33.86*	67.78 *26.54*	.00 *.00*	.89* *3.44*
Negative Affect	2.22 *3.92*	.67 *1.87*	3.78 *6.86*	6.11 *7.12*	12.67 *16.59*	19.33 *21.39*	15.67 *15.32*	21.32 *18.03*
Picking up Appropriately	.00 *.00*	.00 *.00*	.00 *.00*	.00 *.00*	.00 *.00*	.00 *.00*	45.88 *17.45*	43.73 *22.96*
Sorting Appropriately	.00 *.00*	.00 *.00*	.00 *.00*	.00 *.00*	.00 *.00*	.00 *.00*	43.41 *16.46*	40.55 *24.65*
Solicitation for Attention	.67 *1.87*	.67 *2.58*	10.78 *9.08*	14.56 *14.74*	32.22 *16.44*	37.44 *24.05*	5.83 *7.19*	4.60 *8.52*
Toy Contact	.00 *.00*	.00 *.00*	.00 *.00*	.00 *.00*	.00 *.00*	.00 *.00*	34.04 21.72	37.76 30.94
Forbidden Objects	4.44 *6.83*	4.89 *12.40*	9.56 *10.74*	15.78 *21.80*	9.33 *11.97*	10.78 *12.02*	3.23 *3.48*	3.63 *5.03*
Leaving the Area	.00 *.00*	.00 *.00*	5.44 *10.57*	2.78 *5.62*	3.33 *6.81*	3.11 *3.67*	3.44 *7.08*	2.96 *4.42*

Note: Int. = Internal; Ext. = External.

*Play was considered appropriate during the toy clean-up phase for one child whose mother gave her permission to play with her own toy, which she had brought with her into the lab, after she completed the clean-up task.

Table 9.

Correlations between ECBI Problem and Intensity T-Scores, PSOC Satisfaction Scale Scores, and other Maternal Measures

	Problem T-Score		**Intensity T-Score**		**PSOC Satisfaction**	
	r	*p*	*r*	*p*	*r*	*p*
Parenting Scale						
Laxness Factor Score	*.013*	*.928*	*.049*	*.734*	*-.368*	*.008*
Overreactivity Factor Score	.290	.041	.269	.058	-.557*	.0001
Verbosity Factor Score	-.033	.983	-.133	.356	-.066	.648
Total Score	.117	.419	.087	.546	-.449*	.001
Parenting Stress Index-SF						
Parental Distress	.446*	.001	.159	.270	-.696*	.0001
Parent-Child Dysfunctional	.369	.008	.220	.126	-.441*	.001
Difficult Child	.458*	.001	.312	.028	-.484*	.0001
Total Score	.515*	.0001	.277	.051	-.658*	.0001
Parenting Sense of Competence						
Satisfaction Score	-.497*	.0001	-.365	.009		
Perceived Social Support Scale						
Friends Support Score	-.289	.042	-.026	.858	.524*	.0001
Family Support Score	-.163	.264	.005	.973	.124	.397

*Significant after Bonferroni correction ($p < .0025$)

Table 10.

Correlations between PIA Total Attribution and Subjective Affect Scores and other Maternal Measures

	Attribution		**Anger**		**Irritate**		**Annoy**		**Shame**	
	r	*p*	*r*	*p*	*r*	*p*	*r*	*p*	*r*	*p*
ECBI										
Problem T-Score	***.418****	*.021*	*.200*	*.289*	*.257*	*.170*	*.326*	.078	*.189*	*.318*
Intensity T-Score	*.141*	*.457*	*.130*	.493	*.204*	*.278*	*.252*	*.179*	*.348*	*.059*
PS										
Laxness	*.143*	*.451*	*.168*	*.375*	*-.070*	*.712*	*-.031*	*.872*	*-.011*	*.952*
Overreact.	.316	.089	**.463***	.010	.285	.127	.354	.055	.347	.061
Verbosity	- .020	.915	.226	.231	-.127	.503	-.105	.582	-.112	.557
Total Score	.173	.361	.322	.083	.049	.798	.106	.577	.115	.546
PSI-SF										
Parental Distress	.285	.126	.345	.061	.376	.040	.430	.018	.428	.018
Parent-Child Dysfunc.	.259	.167	.362	.049	**.434***	.017	.369	.045	**.505***	.004
Difficult Child	.355	.054	.363	.049	.262	.162	.441	.015	**.576***	.001
Total Score	.360	.051	.423	.020	.417	.022	**.496***	.005	**.595***	.001
PSOC										
Satisfaction	**- .415***	.023	-.219	.245	-.220	.242	-.324	.081	**-.392***	.032
PSSS										
Friends	- .151	.424	-.246	.191	-.161	.394	-.193	.308	-.132	.486
Family	- .142	.453	-.172	.363	-.168	.375	-.177	.349	-.151	.425

*Significant after Modified Bonferroni Corrections: ECBI α =.025; PS, PSI α =.0125; PSOC α =.05; PSSS α =.025

APPENDIX A

Demographic Questionnaire

Demographic Questionnaire

Please fill in the blanks below. All responses will be kept confidential.

1. Your age: _____

2. Your ethnicity:

   _____Caucasian _____American Indian_____
   Tribe or Nation
   _____African-American _____Biracial_____
   Please describe
   _____Hispanic/Latino _____Other _____
   Please describe
   _____Asian/Asian-American

3. Your highest level of education completed (circle year):

   1 2 3 4 5 6 7 8 (Grade school)
   9 10 11 12 (High school)
   13 14 15 16 (College)
   17 and over (Graduate School)

4. Your occupation_____

5. Your total family income per month (check one):

   _____Less than $800 _____$800-$1,000 _____$1001-$1,500
   _____$1,501-$2,000 _____$2,001-$2,500 _____ over $2,500

6. Marital Status (check one):

   _____ Married _____ Divorced _____Separated _____ Single
   _____ Widowed _____ Living with partner

7. If married or living with partner, please provide the following information about your spouse/partner:
   a. Spouse/Partner's relationship to the child:

      _____Biological parent
      _____Step-parent
      _____Adoptive parent
      _____Other

   b. Spouse/Partner's age_____

c. Spouse/Partner's ethnicity:

_____Caucasian _____American Indian_____
Tribe or Nation

_____African-American _____Biracial_____
Please describe

_____Hispanic/Latino _____Other _____
Please describe

_____Asian/Asian-American

d. Spouse/Partner's highest level of education completed (circle year):

1 2 3 4 5 6 7 8 (Grade school)
9 10 11 12 (High school)
13 14 15 16 (College)
17 and over (Graduate School)

e. Spouse/Partner's occupation:_____

8. Please provide the following information about the child participating in this study:

a. Date of birth: _____ (month/day/year)

b. Sex: Male_____ Female_____

c. Child's ethnicity:

_____Caucasian _____American Indian_____
Tribe or Nation

_____African-American _____Biracial_____
Please describe

_____Hispanic/Latino _____Other _____
Please describe

_____Asian/Asian-American

9. Does the child have siblings?

_____No _____Yes

	Age (in years)	Sex (please circle)		Living in the home (please circle)	
_____		M	F	Y	N
_____		M	F	Y	N
_____		M	F	Y	N
_____		M	F	Y	N
_____		M	F	Y	N

Including you and your child, how many people are living in your home?_____

Telephone Task Questions

1. Developmental Milestones: At what age (in months) did your child:
    a. sit independently_____
    b. crawl_____
    c. walk independently_____
2. Is your child on any medication at this time?

    _____No

    _____Yes (please list)_____
3. Has your child attended or does your child currently attend head start or daycare?

    _____No

    _____Headstart

    _____Daycare

    If currently attending daycare/preschool:

    How old was your child when he/she began attending daycare or preschool? _____

    How many days out of a month did your child attend daycare or preschool? _____

    Is the daycare at an institution or in a home?_____

    What kinds of activities does your child do in daycare/preschool?_____

    _____

    _____

    If not currently attending daycare/preschool, but has in the past:

    How old was your child when he/she began attending daycare or preschool? _____

    How many days out of a month did your child attend daycare or preschool? _____

    Was the daycare at an institution or in a home?_____

    How long did your child attend daycare/preschool?_____

4. Do you have any behavioral concerns about your child?

If still need more questions to fill 5 minutes:

Is your child a good eater?

What kinds of foods does he/she like?

Does your child experience any sleep difficulties?

Does your child nap during the day? For how long?

Describe a typical day for your child.

APPENDIX B

Eyberg Child Behavior Inventory

Subject number:_____ Date:_____Child's age:_____ Child's sex: M F

Here is a list of behaviors common to many children. After each behavior is a rating scale from 1 to 7. You are to rate each item according to how often your child exhibits the behavior with 1 meaning that the behavior never occurs and 7 meaning that it always occurs. Also, for each item, circle either "yes" or "no" to the question, "is this behavior a problem for you?"

	How often does it occur? **Never** **Always**							Is this behavior a **problem for you?**	
Dawdles in getting dressed	1	2	3	4	5	6	7	Yes	No
Dawdles or lingers at mealtime	1	2	3	4	5	6	7	Yes	No
Has poor table manners	1	2	3	4	5	6	7	Yes	No
Refuses to eat food presented	1	2	3	4	5	6	7	Yes	No
Refuses to do chores when asked	1	2	3	4	5	6	7	Yes	No
Slow in qettinq ready for bed	1	2	3	4	5	6	7	Yes	No
Refuses to qo to bed on time	1	2	3	4	5	6	7	Yes	No
Does not obey house rules on his own	1	2	3	4	5	6	7	Yes	No
Refuses to obey until threatened with punishment	1	2	3	4	5	6	7	Yes	No
Acts defiant when told to do something	1	2	3	4	5	6	7	Yes	No
Argues with parents about rules	1	2	3	4	5	6	7	Yes	No
Gets angry when doesn't get own way	1	2	3	4	5	6	7	Yes	No
Has temper tantrums	1	2	3	4	5	6	7	Yes	No
Sasses adults	1	2	3	4	5	6	7	Yes	No
Whines	1	2	3	4	5	6	7	Yes	No
Cries easily	1	2	3	4	5	6	7	Yes	No
Yells or screams	1	2	3	4	5	6	7	Yes	No
Hits parents	1	2	3	4	5	6	7	Yes	No
Destroys toys and other objects	1	2	3	4	5	6	7	Yes	No
Is careless with toys and other objects	1	2	3	4	5	6	7	Yes	No
Steals	1	2	3	4	5	6	7	Yes	No
Lies	1	2	3	4	5	6	7	Yes	No
Teases and provokes other children	1	2	3	4	5	6	7	Yes	No
Verbally fights with friends his/her own age	1	2	3	4	5	6	7	Yes	No
Verbally fights with sisters and brothers	1	2	3	4	5	6	7	Yes	No
Physically fights with friends own age	1	2	3	4	5	6	7	Yes	No
Physically fights with sisters and brothers	1	2	3	4	5	6	7	Yes	No
Constantly seeks attention	1	2	3	4	5	6	7	Yes	No

Interrupts	1 2 3 4 5 6 7	Yes	No
Is easily distracted	1 2 3 4 5 6 7	Yes	No
Has short attention span	1 2 3 4 5 6 7	Yes	No
Fails to finish tasks or projects	1 2 3 4 5 6 7	Yes	No
Has difficulty entertaining him/herself	1 2 3 4 5 6 7	Yes	No
Has difficulty concentrating on one thing	1 2 3 4 5 6 7	Yes	No
Is overactive or restless	1 2 3 4 5 6 7	Yes	No
Wets the bed	1 2 3 4 5 6 7	Yes	No

APPENDIX C

Parenting Scale

Parenting Scale

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

hitting someone	*whining*	*throwing food*
forgetting homework	*not picking up toys*	*lying*
having a tantrum	*refusing to go to bed*	*wanting a cookie before dinner*
running into the street	*arguing back*	*coming home late*

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

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

SAMPLE ITEM

At meal time . . .

I let my child decide how much to eat.	0--0--●--0--0--0--0	I decide how much my child eats.

1. **When my child misbehaves . . .**

I do something right away.	0--0--0--0--0--0--0	I do something about it later.

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

I give my child several reminders or warnings.	0--0--0--0--0--0--0	I use only one reminder or warning.

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

I am picky and on my child's back.	0--0--0--0--0--0--0	I am no more picky than usual.

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

I say very little.	0--0--0--0--0--0--0	I say alot.

Developed by Susan G. O'Leary, David S. Arnold, Lisa S. Wolff & Maureen M. Acker; Psychology Dept. University at Stony Brook, Stony Brook, NY 11794

Please see next page

5. **When my child pesters me . . .**

I can ignore the the pestering.	0--0--0--0--0--0--0	I can't ignore the pestering.

6. **When my child misbehaves . . .**

I usually get into a long argument with my child.	0--0--0--0--0--0--0	I don't get into an argument.

7. **I threaten to do things that . . .**

I am sure I can carry out.	0--0--0--0--0--0--0	I know I won't actually do.

8. **I am the kind of parent that . . .**

sets limits on what my child is allowed to do.	0--0--0--0--0--0--0	lets my child do whatever he or she wants.

9. **When my child misbehaves . . .**

I give my child a long lecture.	0--0--0--0--0--0--0	I keep my talks short and to the point.

10. **When my child misbehaves . . .**

I raise my voice or yell.	0--0--0--0--0--0--0	I speak to my child calmly.

11. **If saying no doesn't work right away . . .**

I take some other kind of action.	0--0--0--0--0--0--0	I keep talking and try to get through to my child.

12. **When I want my child to stop doing something . . .**

I firmly tell my child to stop.	0--0--0--0--0--0--0	I coax or beg my child to stop.

13. **When my child is out of my sight . . .**

I often don't know what my child is doing.	0--0--0--0--0--0--0	I always have a good idea of what my child is doing.

14. **After there's been a problem with my child . . .**

I often hold a grudge.	0--0--0--0--0--0--0	things get back to normal quickly.

15. **When we're not at home . . .**

I handle my child the way I do at home. 0--0--0--0--0--0--0 I let my child get away with alot more.

16. **When my child does something I don't like . . .**

I do something about it every time it happens. 0--0--0--0--0--0--0 I often let it go.

17. **When there's a problem with my child . . .**

things build up and I do things I don't mean to do. 0--0--0--0--0--0--0 things don't get out of hand.

18. **When my child misbehaves, I spank, slap, grab, or hit my child . . .**

never or rarely. 0--0--0--0--0--0--0 most of the time.

19. **When my child doesn't do what I ask . . .**

I often let it go or end up doing it myself. 0--0--0--0--0--0--0 I take some other action.

20. **When I give a fair threat or warning . . .**

I often don't carry it out. 0--0--0--0--0--0--0 I always do what I said.

21. **If saying no doesn't work . . .**

I take some other kind of action. 0--0--0--0--0--0--0 I offer my child something nice so he/she will behave.

22. **When my child misbehaves . . .**

I handle it without getting upset. 0--0--0--0--0--0--0 I get so frustrated or angry that my child can see I'm upset.

23. **When my child misbehaves . . .**

I make my child tell me why he/she did it. 0--0--0--0--0--0--0 I say "No" or take some other action.

24. **If my child misbehaves and then acts sorry . . .**

I handle the problem like I usually would. 0--0--0--0--0--0--0 I let it go that time.

25. **When my child misbehaves . . .**

I rarely use bad language or curse. 0--0--0--0--0--0--0 I almost always use bad language.

26. **When I say my child can't do something . . .**

I let my child do it anyway. 0--0--0--0--0--0--0 I stick to what I said.

27. **When I have to handle a problem . . .**

I tell my child I'm sorry about it. 0--0--0--0--0--0--0 I don't say I'm sorry.

28. **When my child does something I don't like, I insult my child, say mean things, or call my child names . . .**

never or rarely. 0--0--0--0--0--0--0 most of the time.

29. **If my child talks back or complains when I handle a problem . . .**

I ignore the complaining and stick to what I said. 0--0--0--0--0--0--0 I give my child a talk about not complaining.

30. **If my child gets upset when I say "No", . . .**

I back down and give in to my child. 0--0--0--0--0--0--0 I stick to what I said.

APPENDIX D

Parenting Stress Index – Short Form

SA = Strongly Agree A=Agree NS = Not Sure D = Disagree SD = Strongly Disagree

1.	I often have the feeling that I cannot handle things very well.	SA A S D SD
2.	I find myself giving up more of my life to meet my children's needs than I ever expected.	SA A S D SD
3.	I feel trapped by my responsibilities as a parent.	SA A S D SD
4.	Since having this child, I have been unable to do new and different things.	SA A S D SD
5.	Since having a child, I feel that I am almost never able to do things that I like to do.	SA A S D SD
6.	I am unhappy with the last purchase of clothing that I made for myself.	SA A S D SD
7.	There are quite a few things that bother me about my life.	SA A S D SD
8.	Having a child has caused more problems than I expected in my relationship with my spouse.	SA A S D SD
9.	I feel alone and without friends.	SA A S D SD
10.	When I go to a party, I usually expect not to enjoy myself.	SA A S D SD
11.	I am not as interested in people as I used to be.	SA A S D SD
12.	I don't enjoy things as I used to.	SA A S D SD
13.	My child rarely does things for me that make me feel good.	
14.	Most times I feel that my child does not like me and does not want to be close to me.	SA A S D SD
15.	My child smiles at me much less than I expected.	SA A S D SD
16.	When I do things for my child, I get the feeling that my efforts are not appreciated very much.	SA A S D SD
17.	When playing, my child doesn't often giggle or laugh.	
18.	My child doesn't seem to learn as quickly as most children.	SA A S D SD
19.	My child doesn't seem to smile as much as most children.	SA A S D SD
20.	My child is not able to do as much as I expected.	SA A S D SD
21.	It takes a long time and it is very hard for my child to get used to new things.	SA A S D SD

For the next statement, choose your response from the choices '1' to '5' below.

22.	I feel that I am:	1. not very good at being a parent	1 2 3 4 5
		2. a person who has some trouble being a parent	1 2 3 4 5
		3. an average parent	1 2 3 4 5
		4. a better than average parent	1 2 3 4 5
		5. a very good parent	1 2 3 4 5

23.	I expected to have closer and warmer feelings for my child than I do and this bothers me.	SA A S D SD
24.	Sometimes my child does things that bother me just to be mean.	SA A S D SD
25.	My child seems to cry or fuss more often than most children.	SA A S D SD
26.	My child generally wakes up in a bad mood.	SA A S D SD
27.	I feel that my child is very moody and easily upset.	SA A S D SD
28.	My child does a few things which bother me a great deal.	SA A S D SD
29.	My child reacts very strongly when something happens that my child doesn't like.	SA A S D SD
30.	My child gets upset easily over the smallest thing.	SA A S D SD
31.	My child's sleeping or eating schedule was much harder to establish than I expected.	SA A S D SD

For the next statement, choose your response from the choices '1' to '5' below.

32.	I have found that getting my child to do something or stop doing something is:		
		1. much harder than I expected	1 2 3 4 5
		2. somewhat harder than I expected	1 2 3 4 5
		3. about as hard as I expected	1 2 3 4 5
		4. somewhat easier than I expected	1 2 3 4 5
		5. much easier than I expected	1 2 3 4 5

For the next statement, choose your response from the choices '10+' to '1-3.'

33.	Think carefully and count the number of things your child does that bother you. For example: dawdles, refuses to listen, overactive, cries, interrupts, fights, etc.	10+ 8-9 6-7 4-5 1-3

34.	There are some things my child does that really bother me a lot.	SA A S D SD
35.	My child turned out to be more of a problem than I had expected.	SA A S D SD
36.	My child makes more demands on me than most children.	SA A S D SD

PAR Psychological Assessment Resources, Inc./P.O. Box 998/Odessa, FL 33556/Toll-free 1-800-331-TEST

APPENDIX E

Maternal Attribution Questionnaire

Maternal Attribution Questionnaire

Directions: Please imagine yourself and your child in the situations that follow. If such a situation happened to you, what do you feel would have caused it? While events may have many causes, we want you to pick only one—the major cause if this event happened to you. Next we want you to answer some questions about the cause.

Situation 1: You come home and pick up your favorite magazine that has just arrived in the mail. You find your child has drawn in it and has cut pictures out of it.

1. As your child did it, did your child know that he/she was acting badly or improperly?

1	2	3	4	5	6
Definitely does not know					Definitely knows

2. Would it be reasonable to expect your child to have known that this was wrong? Should your child have known better?

1	2	3	4	5	6
Definitely not, can't expect better					Definitely yes, child should know better

3. How much does this behavior differ from what you would expect of your child in this situation?

1	2	3	4	5	6
As good as can be expected					Very much less than can be expected

4. How much blame does your child deserve for acting like this?

1	2	3	4	5	6
No blame					Complete blame

Situation 2: Your child is playing a game with a friend or sibling. The two children begin to disagree about how the game is played, and the discussion becomes heated. Suddenly, your child punches his/her friend (or sibling) hard on the arm, knocking him/her over.

5. As your child did it, did your child know that he/she was acting badly or improperly?

1	2	3	4	5	6
Definitely does not know					Definitely knows

6. Would it be reasonable to expect your child to have known that this was wrong? Should your child have known better?

1	2	3	4	5	6
Definitely not, can't expect better					Definitely yes, child should know better

7. How much does this behavior differ from what you would expect of your child in this situation?

1	2	3	4	5	6
As good as can be expected					Very much less than can be expected

8. How much blame does your child deserve for acting like this?

1	2	3	4	5	6
No blame					Complete blame

Situation 3: Your child is noisily playing pretend with another child. You have an important telephone call to make regarding an error on your bank statement, so you direct your child to play quietly so that you can make the phone call. Your child continues to yell and make noise.

9. As your child did it, did your child know that he/she was acting badly or improperly?

1	2	3	4	5	6
Definitely does not know					Definitely knows

10. Would it be reasonable to expect your child to have known that this was wrong? Should your child have known better?

1	2	3	4	5	6
Definitely not, can't expect better					Definitely yes, child should know better

11. How much does this behavior differ from what you would expect of your child in this situation?

1	2	3	4	5	6
As good as can be expected					Very much less than can be expected

12. How much blame does your child deserve for acting like this?

1	2	3	4	5	6
No blame					Complete blame

Situation 4: Your child is playing in the living room and has scattered toys all around. You have company coming over soon, so you have asked your child to pick up the toys while you are straightening up the kitchen. When you come out of the kitchen, your child is still playing with the toys.

13. Did your child know that he/she was acting badly or improperly?

1	2	3	4	5	6
Definitely does not know					Definitely knows

14. Would it be reasonable to expect your child to have known that this was wrong? Should your child have known better?

1	2	3	4	5	6
Definitely not, can't expect better					Definitely yes, child should know better

15. How much does this behavior differ from what you would expect of your child in this situation?

1	2	3	4	5	6
As good as can be expected					Very much less than can be expected

16. How much blame does your child deserve for acting like this?

1	2	3	4	5	6
No blame					Complete blame

APPENDIX F

Parenting Sense of Competence Scale

Parenting Sense of Competence Scale

Circle the response that best describes your feelings

1. Even though being a parent could be rewarding, I am frustrated now while my child is at his/her present age.

1	2	3	4	5	6
Strongly agree					Strongly disagree

2. I go to bed the same way that I wake up in the morning, feeling I have not accomplished a whole lot.

1	2	3	4	5	6
Strongly agree					Strongly disagree

3. I do not know why it is, but sometimes when I'm supposed to be in control, I feel more like the one being manipulated.

1	2	3	4	5	6
Strongly agree					Strongly disagree

4. My mother was better prepared to be a good mother than I am.

1	2	3	4	5	6
Strongly agree					Strongly disagree

5. A difficult problem in being a parent is not knowing whether you're doing a good job or a bad one.

1	2	3	4	5	6
Strongly agree					Strongly disagree

6. Sometimes I feel like I'm not getting anything done.

1	2	3	4	5	6
Strongly agree					Strongly disagree

7. My talents and interests are in other areas, not in being a parent.

1	2	3	4	5	6
Strongly agree					Strongly disagree

8. If being a mother of a child were only more interesting, I would be motivated to do a better job as a parent.

1	2	3	4	5	6
Strongly agree					Strongly disagree

9. Being a parent makes me tense and anxious.

1	2	3	4	5	6
Strongly agree					Strongly disagree

APPENDIX G

Perceived Social Support Scale

Perceived Social Support from Friends and Family

The statements below refer to feelings and experiences that occur to most people at one time or another in their relationships with friends and family. For each statement there are three possible answers; please circle the answer that best reflects your feelings.

1.	My friends give me the moral support I need.	Yes	No	Don't Know
2.	Most other people are closer to their friends than I am.	Yes	No	DK
3.	My friends enjoy hearing what I think.	Yes	No	DK
4.	Certain friends come to me when they have problems or need advice.	Yes	No	DK
5.	I rely on my friends for emotional support.	Yes	No	DK
6.	If I felt that one or more of my friends were upset with me, I'd just keep it to myself.	Yes	No	DK
7.	I feel that I'm on the fringe in my circle of friends.	Yes	No	DK
8.	There is a friend I could go to if I were just feeling down, without feeling funny about it later.	Yes	No	DK
9.	My friends and I are very open about what we think about things.	Yes	No	DK
10.	My friends are sensitive to my personal needs.	Yes	No	DK
11.	My friends come to me for emotional support.	Yes	No	DK
12.	My friends are good at helping me solve problems.	Yes	No	DK
13.	I have a deep sharing relationship with a number of friends.	Yes	No	DK
14.	My friends get good ideas about how to do things or make things from me.	Yes	No	DK
15.	When I confide in friends, it makes me feel uncomfortable.	Yes	No	DK
16.	My friends seek me out for companionship.	Yes	No	DK
17.	I think that my friends feel that I'm good at helping them solve problems.	Yes	No	DK
18.	I don't have a relationship with a friend that is as intimate as other people's relationships with friends.	Yes	No	DK
19.	I've recently gotten a good idea about how to do something from a friend.	Yes	No	DK

20. I wish my friends were much different.	Yes	No	DK
21. My family gives me the moral support I need.	Yes	No	DK
22. I get good ideas about how to do things or make things from my family.	Yes	No	DK
23. Most other people are closer to their family than I am.	Yes	No	DK
24. When I confide in the members of my family who are closest to me, I get the idea that it makes them uncomfortable.	Yes	No	DK
25. My family enjoys hearing about what I think.	Yes	No	DK
26. Members of my family share many of my interests.	Yes	No	DK
27. Certain members of my family come to me when they have problems or need advice.	Yes	No	DK
28. I rely on my family for emotional support.	Yes	No	DK
29. There is a member of my family I could go to if I were just feeling down, without feeling funny about it later.	Yes	No	DK
30. My family and I are very open about what we think about things.	Yes	No	DK
31. My family is sensitive to my personal needs.	Yes	No	DK
32. Members of my family come to me for emotional support.	Yes	No	DK
33. Members of my family are good at helping me solve problems.	Yes	No	DK
34. I have a deep sharing relationship with a number of members of my family.	Yes	No	DK
35. Members of my family get good ideas about how to do things or make things from me.	Yes	No	DK
36. When I confide in members of my family, it makes me uncomfortable.	Yes	No	DK
37. Members of my family seek me out for companionship.	Yes	No	DK
38. I think that my family feels that I'm good at helping them solve problems.	Yes	No	DK
39. I don't have a relationship with a member of my family that is as intimate as other people's relationships with family members.	Yes	No	DK
40. I wish my family were much different.	Yes	No	DK

APPENDIX H

Post-Interaction Assessment

Post-Interaction Assessment

Directions: Think about the videotaped segment of your child that you just watched. Read the following statements about the behavior you just watched and circle the answer that best fits.

1. My child's behavior was due to

1	2	3	4	5	6
Something about the situation					Something about him/her (e.g., the type of person he/she is, his/her mood)

2. My child's behavior in the video I just watched was

1	2	3	4	5	6
Deliberate (he/she meant to do it)					Unintentional (he/she didn't mean to do it)

3. My child's behavior in the video I just watched

1	2	3	4	5	6
Does not affect other areas of our relationship					Affects other areas of our relationship

4. The reason my child behaved that way

1	2	3	4	5	6
Is not likely to change					Is likely to change

5. My child's behavior showed that he/she thinks mainly of

1	2	3	4	5	6
Others needs					His/her own needs

6. My child _____ for his/her behavior

1	2	3	4	5	6
Is to blame					Is not to blame

7. My child's behavior was

1	2	3	4	5	6
Uncontrollable					Under his/her control

8. My child's behavior was due more to

1	2	3	4	5	6
Personality characteristics					Situational characteristics

9. The information I was given prior to the interaction was

1	2	3	4	5	6
Helpful in answering these questions					Not helpful in answering these questions

10. When I saw my child act that way, I felt

1	2	3	4	5	6
I did not need to discipline my child					A strong need to discipline my child

11. When I saw my child act that way, I felt angry.

1	2	3	4	5	6
Strongly Disagree					Strongly Agree

12. When I saw my child act that way, I felt irritated.

1	2	3	4	5	6
Strongly Disagree					Strongly Agree

13. When I saw my child act that way, I felt annoyed.

1	2	3	4	5	6
Strongly Disagree					Strongly Agree

14. When I saw my child act that way, I felt ashamed.

1	2	3	4	5	6
Strongly Disagree					Strongly Agree

APPENDIX I

Parent Code

Behavioral Coding Manual

Parent Code

Revised Summer 2003
(6/03/03)

Table of Contents

DIRECTIVES

- When the parent gives a **verbal command** for the child to engage in any behavior it will be considered a directive.
- If the parent **reprimands** the child, it is considered a directive
- If the parent **shares information** with the child for the purpose of getting the child to do something or refrain from doing something, it is considered a directive.
- **Instructions**, or telling the child how to do something, are considered directives.
- Directives can be **explicit** (direct), such as "Pick up the toys."
- Directives can also be **implied**, as in questions, suggestions, or indirect commands that indicate what the parent wants the child to do, such as
  - "I need your help to do X (sort, clean, etc.)." (implied command)
  - "Will you pick up the toys?" (question)
  - "Let's pick up the toys." (suggestion)
- Some directives are accompanied by reasons and some are not.
- Directives **must be words**, not just sounds (e.g., shh!)
- **Directives are coded in reprimand situations and task phases only** (not coded in free-play phase unless parent is responding to child's misbehavior).
- **Directives coded in the free play phase** must be directed at specific misbehavior. Do not code as directives any commands pertaining to the child's play.

DIRECTIVES WITH REASONS

Directives with reasons (DR) are directives that include some information as to why the child should clean, sort, not touch forbidden objects, throw toys, etc. The reason can be explicit (e.g., The lady wants the toys picked up because we are done playing) or can be implied (e.g., You need to sort these toys so that they are in their own bins). If the reason does not follow the directive within 2 seconds, the directive will be coded as D and the reason will be coded as DR [e.g., You should clean up (D)…2.5 seconds…That is the nice thing to do (DR)].

DIRECTIVES WITH REASONS (DR), toys (t): The directive is targeted at the child picking up toys, not playing with the toys when it is time to clean up, or playing with the toys while the mother is occupied. Examples:

1. The lady/man wants the toys picked up because we are done playing.
2. Make sure the room is really clean because someone else will be coming soon.
3. Since you played with the toys, you need to help clean up.
4. The lady/man needs your help; she/he doesn't have time to clean up.
5. You really should clean up because that is what big boys/girls do.
6. You should clean up because it is the nice thing to do.
7. Please clean up because someone might step on the toys and hurt him or herself.
8. Don't play with the toys because we need to put them in their proper place.
9. Don't play with the toys now because it is time to clean up.
10. That toy needs to go in the bucket, it isn't yours.
11. You need to clean up because I/the lady/the man said so.

12. Put the toys in the bucket because now we're supposed to clean up.

DIRECTIVES WITH REASONS (DR), utensils (u): The directive is targeted at getting the child to sort the utensils. Examples:

1. The lady/man won't have time so you sort them for her.
2. Someone mixed these up and the lady/man wants your help sorting.
3. Please sort the spoons because you are a big boy/girl and can help.
4. The lady/man needs you to sort the spoons and put them in the right place.
5. Help sort because that would be the nice thing to do.
6. Help sort the utensils because they are in a big mess.
7. The lady/man wants you to sit and sort the spoons.
8. You should help sort because the lady/man needs your help.
9. You should sort so the lady/man can go on her/his picnic.
10. You keep sorting because the lady/man won't have time.

DIRECTIVES WITH REASONS (DR), forbidden objects (f): The directive involves the child touching a forbidden object. Examples:

1. You can't play with that because it is not a toy.
2. No, no. If you touch it, it might break.
3. You can't have any because the lady/man told us no.
4. Those cookies are for someone else, so don't touch.
5. You need to put that down because you might break it.
6. Don't touch because you would not want it to break.
7. You can't have any because they belong to the lady/man.
8. Those cookies are the lady's/man's snack so don't touch.
9. He/she said we can't have those.
10. That's a pretty, so don't touch.

DIRECTIVES WITH REASONS (DR), leaving the area (L): The directive involves the child leaving the area. Example:

1. Come back now, the lady/man said you need to stay over here.
2. Come back here, you're supposed to stay by me.
3. You're supposed to be on this side of the gate, the lady/man said so.

DIRECTIVES WITH REASONS (DR), other (O): The directive is targeted at behaviors other than touching toys, picking up, utensils, forbidden objects, or leaving the area. Example:

1. Don't throw because you might break something of the lady's/man's.
2. Mommy can't hear the phone when you're making noise.
3. Mommy's busy now, so I need you to be quiet.
4. We can't take those, they're not ours.

NOTE

Reasons must pertain to the directive, not refer to a different behavior

- "Put that (forbidden object) down, it's time to clean" would be coded as Df Dt
- "Come back now, the lady/man needs your help putting away the toys" would be Dl Dt

DIRECTIVES WITHOUT REASONS (D)

Directives without reasons (D) are directives that are given without a reason stated or implied.

DIRECTIVES WITHOUT REASONS (D), toys (t): During the task phases, the directive is targeted at the child picking up toys, not playing with the toys when it is time to clean up, or playing with the toys while the mother is occupied. (If the parent is modeling how to engage in a task and explains what they are doing as they model, be sure to code both the directive and modeling). Examples:

1. We have to put all the toys in this blue bucket.
2. You keep playing.
3. I pick up a toy and I put it in the bucket.
4. You are going to put all the toys in this blue bucket.
5. Now you pick up all the toys and put them in the bucket.
6. I told you to sit there and play.
7. Let's pick up the toys.
8. What else can you pick up?
9. It is not play time, it is time to clean up now.
10. Keep going. (stated as the child is picking up toys)
11. Now you try. (refers to picking up toys)
12. I need your help to put away these toys.
13. Please show me how you can pick up all of the toys.
14. You are not done yet, put all of the toys in the box.
15. You know how to pick up. Show mommy/daddy you can clean.
16. You keep cleaning, you need to clean.
17. Put that block here; Hand me that block (during free play, code as interaction).
18. Didn't I just tell you to put them up?
19. Come on! (said in a disapproving manner while child is supposed to be picking up, but isn't).
20. Jenny! (parent says the child's name in a disapproving manner while the child is supposed to be picking up the toys).

DIRECTIVES WITHOUT REASONS (D), utensil sorting (u): The directive is targeted at getting the child to sort the utensils. Examples:

1. This box has spoons in it all mixed up.
2. We have to put the big white spoons in the big white box and the little blue spoons in the little blue box. This is called sorting.

3. I sort the spoons by putting a big white spoon in the big white box, and a little blue spoon in the little blue box.
4. Now you try (referring to sorting).
5. Pay attention and sort the utensil in the box.
6. It's not play time, it's time to sort now.
7. Let me see you sort the spoons.
8. I want you to sort the spoons.
9. You need to work really hard and finish sorting.
10. Show me how you can sort the spoons.

DIRECTIVES WITHOUT REASONS (D), forbidden objects (f): The directive involves the child touching a forbidden object. Examples:

1. Don't touch these other things.
2. Leave that alone.
3. Jenny, don't touch. Mommy/daddy said that is a no-no.
4. Excuse me! (stated while child is touching a forbidden object)
5. Taylor, keep your hands off. That is a no-no.
6. You cannot have that, so please do not touch it.
7. They are no-no's, so don't touch; while we are here don't touch.
8. Jenny! (parent says the child's name in a very disapproving manner while the child is engaged in contact with forbidden objects; touching a forbidden object is a predefined misbehavior in a prohibitive task).
9. Those cookies are the man's/lady's so don't touch.
10. May include phrases such as Hey! If said in a disapproving manner.

DIRECTIVES WITHOUT REASONS (D), leaving the area (l): The directive involves the child leaving the area. The coding of some statements will depend on whether the child is in or out of the area (e.g., "come" is not a reprimand unless the child is out of the area, within the area it is coded as Pt). Examples:

1. I need you to stay in here (if the child is <u>out</u> of the area, otherwise code as Do).
2. Jenny! (parent says child's name in a disapproving manner while the child is out of the area).
3. Come here! (if the child is <u>out</u> of the area, otherwise code as Pt).
4. Come sit by me (if the child is <u>out</u> of the area, otherwise code as Pt).
5. Tommie, come back now. I want you to come back now (if the child is <u>out</u> of the area, otherwise code as Pt).

DIRECTIVES WITHOUT REASONS (D), other (o): The directive is targeted at <u>nonspecified misbehavior</u> (e.g., behavior other than touching forbidden objects, leaving the area, or refusing to pick up). Examples:

1. You better not throw while we are in here.
2. I want you to stay over here (child has not left the area; if out of area, code as Dl).
3. Let's sit down here; sit down by Daddy.

4. Stay in here (child has not left the area).
5. Give mommy/daddy back her/his keys.
6. No, I'm busy.
7. Sit down. NOTE: If parent says "come sit by me" and child has not left the area, code as Pt.
8. Sit right here; I want you to stand by me.
9. Wait! or Hold on!
10. Hey!
11. Jenny! (Said in a disapproving tone while child is engaging in nonspecified misbehavior).
12. Come on (said in disapproving tone).
13. Don't take Mommy's keys/pen/purse/etc.
14. No, we're not going to play with the car.
15. Don't touch the gate/blinds; leave the gate/blinds alone.

CODING DIRECTIVES

Carryovers: If a directive begins in one interval and carries over into the next interval, circle D in the first box and draw a line connecting the D in the first box to the D in the second box.

Multiple directives: Sometimes more than one directive is given in the same interval. Under the following circumstances they are to be coded separately:

1. More than 2 seconds occur between the last word of the first directive and the start of the repeated directive. (e.g., "Pick that up…(2.1 seconds)…Do it now" would be coded as 2 directives).
2. Another conversational element (prompt, interaction) occurs between the two directives (e.g., "Don't touch…good girl…don't touch" is coded as Df, Pr, Df).
3. If the directives are in response to two different behaviors, they are scored separately even if two seconds does not separate them:
   a. Don't touch that (Df). You need to pick up the toys (Dt)
   b. You need to come here (child has left area; Dl). It's time to clean up (Dt). [This may sound like a reason for coming back, but is not coded as such.]
   c. Don't touch that (touching forbidden object; Df). Don't touch that (touching baby gate; Do).

Up to three directives can be coded per interval. Do not code a 4th directive, even if it carries over.

Directive #1: Circle the D
Directive #2: Make a slash (/) through the D
Directive #3: Make a slash (\) through the D

If the child leaves the area **more than once, and the parent **responds to each with a directive**, score them as **different directives** in that interval even if there isn't a 2 second pause in between them. Example:

- Child steps across line out of area, steps back into area, then steps out again.
- Parent responds, "Jimmy, come back here" (1.5 seconds) "Jimmy!" in disapproving voice (Dl is coded twice)

If the parent gives **2 directives without a 2-second pause** in response to the child leaving the area **once**, record them as 1 directive. Example:

- Child steps across line out of area; parent responds, "Jimmy! (1 second) "Come back here." (Dl is coded once)

If the child touches more than one forbidden object, and the parent **responds to each with a directive, score them as **different directives** even if there isn't a 2 second pause in between them. Example:

- "Don't touch the fountain (1.5 seconds), put down the cookie." (Df is coded twice)

If the parent gives **2 directives without a 2-second pause** in response to the child touching one forbidden object, record them as 1 directive. Example:

- "Don't touch the fountain" (1 second) "Sally!" said in a disapproving tone. (Df coded once)

PROMPTS (Pt)

- There are two kinds of prompts: verbal and orientation. Both are scored as Pt.
- **Verbal** prompts are short verbal statements or questions to get the child's attention focused.
- **Orientation** prompts include brief physical contact (no more than 2 seconds) used to get the child's attention or some type of signal to orient the child.

Examples of **Verbal** prompts:

1. Child's name surrounded by a 2-second pause (if said in a disapproving tone, code as D).
2. Come here, come back, come over here (if the child is within the area, otherwise code as Dl).
3. Come sit/stand/stay by me (if the child is within the area, otherwise code as Dl).
4. Hey (if surrounded by a 2-second pause).
5. There (if surrounded by a 2-second pause).
6. Here (if surrounded by a 2-second pause).
7. See (if surrounded by a 2-second pause).
8. Watch me.
9. See all the toys on the floor/all the things on the tables.
10. Listen.
11. Excuse me [used for attention getting; not with disapproving tone (D) or to be polite (I)].
12. Look, look at me, look at this, look there, look at mommy, or Oh, look ("look" is almost always a prompt if it begins a sentence).

- Parents will sometimes say "Look at that" in response to something their child has built, but this is not considered a Pt because it is not being used to get the child's attention (coded as praise if said in positive tone of voice, or as interaction if in neutral tone).
- "Can you look at me" is coded as interaction.

Examples of **Orientation** prompts:

1. Mother snaps her fingers.
2. Mother signals "come here" with finger.
3. Tapping child on shoulder
4. Turning child toward task when child is not engaged in forbidden behavior
5. **Pointing** (with one finger or a pen/pencil) to focus the child's attention on a particular object(s).
6. **Pointing** at the child as a means of getting the child's attention.

**Verbal and nonverbal behaviors are coded separately unless both are prompts.
Example:

- Pointing to a toy and asking "What's this? during freeplay is coded as Pt and I.
- Pointing and saying "hand me that," is coded as Pt and D (if task phase or reprimand) or as Pt and I (if freeplay).
- Pointing to a group of toys and saying, "put these (points at toys) in here (points at bucket)" is coded as Pt and M
- "See" while pointing to an object is coded as one Pt (e.g., parent says, " see all the toys on the floor" while pointing at toys).

Prompts do not include

1. Any physical touch lasting more than 2 seconds, which is coded as a physical prompt (if reprimand situation) or as interaction.
2. Pointing to show where to put something, how to do something, or where the child should sit (M).
3. Any physical touch when the child is engaging in forbidden behavior, such as leaving the area, touching forbidden objects, throwing toys, etc (PP).
4. Bringing the child back to the area (PP).
5. Waving hand in general direction of an object (not coded).
6. Holding up an object while asking about it (e.g., see this block? would be coded as I).

CODING PROMPTS

Carryovers: If a prompt begins in one interval and carries over into the next interval, circle Pt in the first box and draw a line connecting the Pt in the first box to the Pt in the second box.

Multiple prompts: Sometimes more than one prompt is given in the same interval. Under the following circumstances they are to be coded separately:

1. More than 2 seconds occur between the last word of the first prompt and the start of the repeated prompt. (e.g., "Look at me…(2.1 seconds)…Look at Mommy" would be coded as 2 prompts).
2. Another conversational element (directive, interaction) occurs between the two prompts (e.g., "Look at me…it's time to clean…look at Mommy" would be coded as prompt, directive, prompt).
3. Parent points at multiple objects in the same interval, even if 2 seconds do not occur between points [e.g., Parent points to each forbidden object while stating, "Don't touch the lamp (point), don't touch the cookies (point), don't touch the fountain (point) would be coded as three prompts and three directives].

Up to three prompts can be coded per interval. Do not code a 4th prompt, even if it carries over.

Prompt #1: Circle the Pt
Prompt #2: Make a slash (/) through the Pt
Prompt #3: Make a slash (\) through the Pt

Do not code two prompts in cases where there is a simultaneous verbal and nonverbal prompt (just code one prompt).

PHYSICAL PROMPTS (PP)

- Physical contact during a reprimand situation is coded as a physical prompt.
- A reprimand situation occurs when a child leaves the area, engages in a behavior that the parent has forbidden, or ignores the parent's directives.

Examples of **physical prompts**:

1. Pulling a child way from the baby gate to keep them from leaving the area.
2. Carrying or guiding the child back into the area.
3. Spanking.
4. Putting a child's shoe back on after having told the child not to take it off.
5. Taking a set of keys away from the child after telling the child not to touch.
6. Taking a child out of a chair he/she had been told not to sit in.
7. Parent pulls child away from a forbidden object or touches the child to pry the object away from him/her.

CODING PHYSICAL PROMPTS

Carryovers: If a physical prompt begins in one interval and carries over into the next interval, circle PP in the first box and draw a line connecting the PP in the first box to the PP in the second box.

Multiple prompts: Sometimes more than one physical prompt occurs in an interval. Under the following circumstances they are to be coded separately:

1. More than 2 seconds occur between the end of the first physical prompt and the start of the repeated prompt. [e.g., "No, no, Mommy said to come over

here (guiding child away from gate)…2.5 seconds…no, no, come here" (guiding again) would be coded as 2 physical prompts].
2. The physical prompts are given for different behaviors [e.g., "Don't take Mommy's keys" (Mom pries keys out of hand) …child climbs on chair 1 second later…"No, don't climb on the chair" (Mom lifts child off chair)].
3. Another conversational element (directive, interaction) occurs between the two prompts (e.g., Mom trying to pry toy from child, letting go and stating, "it's time to clean," trying again to pry toy out of child's hand would be coded as physical prompt, directive, physical prompt).

Up to three physical prompts can be coded per interval. Do not code a 4th physical prompt, even if it carries over.
Prompt #1: Circle the PP
Prompt #2: Make a slash (/) through the PP
Prompt #3: Make a slash (\) through the PP

MODELING (M)

- Modeling is coded when the parent shows the child what to do or helps the child in the task.
- Modeling is **nonverbal** behavior only.
- Modeling occurs in **task phases only** (not in free play).

Examples of **modeling**:
1. Showing the child how to clean up.
2. Handing the child a toy during clean up time.
3. Pointing to where to put the toys/utensils (any time the mother is pointing to show the child how or where to do something, it's M).
4. Moving the toys or bins toward the child in a task-related manner.
5. Helping the child pull apart the blocks so that he/she can put them in the bucket.
6. Patting the floor to show the child where to sit.
7. Any time the parent shows the child how or where to do something.

CODING MODELING

- M is circled only **once per interval** and **does not carry over**.
- If modeling occurs on the interval change, just circle M in both intervals.

Do not code modeling when:
1. At the very beginning the phase the parent moves the bucket of toys or utensils to position it for the beginning of the task.
2. The parent puts the bin in place to begin the clean-up task (this is not coded).
3. During free play, the parent pulls apart the blocks or moves the bucket.
4. The parent is pointing in order to call the child's attention to something (e.g., toy, object; this is coded as Pt).
5. The parent shows the child how to put a toy together (this is coded as I)

Any time the parent shows the child **how or where to do something, code M. Any time the parent shows the child **what** something is, code Pt.

PRAISE (Pr)

- Praise is a statement of approval in response to the child's behavior.
- It is usually recognizable by the positive tone of voice.
- It may include verbal and nonverbal behavior.

Examples of **verbal praise**:

1. Good boy/girl.
2. I like the way you are picking up the toys.
3. There you go!
4. Excellent!
5. You have good ideas.
6. That looks like a good idea.
7. You've got it!
8. You're doing so well.
9. Wow! (said in response to something the child has done, not to something in the room)
10. You're doing such a good job cleaning/sorting/being quiet.
11. Terrific!
12. You're such a good boy/girl.
13. That's great!
14. Any positive verbal feedback.
15. That's right, that's correct, alright, thank you, look at that (if said in an **extremely positive tone of voice**; if said in a neutral voice, code as I).

Examples of **nonverbal praise**:

- The ONLY non-verbal coded as Pr is clapping. Code smiling, laughing, thumbs up, etc. as I.

CODING PRAISE (Pr)

- Pr is circled only **once per interval** and **does not carry over**.
- If praise occurs on the interval change, just circle Pr in both intervals.

DO NOT code as praise any statements said in a neutral tone of voice and given for information purposes (e.g., child asks if the toys go in the bucket and the mother says, "yes, that's right.")

INTERACTION (I)

- There are two types of interaction: verbal and nonverbal.

- **Verbal interaction** is any parental comment or statement other than that which has been defined as directive, praise, modeling, or prompt.
  - This is generally in the form of chatting, asking questions, making suggestions or statements about what to play with or build, offering information, and narrating the child's play, all of which is not related to completing any task specified during a task phase (e.g., playing while parent is occupied, sorting, picking up toys).
  - Interaction also includes the parent directing the child's play or testing the child's knowledge. Includes specific questions, directives given in question format, or statements that direct play.
- **Nonverbal interaction** includes affectionate gestures (e.g., patting child's head, holding child's hand, having child sit in mom's lap), which are **initiated by the parent**. During free play, this also includes handing the child a toy, building on the same structure, and driving cars simultaneously (meaning the same car) with the child. The parent building his or her own structure, just holding a toy, or driving a car by him or herself is not coded.

Examples of **Verbal Interaction:**

1. Daddy/mommy has to fill out some forms now and can't talk.
2. We have some things to do in here now.
3. I'm going to show you some toys/utensils.
4. A reply to a child's question, such as "What's that?" answered by "A car."
5. It will be fun.
6. I need to fill out these forms
7. That doesn't fit.
8. Now you're putting the man in the truck.
9. I'm almost through.
10. What are we going to do now? What should we build? What else do you want to build?
11. Yes, that's right or alright (said in neutral tone of voice for information purposes).
12. That is a block.
13. That's a neat toy you have.
14. I want to show you something.
15. I finished this page so I only have a few left to finish.
16. Yeah.
17. Oh.
18. Let's see or Let's see here.
19. Show me.
20. Come on (stated during free play; if said with disapproving tone, code as Dt, Du, or Do)
21. Please (surrounded by a 2-second pause)
22. I need to make a phone call.
23. OK.
24. Sorry.
25. Let's play.
26. There, see, she fits best.
27. The room is such a mess.

28. There are lots of different toys on the floor.
29. We'll be going home in a while.
30. We'll talk about that later.
31. Do you like these blocks?
32. Do you want to play with the cars or the blocks?
33. Do you want me to help you?
34. During free play, handing the child a toy and saying "here's a _____."
35. What color is this?
36. Let's play with this car now.
37. Can you go get that block for mommy/daddy? or Hand me that (stated during task phase, code as Dt or Du).
38. What's this? or What's that?
39. Maybe the dog could drive the car (or any other statement the parent makes that directs the child's play)
40. We have these at home, don't we?

Coding **physical contact**:

- If physical contact occurs during a reprimand situation (e.g., leaving the area, touching forbidden objects) it is coded as PP.
- If physical contact occurs when the parent is orienting the child to a task, it is coded as Pt.
- All other physical contact initiated by the parent is coded as I.

CODING INTERACTION (I)

- I is circled only **once per interval** and **does not carry over**.
- If interaction occurs on the interval change, just circle I in both intervals.

- **Do not code I** if the child initiates the touching behavior (e.g., child taps parent on the shoulder, or throws him or herself on parent's lap during a tantrum, etc.). If, after the child sits in the parent's lap or initiates contact, the parent reciprocates with some kind of touching behavior that meets the criteria for non-verbal interaction, code I at that time.

NEGATIVE AFFECT (NA)

- Includes all nonverbal behaviors (e.g., gestures, facial expression) that are unpleasant or aversive.
- Also includes vocal quality that indicates the parent is angry, frustrated, or annoyed.

Examples of **Negative Affect**:

1. Threatening gestures (e.g., wagging finger, raising hand as if to slap)
2. Negative facial expression
3. Expressed anger (e.g., yelling)
4. Irritability (e.g., "Stop that right now!" "I said be quiet!" in a loud voice, in the context of frustration).

5. Raising voice (e.g., "Don't touch that!")
6. Critical or negative comments
7. Spanking or slapping
8. Grabbing or pulling arm or other body part (e.g., pulling child away from forbidden object saying "Let go of that!")
9. Yanking, pulling, or pushing
10. Speaking through clenched teeth

CODING NEGATIVE AFFECT

- NA is circled only **once per interval** and **does not carry over**.
- If negative affect occurs on the interval change, just circle NA in both intervals.
- **Negative affect can be coded during all phases**

Do not code NA when the mother is:

1. Pushing the child away without discernible force and unaccompanied by yelling or angry facial expression.
2. Pulling away from the child.
3. Talking loudly or firmly. This is distinguished from negative affect by the absence of an angry, sharp, or harsh quality. Mothers may say "no" to their child without exhibiting negative affect.

NONE OF THE ABOVE

If nothing occurs in an interval that meets coding criteria, cross out the interval by drawing a slash through the interval box. Examples include the parent filling out forms while the child works or watching the child without doing or saying anything.

GENERAL RULES

1. **Partial statements** may be coded under a few instances. "Can you…" (I). "Don't…" (Do). "You need to…" (Do).
2. **Sounds** such as hmmm, oooo, shhhh, are NOT coded.
3. If you cannot determine if a **2-second pause** exists, assume that it does **NOT**. You should watch the interval several times and pay close attention to the tenths of a second position on the timer before making this call (e.g., if a behavior happens at around 5:30:34, look for the timer to go to 5:32:40 before coding a 2-second pause).
4. If it appears a behavior has occurred on the **interval change** but it is too close to call, assume it did occur in both intervals (M, Pr, I, NA) or carried over (Pt, PP, D) and code accordingly.
5. In the **free play phase** you **do not code** any Dt, Du, DRt, or DRu. If behaviors occur during free play that are considered Dt, Du, DRt, or Dru, these will be coded as I. Other directives (leaving the area, forbidden objects, or other) may be coded during this phase.
6. When **verbal and non-verbal behaviors occur simultaneously**, code each behavior independently (except in the case of verbal and nonverbal prompts). In other words

sometimes what the parent says gets one code, and what they are doing gets another, even though the behaviors occurred at the same point in time.

CODING SUMMARY

1. First watch the interval through.

2. Watch again and code verbal behavior for that interval.

3. Watch again and code non-verbal behavior for that interval.

4. Watch again and check for carryovers and behaviors that occur on the interval change.

5. Modeling, Praise, Interaction, and Negative Affect are only coded ONCE per interval and DO NOT CARRYOVER.

6. Directives, Physical Prompts, and Prompts can be coded UP TO THREE TIMES per interval and can also CARRYOVER.

7. For those behaviors that can be coded multiple times, ensure that you have adhered to the multiple instances rules (separated by a 2-second pause, directed to different behaviors, or separated by a behavior from another category).

8. **DEFAULT RULE**: If you cannot tell if a 2-second pause exists, assume that it DID NOT and record a single instance of the behavior (directive, prompt, or physical prompt)

APPENDIX J

Child Code

Behavioral Coding Manual

Child Code

Revised Summer 2003

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Forbidden Objects (FO)

- The child is forbidden to play with certain objects.
- Forbidden objects include the plate of cookies, typewriter, and other items to be specified later.
- The above objects are the only objects considered forbidden.
- Each object has a 6-inch halo around it, which the child is not allowed to violate.
- The child needs to be oriented toward the object and have his/her hand within 6 inches of the object to "violate FO space."
- FO can still be coded if the child is reaching or pointing at the object but is not oriented to the object (e.g., looking at mom).

Coding Forbidden Objects

1. The child comes within 6 inches of a FO for any length of time.
   - Violation of FO space can occur with any part of the body as long as the child is facing the object and his/her hand is within 6 inches of the object.
   - Violation of FO space can occur if the child's hand is within 6 inches of the FO and the child is pointing or reaching for the object, but not facing the object.
   - ***Exception:*** If the child is steadying him/herself on the table, the 6-inch rule does not apply.
2. The child comes within 6 inches of a forbidden object with another object, ***excluding*** accidental brushes or near brushes of objects with other objects.
   - For example, if he/she comes within 6 inches of the typewriter with a toy, code FO.
   - If the child is swinging a toy around and it happens to come within 6 inches of the mobile, do not code FO.
3. If a child picks up a FO, even if told by the mother, code as FO.
4. Continue coding FO until the child's hand is no longer within 6 inches of the FO. For example, continue coding until the child releases or puts down the FO, until it is take away by the mother, or until the cookie is fully eaten.
5. Do not code FO if a child accidentally brushes up against a FO with some part of his/her body other than the hand (e.g., accidentally getting tangled in the mobile).

Carryovers

If a FO begins in one interval and carries over into the next interval, code it in both intervals, regardless of the length of time FO occurred in either interval. To do this, circle FO in the first interval and draw a line connecting it to the FO in the second interval. Only circle the symbol in the first interval in which it occurs. If FO occurs right on the interval change, code it in both intervals.

- If the second or third instance of FO carries over into the next interval, DO NOT automatically circle FO in the next interval. Draw a line connecting the slash or X from the first interval to the uncircled FO in the second interval.

Multiple Forbidden Objects
Often the child will touch the FOs several times or will touch different FOs while over at the tables. Up to three instances of FO can be coded in one interval. Circle FO as usual for the first instance, then draw a slash in the circle for the second instance. If a third instance occurs, make another slash to form an X in the circle.

- Forbidden Object #1: Circle the FO
- Forbidden Object #2: Make a slash (/) through the FO
- Forbidden Object #3: Make a slash (\) through the FO
- If more than 3 instances occur in any interval, ignore the FO's after the third one.

Code multiple instances when:
1. The child comes within 6 inches of a FO, stops engaging in FO behavior for more than 2 seconds, then comes within 6 inches of the same FO.
2. The child touches two or more different FOs in the same interval (even with a 2-second pause between touching the two objects).

Note: If two forbidden objects are within 6 inches of each other (e.g., the cookies and typewriter), the child is not automatically coded for two FOs. **Code FO only for the forbidden object to which the child is <u>closest</u> to touching in any one instance of FO behavior.**

Summary
Only code multiple instances of FO if the child comes within 6 inches of the FO, then comes within 6 inches of another FO, or when more than 2 seconds separate violations of FO space. Continue coding FO until the child's hand is no longer within 6 inches of the forbidden object.

Blocked view
When a child's body is blocking your view of the FO (e.g., the child is standing in front of the table where the cookies are):

- If you can see both movement in the child's arm, shoulder, or back, and hear the child touch the FO, code FO.
- If you cannot tell when the child first comes within 6 inches of the FO, do not code it until you can see that it has actually occurred (even if the mother reprimands the child before you see the child come within 6 inches of it).
- If you see a child pick up a FO and then he/she moves so you cannot see him/her with the FO, code FO until you establish that they've stopped touching it.

<u>Leaving the Area (LA)</u>

Leaving the area occurs when the child leaves the area marked off by the baby gate and tape.

Leaving the area is coded:

- When the child leaves the designated area (i.e., the area marked off by the gate and tape on the floor.)

- The child must be 2/3 out of the area to be coded. Examples include: both legs, midway from chest up, or knees down being outside the area.
- If the child is out of view at the beginning of phase, code LA until he/she is back on camera.

Coding Leaving the Area

1. A child wanders out of the area and is not cleaning or sorting.
2. If the child carried a forbidden object with him/her, continue coding FO also.
3. Continue coding LA until the child returns to the designated area.
4. If the child wanders off screen with a toy that he/she is picking up, do not code PA.
5. LA can be coded during all phases.

Carryovers:
Like FO, carryovers are noted by drawing a line from the circled LA in one interval to the LA in the next. Again, you need only circle the symbol in the first interval for a carryover behavior.

Multiple Instances of LA:
Like FO, multiple instances of LA in one interval are indicated by circling LA on the coding sheet for the first instance, then putting a slash through LA on the second instance, and making an X through LA on the third instance.

- Multiple instances may be coded if there is a two second separation between the time the child re-enters and area and leaves the area.

Toy Contact (TC)

- Toy contact is coded when the child is playing with the toys instead of completing the assigned task.
- Toy contact is for the toy clean-up and utensil sorting phases only.

Coding Toy Contact

1. Code when the child touches or plays with the toys in a manner inconsistent with task goals (this also includes kicking the toys). For example, the child plays with the dump truck rather than putting it in the bin. *This does not include incidental contact with toys by the feet, or accidental brushes with toys.*
2. If the child picks up a toy and holds it in her/his hand for *longer than 3 seconds,* it is consider TC.
   - For example, TC would be if a child walks over, sits down, drives the dump truck in circles, picks up some blocks, looks at them, puts them down, and then drives the dump truck some more.

Do not Code TC:

1. If a child is dissembling blocks or attempting to dissemble for the purposes of cleaning up and not playing, it is not TC.

- For example, pulling apart two blocks and then placing them in the bin. (You may need to watch a minute to decide whether or not they are dissembling blocks for the purpose of cleaning up.) Once the child has dissembled the blocks he/she has *ten (10) seconds* to put at least one of the blocks in the bin.

2. If the child is moving toward the bin or is in the process of getting toys to the bin and it takes longer than three (3) seconds, do not code TC.
   - For example, the child walks over to the block, kneels down, picks it up, stands up, walks over to the bin, holds the block over the bin, and then drops it in. All of which takes 15 seconds. (This whole process is PA.)
3. When a child is finished with their assigned task, draw a square around that interval and record the time in which they finished under the interval.

Multiple Instances:
If TC begins in one interval and extends to another interval, code it in both intervals, regardless of the length of time TC occurred in either interval. To do this, circle TC in both intervals. *If TC occurs right on the interval change, code TC in both intervals.*

Blocked View
When a child's body is blocking your view of the TC:
- Code TC if you can see *both movement in the child's arm, shoulder, or back, and hear the child touch the toy.*
- If you cannot tell when the child first begins TC, do not code it until you can see that it has actually occurred (even if the mother reprimands the child before you see the child come in contact with it.)

Appropriate Play (AP)

- This is when the child is playing appropriately during freeplay or other phase. Appropriate play is defined as when the child is playing with the toys in an appropriate manner.

Coding Appropriate Play:
- Child is holding a toy while standing, sitting, lying down, or walking.
- Sitting, standing, or lying on the toys.
- Showing a toy to the mother.
- Putting a toy in her/her mouth.
- Playing with toys with his/her feet
- Commenting on a book the parent is reading to the child is AP

Blocked View
- Must be able to hear the child playing with the toy and/or see some sort of movement in the child's back, shoulder, or are to code AP.

Do not Code Appropriate Play:
1. When the child is out of the area

2. When the child is yelling at the mom or throwing a fit (NA)
3. Sitting by the toys but is not playing with them.
4. Walking over the toys on the way to another activity.
5. Simply making noise (without toy contact).
6. Throwing or kicking toys in anger (NA).
7. Pushing or brushing toys across the floor in anger (NA).
8. Is handed a toy by the mother but pushes it away without handling the toy.
9. Sitting in or playing with the chair, or other non-toys (e.g., the blinds) while NOT holding a toy.
10. Carrying a toy when engaging in FO or LA (e.g., AP is not scored until the child returns to the play after LA).
11. Looking at a book without touching.
12. Tantrumming, whining or any NA while playing with the toys. (NA always overrides AP. They cannot be coded simultaneously.

Picking Up Appropriately (PA)

- This is when the child is complying with instructions in the Toy Clean-Up Phase and picking up his/her toys.

Coding Picking Up Appropriately:

1. The child is actively involved in picking up toys.
2. The child is putting toys away (they are in hand for less than 3 seconds).
3. The child and mother are putting away a toy together.
4. The child is dissembling blocks for the purpose of cleaning up.
5. The child must put one of the blocks in the bin *within 10 seconds* of the time he/she finished taking them apart to count as PA.
6. *If the child is crying, tantrumming, yelling, or screaming while picking up but is not being aggressive with the toys, code PA and NA.*
7. When the child is finished with their assigned task, draw a square around that interval and record the time in which he/she finished under the interval.

Do not code PA when:

1. The child is playing with toys.
2. The child is playing with the bin.
3. The child is playing with the toys inside the bin.
4. The child is sitting by the toys but is not putting them away.
5. The child's mother is putting the toys away, and the child is only watching.
6. If the child picks up a toy and angrily (with force, aggression) throws it into the bin, NA and not PA is coded. Notice that the key here is that the child has used aggression with the toys.
7. A child picks up a toy and holds it in his/her hand for longer than 3 seconds, other than for the purpose of dissembling.

Multiple Instances
Just as in TC, if PA begins in one interval, and extends to another interval, code it in both intervals, regardless of the length of time PA occurred in either interval. To do this, circle PA in both intervals. If *PA occurs right on the interval change, code PA in both intervals.*

Sorting Appropriately (SO)

- When the child is complying with the Sorting Toy Phase and is sorting blocks and action figures in the correct bins.

Coding Sorting Appropriately

1. The child is actively involved in sorting the appropriate toys in the appropriate bins. (Blocks in the blue bin and action figures (including vehicles) in the white bin.)
2. The child is in the process of moving toward the bin with a toy. For example, the child may be leaving to retrieve a toy that is separated from the rest on the other side of the room.
3. The child is holding a single toy for less than 3 seconds.
4. The child and mother are sorting together.
5. The child accidentally puts a toy in the wrong bin but corrects the mistake before moving on.
6. If the child makes a mistake, moves on, and corrects the mistake later, code SO when the mistake is corrected.
7. The child is picking out spoons and forks (or block and figures if applicable) into his/her hand, which he/she then puts in the appropriate basket.
8. When a child is finished with his/her assigned task, draw a square around that interval and record the time in which he/she finished under the interval.

Do Not Code SO when:

1. The child is playing with the utensils (or toys) or putting them in the wrong bins.
2. The child is playing with the bin.
3. The child is sitting by the utensils (or toys) but is not sorting.
4. The child's mother is sorting, and the child is only watching.
5. The child picks up a utensil (or toy) and throws it. Note – if child is tossing items into bins code SO.
6. The child picks up a single utensil (or toy) and holds it in his/her hand for longer than 3 seconds. Do not penalize the child for putting several items in his/her hand before putting them into the bin, this is SO.
7. If the child is *tantrumming, crying, or yelling while sorting, this is SO and NA.*

Multiple Instances
If SO begins in one interval and extends to another interval, code it in both intervals, regardless of the length of time SO occurred in either interval. To do this, circle SO in both intervals. *If SO occurs right on the interval change, code SO only in both intervals.*

Solicitation for Mother's Attention

- Verbal solicitations for mother's attention (SA) are coded when the child makes spoken attempts to gain mother's attention.
- Nonverbal solicitations for mother's attention are coded when the child makes a non-verbal attempt to gain mother's attention (e.g., tapping on shoulder, etc.).

Code Solicitation for Attention when child is:

1. Asking the mother questions.
2. Telling her to do something. (you sort the blocks; I want you to help).
3. Making a request for something (I want a cookie: I want to go in the other room
4. Calling her name. "Mommy, Mommy."
5. Drawing her attention to what he/she has done ("Mommy I sorted them all").
6. Giving a command, "You build the tower,"

Examples of SA:

1. "Mama, help me"
2. "look"
3. "There"
4. "Here"
5. "See"
6. "Can I have one," "Can I play with that,"
7. "Mama, what's that?" (pointing to something)
8. "Mama, I'm done,"
9. "Look, Mom, I'm doing it,"
10. "Mommy, can I draw?"

Nonverbal solicitations include:

1. The child crawling into the mother's lap, or trying to crawl into her chair.
2. Child leaning against mother while the mother is filling out forms
3. Child patting mother's arm, hand or leg, kissing the mom, hugging the mom, or other affectionate gestures.
4. Grabbing mother's clipboard or pen.
5. Child throwing toys toward the mother. (Also code NA and AG).
6. Child engages in "pick me up" behavior (reaches arms out and whines and says "up."
7. Child points to an FO or toy, makes a sound, and looks at the mother. If child does not look in the mother's direction, but just points and names an FO, do not code SA.
8. Crying at the mother (i.e. in her face). For example child put his/her face directly in front of the mother's and cries.
9. Child touching the mother with an object (e.g., driving car on her leg).

Do Not Code SA:

1. When the mother initiates contact. For example, when the mother places the child in her lap.
2. DO NOT code SA if what the child is saying falls into any other category.

3. If the child is talking to him or herself. For example, child is talking about what he is building but not drawing mother's attention to the object.
4. If the mother and child are mutually engaging in conversation.

Miscellaneous:

- Stop coding SA when the mother responds to the child's SA and picks up the child or talks to the child and the child ceases to display the SA behavior. If the child initiates a new SA or continues the same SA even after the mother responds, continue coding SA.
- SA and NA can be coded together (and often are). One does not override the other. For example, the child says, "Mommy, I want to go in the other room," in a whiny voice.

Negative Affect (NA)

- Includes all behaviors, verbal and nonverbal, that are unpleasant or aversive. NA can occur in the context of misbehavior, play, or interaction with the mother, or it can just be happening on its own.
  - Examples include:
    - Whining
    - Crying
    - Sobbing
    - Tantruming
    - Screaming
    - Grunting
    - Yelling
    - Making negative comments (e.g., "I'm mad at you!")

- Also includes all physical activities that appear intended to inflict pain or damage
  - Examples:
    - Hitting
    - Kicking
    - Biting
    - Throwing objects
    - Slapping

- **NA behaviors can be coded during all phases**

Whining

Some children become whiny and distressed. It is a good idea to listen to a portion of the tape before coding NA (whiny) to get a good feel for variations in the child's affective style (so you'll know when the child is whiny and when s/he is not). *Whining is usually clear if the child is upset or angry,* and it should be coded as NA. Whining when the child is frustrated (e.g., trying to fit in a puzzle piece) is also NA.

Examples of NA:

1. "Mommy, I want to play with the toys!" (In a nasal voice, more highly pitched than usual; has a siren-like quality)
2. "You stop it mommy:"
3. (Whines, grunts) "Uh, I can't do it...
4. "Stop that Mommy," The child tells the mother to stop filling out questionnaires. This is a negative command.
5. "I can't," in a whiny voice, in the context of frustration.
6. "I want a cookie," in a whiny voice.
7. "I want to go in the other room" in a whiny voice.
8. "I don't wanna" in a whiny voice.
9. "No, no, no." Outbursts while playing with the toys.

Saying "NO"

Code NA for all verbal defiance – when child says "no" in response to a command, directive, or direct request from the mother. It is important to be able to distinguish the mother's conversational questions from commands, as many mothers state their commands in the form of a question. For example, "Why don't you play with the rings?", followed by a "no" would be coded NA (defiance) if immediate compliance were expected and if it were not just a conversational suggestion. Often the mother's tone of will help distinguish a command from a conversation, and you will be able to determine whether to code "no" as NA.

Do not code NA when the child is:

4. Pushing the mother away without discernible force and unaccompanied by yelling, whining, or other NA behaviors.
5. Pulling away from mother. Or Squirming to get out of the mother's lap.
6. Tossing, throwing toys, or other objects without discernible force, in other words, tossing playfully. Any throwing at the mother or with force is NA and AG.
7. Talking loudly. This is distinguished from screaming by the absence of a shrill quality.
8. Pulling at the mother's clipboard.
9. "No." as in "There are not blocks here, mommy." (answering her question, not defiant or whiny)
10. Banging two or more toys or other objects together. This is virtually always appropriate play (the child is allowed to make noise while playing).

Carryovers

If NA begins in one interval and carries over into the next interval, code it in both intervals, regardless of the length of time NA occurred in either interval. To do this, circle NA in the first interval and draw a line connecting it to the NA in the second interval. Only circle the symbol in the first interval in which it occurs. If NA occurs right on the interval change, code it in both intervals.

- If the second or third instance of NA carries over into the next interval, DO NOT automatically circle NA in the next interval. Draw a line connecting the slash or X from the first interval to the uncircled NA in the second interval.

Multiple Instances of Negative Affect

Coding multiple instances in the child code is the same as the Directives in the Parent Code. Circle NA as usual for the first instance, then draw a slash in the circle for the second instance. If a third instance occurs, make another slash to form an X in the circle.

- Negative affect #1: Circle the NA
- Negative affect #2: Make a slash (/) through the NA
- Negative affect #3: Make a slash (\) through the NA
- If more than 3 instances occur in any interval, ignore the NA's after the third one.

None of the Above

Cross out the interval by drawing a diagonal slash through the interval box when:

- None of the above behaviors occur. The child may sometimes engage in behaviors that have no definition under the code. Examples include: the child sitting in, playing with or moving the small chair; singing to her/himself; playing with the curtain; blowing his/her nose; climbing on things.
- You cannot understand what the child is saying (e.g., child is babbling) or you can't see the child. Off-camera behavior can be coded (LA and/or FO which began before the child went off the camera, also verbal SA, and verbal NA). Nonverbal NA or SA are not codable when the child is off-camera (the mother tells the child to stop kicking the cabinet, you can hear noise, but you can't see the child actually kicking the cabinet so you can't tell if the child is angry or upset).

APPENDIX K

Protocol

Protocol for Attribution Study

1. Set up anteroom toys and chairs. The purple bucket should have Mr. Potatohead and the blue bucket should have blocks, figures, and vehicles.

2. Insert battery in bug-in-the-ear, check that it's working, and sterilize with alcohol (in cabinet).

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

4. Label the videotape with subject number, insert tape and record subject number, date, and study title.

5. Set up clipboards. Examiner clipboard should have consent form, protocol, manipulation script, portion of demographic questionnaire, 2 Post-Interaction Assessment questionnaires, debriefing questionnaire, and pen. Subject clipboard should have ECBI, PS, PSI-SF, PSOC, and pen.

6. Set up lab with telephone, clipboard with PSSS and demographic questionnaire, and pen. The toys and forbidden objects (i.e., fountain, fiber optic lamp, typewriter, plate of cookies, and lava container) should be hidden from view, as the room will first be used to administer PPVT.

Subject Arrives

7. Bring mother and child into anteroom. Introduce research assistant and direct child to toys on shelf.

8. Explanatory statement:

"There will be one phase in our study with different instructions given at different points. You and your child will be together in the same room equipped with toys. We will be videotaping the interaction for study later. You and I will view two brief portions before you leave and I will ask you some questions. The purpose of the study is to learn about how mothers interact with their children and react to different child behaviors, not to evaluate your child. Everything is confidential, and your name will not be attached to the videotapes or questionnaires. Are you willing to participate?"

9. Give the mother the consent form to read and sign, answer questions, and tell her she will get a copy.

10. Give the mother the clipboard with the ECBI, PS, PSI-SF, and PSOC.

11. Take the child into the room to administer the PPVT-III.

12. Have the research assistant assist with setting up forbidden objects and toys. Take whatever questionnaires the mother has completed (must at least have ECBI and PSI).

Inform mother that you will score the ones she has completed. Take them to 225 for several minutes.

13. When the mother has completed last questionnaire, offer her a brief break to take the child to the restroom.

14. When the mother and child return from the break, demonstrate the bug-in-the-ear device as a means of communication while she is in the next room.

15. Give the mother the "feedback" (read the script for the experimental condition to which she has been assigned.

Interaction Task

1. Explanatory statement:

"We want to observe you and your child playing together. You will go in and sit on the floor to play. You may suggest things to play with (e.g., let's build something with the blocks). Just play together and interact as you normally do at home. I will instruct you to tell your child to stay within the enclosed area and not to touch the objects on the tables. Please do not move any forbidden objects out of the child's reach. You will play together for 5 minutes, then I will instruct you to pick up the telephone on the table as if to make a phone call. You will tell _____ to play alone quietly while you talk on the phone. I will ask you questions from a questionnaire for 10 minutes. I will let you know when to hang up, at which point you will sit at the table to complete the questionnaires on the table for 10 minutes. If you finish the questionnaires before the time is up, there are magazines on the table. Please do not play with your child or hold your child on your lap during the phone or questionnaire tasks. Then I will cue you to you tell _____ to pick up the toys he/she was playing with and sort them into two plastic buckets. I will ask you to try to get _____ started picking up without your help, and I'll let you know when you may help him/her. Throughout all of this, please interact with _____ as you normally do and use whatever means you normally would to get your child to clean up. This phase will last a total of 35 minutes."

2. Turn on monitor and test bug-in-ear.

3. Direct mother and child into room. Ask them to wait outside gate until camera is running and they are cued to begin.

4. Start camera, reset timer, cue mother and child to enter area, and shut door.

5. Cue mother to tell child not to touch the objects on the tables or to go past the gate. Tell mother to sit on the floor and begin to play with the toys.

6. Monitor interaction for child noncompliance and negative affect. Record the time that misbehavior or noncompliance occurs. Segments should be chosen to begin with a directive from the mother and end with the child's noncompliance, negative affect, or both.

7. At 5-minute point, call into the room and administer a portion of the questionnaire. Continue to monitor child for noncompliance and negative affect.

8. At 15-minute point, cue mother to hang up the phone, then to begin filling out questionnaires.

9. At 25-minute point, cue mother to direct child to pick up and sort toys. Cue mother to say, "It is time to clean up the toys. You need to sort them into these two buckets. Blocks and figures go in the blue bucket and Mr. Potatohead goes in the purple bucket. Make sure you put the right toys in the right buckets." Continue to monitor child for noncompliance and negative affect.

10. Inform mother that can keep an eye on the child and do whatever she normally does to get child to clean up, but not to help the child until told to do so.

11. At 29-minute point, cue mother to help the child pick up if she wishes to do so. Inform mother that if child finishes cleaning up before time is up, they should wait in the room.

12. When time is up, open the door, stop the videocamera, and let mother and child leave the room.

<u>Post-Interaction Assessment.</u>

1. Allow mother and child to take an additional break, if needed. Research assistant will play with child while mother completes post-interaction assessment.

2. Cue videotape to first 15-second segment from the videotaped interaction. To play tape, slide the piece on top of the camera to expose the VCR controls.

3. Ask the mother to complete the Post-Interaction Assessment questionnaire rating her child's behavior in the videotaped segment on attribution dimensions and to rate her feelings of anger, irritation, annoyance, and shame in response to the video segment.

4. Cue videotape to second 15-second segment from the videotaped interaction.

5. Ask the mother to complete the Post-Interaction Assessment questionnaire rating her child's behavior in the second segment.

6. Conduct debriefing interview.

7. Give the mother a packet containing a copy of the consent form, a copy of the parent letter that she could give to friends or neighbors, and a list of community resources. Allow the mother to select a gift certificate or cash and allow the child to select a prize. Thank mother and child for their time and participation.

APPENDIX L

Informed Consent Form

INFORMED CONSENT STATEMENT

Project Title: Mothers' Reactions to Child Behavior

Investigators: Maureen A. Sullivan, Ph.D., Laura Knight, M.S.

A. Purpose: This study will look at how mothers behave and feel when their children do certain things or misbehave. This study will also ask how often children show certain misbehaviors, how much support mothers have, what parenting strategies mothers use, and how mothers feel about being a parent.

B. Procedures: I, (print name) _____give permission to the researchers listed above or their assistants to direct my participation in the study described below:

   1. Complete seven questionnaires. One questionnaire asks for information about the number and age of people living with you, your education level, whether you are married, your family income, etc. One questionnaire will ask about typical parenting strategies that you use with your child. One questionnaire will ask how often your child shows common behaviors and misbehavior. One questionnaire will ask how much support you have as a parent, one will ask how you feel about being a parent, and one will ask why you think children misbehave.

   2. Participate in a videotaped procedure. Your child will be asked to play with you, to play independently, and clean up toys and sort toys into plastic bins. There will also be some tempting objects in the room that your child should not touch or play with. You will be asked to interact with your child as you usually do when you are busy, such as talking on the telephone. The tempting objects are included so we can see common misbehaviors found in most young children, and way that mothers handle these misbehaviors.

C. Duration of Participation. Your participation is completely voluntary and you may stop at any point. It should take about 1 ½ hours for the study.

D. Confidentiality. All information about you and your child will be kept confidential and anonymous and will not be released. Questionnaires and videotapes will have code numbers, rather than names on them. All information will be kept in a locked file cabinet in our lab that is only used by us and our assistants. We will keep the information for 5 years after we publish the results. We may present results from this study at professional meetings or in publications. You and your child will not be identified individually; we will be looking at the group as a whole.

E. Benefits of participation. You will receive a brief report about your child's language skills and behavior, and a list of tips for parents to help their children's language skills grow. You will also receive a gift certificate or coupons from local businesses.

Your child will be given a small toy prize. If you would like, we will send you a copy of the results of the study when it is finished.

F. Risks of participation. The risks to you and your child are very low. It is possible that your child may become upset during the procedure. If this happens, we will try to make your child more comfortable with the situation. Also, you may become uncomfortable with the situation. If either you or your child seem uncomfortable or upset, we will ask you if you would like to stop. You may also tell us you want to stop at any point, even if we do not ask you. There will be no penalty for stopping the study. In completing the questionnaires, you may become concerned or aware that your child's behavior is not typical for his or her age. We will give every mother a list of several names and phone numbers of agencies that work with parents and children, and who can measure or treat developmental or behavioral problems.

I have been fully informed about the procedures listed here. I am aware of what my child and I will be asked to do and of the benefits of my participation. I also understand the following statement:

I affirm that I am 18 years of age or older.

I understand that I may contact any of the researchers at the following addresses and phone numbers, if I want to discuss my or my child's participation in the study and/or request information about the results of the study: Maureen Sullivan, Ph.D., 215 North Murray Hall, Dept. of Psychology, Oklahoma State University, Stillwater, OK 74078-0250, (405) 744-6027. I may also contact Sharon Bacher, Institutional Review Board, 415 Whitehurst, OSU, (405) 744-5700. I have read and fully understand this consent form. I sign it freely and voluntarily. A copy of this form will be given to me. I hereby give permission for my child's and my participation in this study.

_____ _____

Signature of Parent/Legal Guardian Date

_____ _____

Signature of Witness Date

I certify that I have personally explained this document before requesting that the participant sign it.

_____ _____

Signature of Researcher Date

APPENDIX M

Experimental Manipulation Scripts

I have reviewed the information you gave me about (child's name), and I want to prepare you for how he/she will behave in the videotaped assessment and why. First of all, I expect (child's name) to misbehave by doing something he/she is not supposed to do and by not listening to you.

Internal Attribution Condition

The reason I expect (child's name) to misbehave is that he/she will want to touch things around the room, especially when you tell him/her not to. It seems like he/she likes to push your buttons and be in control rather than do what you tell him/her to do, like clean up. (Child's name) also enjoys being the center of attention and misbehaves to get your attention when you tell him/her to wait or rest. (Child's name) wants what he/she wants when he/she wants it and probably will try to get his/her way and be in charge. (Child's name) is going to challenge you and want to control you.

External Attribution Condition

The reason I expect (child's name) to misbehave is that we designed this assessment to be really difficult for children this age and especially hard for children like (child's name). We placed tempting objects around the room that children aren't allowed to touch, and cleaning up, waiting, and resting aren't much fun and can be frustrating. So the assessment situation will challenge (child's name) and make it hard for him/her to listen to you and not bother you. Young children like (child's name) don't have much self-control yet and misbehave here even though they don't mean to.

APPENDIX N

Debriefing Script

Debriefing Interview

At the end of the study, we like to explain the study and get feedback from the mothers about the study. The purpose of this study was to see if we could affect the way mothers think about the causes of their children's behavior, and how their opinion of the causes of children's behavior might affect mothers' interactions with their children. Before the interaction, you were given an explanation for the misbehavior that I expected from your child. I told you that this explanation was based on your child's scores from a questionnaire that you filled out earlier. In fact, you were randomly assigned to receive this explanation and it was not based on your child's scores at all. The explanation was intended to affect the way that you viewed your child's misbehavior during the study. Some mothers were told that their child's misbehavior was caused by the situation and some mothers were told that their child's misbehavior was caused by their child's characteristics. For this study, I wanted mothers to view their child as misbehaving either intentionally or not intentionally. However, most of the time, children's misbehavior is caused by several different things and is seldom just the child's fault. For example, you may notice that when your child is hungry or tired, he/she does not mind as often or as quickly as usual. The combination of being hungry or tired with being told to do something you do not want to do, like sit down at the table to eat or put on your pajamas, may cause misbehavior. Any misbehavior you noticed in the interaction today was probably caused by both things about the situation here, like being around tempting objects and being in a strange place, and by things about your child, like being scared of the new place or not wanting to do something I asked him/her to do.

Do you have any questions about your child's behavior or the instructions that you were given prior to the interaction task?

What was it like being in the study? What did you think about it?

How typical was your child's behavior?

1	2	3	4	5
Not at all		Somewhat		Very

Overall, how typical was your behavior?

1	2	3	4	5
Not at all		Somewhat		Very

Was there any part of the study that was especially difficult?

Do you have any other questions about this study or your participation?

Having experienced this study, would you be willing to be contacted about other studies involving children?

Any other comments?

APPENDIX O

IRB Approval Form

Oklahoma State University
Institutional Review Board

Protocol Expires: 11/20/2003

Date: Thursday, November 21, 2002 IRB Application No AS0320

Proposal Title: THE EFFECTS OF ATTRIBUTIONS ON MOTHERS' BEHAVIORAL AND AFFECTIVE RESPONSES TO CHILD BEHAVIOR

Principal Investigator(s):

Maureen Sullivan
215 N Murray
Stillwater, OK 74078

Laura Knight
215 N. Murray
Stillwater, OK 74078

Reviewed and Processed as: Expedited (Spec Pop)

Approval Status Recommended by Reviewer(s): Approved

Dear PI :

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

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

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

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

Sincerely,

Carol Olson, Chair
Institutional Review Board

VITA

Laura Anne Knight

Candidate for the Degree of

Doctor of Philosophy

Thesis: THE EFFECTS OF ATTRIBUTIONS ON MOTHERS' BEHAVIORAL AND AFFECTIVE RESPONSES TO CHILDREN'S BEHAVIOR

Major Field: Psychology

Biographical:

Education: Received Bachelor of Arts degree in Theater from Roger Williams University, Bristol, Rhode Island in May, 1989. Received Master of Arts degree in Psychology from Roosevelt University, Chicago, Illinois in August, 1999. Received Master of Science degree in Psychology from Oklahoma State University, Stillwater, Oklahoma in May, 2001. Completed the requirements for the Doctor of Philosophy degree at Oklahoma State University in December, 2005.

Experience: Clinical practica experience in the Oklahoma State University Psychological Services Center, August 1999 to May 2001. Clinical practica experience with the Five Star Interlocal Cooperative in Cushing, Oklahoma, August 2001 to May, 2002. Clinical practica experience with the A Better Chance Clinic, University of Oklahoma Health Sciences Center, Oklahoma City, Oklahoma, May 2002 to July 2004. Completed an APA-approved predoctoral internship in clinical psychology at the University of Minnesota Medical School in August, 2005.

Professional Memberships: American Psychological Association, Association for Behavioral and Cognitive Therapies.

Name: Laura Anne Knight Date of Degree: December, 2005

Institution: Oklahoma State University Location: Stillwater, Oklahoma

Title of Study: THE EFFECTS OF ATTRIBUTIONS ON MOTHERS' BEHAVIORAL AND AFFECTIVE RESPONSES TO CHILDREN'S BEHAVIOR

Pages in Study: 200 Candidate for the Degree of Doctor of Philosophy

Major Field: Psychology

Scope and Method of Study: The goal of this study was to examine the effects of an experimental manipulation of mothers' attributions for their children's misbehavior on mothers' affect and disciplinary responses to misbehavior. A secondary goal was to identify maternal characteristics that may influence mothers' attributions and their consideration of mitigating information in the formation of responses to child behavior. Fifty mothers and their children, ages 36 to 59 months, participated. All mothers completed a demographic questionnaire, the Eyberg Child Behavior Inventory (ECBI), the Parenting Scale (PS), the Parenting Stress Index-Short Form (PSI-SF), the Maternal Attribution Questionnaire (MAQ), the Parenting Sense of Competence Scale (PSOC), and the Perceived Social Support Scale (PSSS). Mothers and children participated in a structured interaction task designed to elicit child misbehavior. Afterward, mothers viewed two videotaped segments of the interaction containing misbehavior, which served as stimuli for the assessment of mothers' attributions and subjective affect in response to the misbehavior. An observational code was used to record the videotaped mother and child behaviors. Analyses of variance (ANOVA), Pearson product-moment correlations, and chi-square analyses were used to test six hypotheses.

Findings and Conclusions: No significant differences were found in the types of attributions made by mothers for their children's misbehavior. The manipulation had no significant effect on mothers' subjective affect ratings or observed behavior during the tasks. There were no differences across conditions in any coded child behavior. No significant relationships were found between maternal characteristics and preexisting attributions, but relationships were found among maternal characteristics. Children's behavior problems were positively associated with parenting stress ($r = .446$) and negatively associated with parenting satisfaction ($r = -.497$). Perceived social support was negatively associated with stress ($r = -.545$). Pre-manipulation attribution scores using hypothetical stimuli were generally unrelated to post-interaction attribution scores using observed misbehavior as stimuli.

ADVISER'S APPROVAL: Maureen A. Sullivan, Ph.D.