

MATERNAL PSYCHOLOGICAL CONTROL AND REALTIONAL AGGRESSION DURING
EARLY CHILDHOOD: DO MATERNAL WARMTH AND CHILD TEMPERAMENT
MODERATE THE ASSOICAITION?

By

YI HUNG LAU

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To the faculty of Washington State University:

The members of the Committee appointed to examine the thesis of YI HUNG LAU find it satisfactory and recommend that it be accepted.

Chair

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Abstract

by Yi Hung Lau, M. A.
Washington State University
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Chair: Nicole E. Werner

Relational aggression has been defined as behaviors that inflict harm on others by damaging peer relationships, and it has been linked to a wide range of concurrent and future difficulties for both perpetrators and victims. Little attention has been paid, however, to the antecedents or developmental precursors of children's relational aggression. Psychological control comprises a pattern of intrusive parenting practices that are associated with children's negative outcomes, and it has been studied as a predictor of children's relational aggression. However, findings from previous studies on the relation between psychological control and relational aggression have been mixed. Therefore, it is the primary goal of the current study is to further investigate the role of maternal psychological control as an antecedent of relational aggression during early childhood. It was hypothesized that mothers' psychologically controlling behaviors will be reliably linked to children's use of relational aggression. The present study also tested the hypothesis that maternal warmth and child temperament will moderate the association of maternal psychological control and childhood relational aggression. Using a multi-method, multi-informant approach, relational aggression of 58 3- to 6-year-old children and their

mothers' psychological control were assessed. Findings from the present study suggested that child reports of maternal psychological control were significantly correlated with teacher reports of children's relational aggression at time 2. However, findings from the present study failed to support the moderation effects of maternal warmth and responsiveness and child temperament. Future research directions on this topic are discussed.

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CHAPTER ONE

INTRODUCTION

Relational aggression has been defined as behaviors that inflict harm on others by damaging peer relationships (Crick & Grotpeter, 1995). Studies have found that relationally aggressive behaviors are common within peer groups, particularly in the interactions between girls (Crick, Casas, & Ku, 1999; Crick & Grotpeter, 1995). Available research also suggests that compared to boys, girls are more likely to use relational aggression than physical aggression, whereas boys are just as likely as girls to be victims of relational aggression (Crick et al., 1999).

Recent studies have identified relational aggression in children as young as 3 years old, and the stability of individual differences in relational aggression has also been demonstrated (Crick, Casas, & Mosher, 1997, Crick et al., 1999). Relational aggression has been linked to a wide range of concurrent and future difficulties for both perpetrators and victims, which include higher levels of psychological distress, such as anxiety and depression, low levels of prosocial behavior, and high levels of peer rejection (Crick, 1996, 1997; Crick & Grotpeter, 1995; Crick et al., 1997, 1999; Crick Ostrov, & Werner, 2006b; Nelson & Crick, 2002). Given the risk for future maladjustment of relationally aggressive children, and the harmful consequences of experiencing relational victimization, more studies of childhood relational aggression are needed. In particular, longitudinal research that investigates antecedents of relational aggression, as well as the association between childhood relational aggression and future maladjustment is warranted.

Currently, little is understood about the antecedents or developmental precursors of children's relational aggression. Several studies have sought to identify the family context in which relational aggression may develop through the indirect parental model. According to this

model, children transfer experiences from parent-child interactions to their overall style of interacting with their peers (Ladd & Petit, 2002). Psychological control, being as an indirect parental influence, comprises a pattern of intrusive parenting practices that are associated with children's negative outcomes, and these parenting practices included the manipulation of children's thoughts, feelings, and attachments to parents (Barber, 1996). It is possible that parents' use of psychological control influence children's development of emotional insecurity and hostility, in which children may generalize their emotional insecurity and hostility from their parent-child relationships to peer relationships and to use of relational aggression to achieve their desired outcomes in peer relationships.

Findings from previous studies on the relationship between psychological control and relational aggression, however, have been mixed, with some reporting significant associations and others failing to (Hart, Nelson, Robinson, Olsen, & McNeilly-Choque, 1998; Nelson & Crick, 2002; Nelson, Hart, Yang, Olsen, & Jin, 2006). Differences in sample composition (e.g., age group and nationality) and methods make direct comparisons of across studies difficult. Moreover, methodological limitations of previous investigations might have masked the link between psychological control and child relational aggression (e.g., the reliance on parental reports of both psychological control and child relational aggression). Therefore, the primary focus of the current study is to further investigate the role of maternal psychological control as an antecedent of relational aggression during early childhood using a multi-method, multi-informant approach. It is hypothesized that mothers' psychologically controlling behaviors will be reliably linked to children's use of relational aggression.

The second goal of this study is to explore two possible moderators of the association of maternal psychological control with child relational aggression. Previous research suggests that

both parents' and children's characteristics can moderate the associations of specific parenting practices and child outcomes. For example, parental affection was found to moderate the association of parental psychological control and children's mathematical performance (Aunola & Nurmi, 2004), and that children with difficult temperament are more reactive to their mothers' intrusive parenting (Morris, Steinberg, Sessa, Avenevoli, Silk, & Essex, 2002). Drawing on previous findings, this study tested the hypothesis that maternal warmth and child temperament will moderate the association of maternal psychological control and childhood relational aggression.

The present study focuses on the effects of maternal psychological control on children's use of relational aggression. The central research questions include (1) Is maternal psychological control associated with young children's current and future relational aggression?; (2) Does maternal warmth and responsiveness moderate the association of psychological control and child relational aggression?; (3) Does child temperament moderate the association of psychological control and child relational aggression?; and (4) Does child gender moderate the effects of maternal psychological control on children's use of relational aggression? Although this study aims to replicate some findings from previous studies about psychological control, it also provides new information to the field by using a short-term longitudinal design and observational methods, and by exploring potential moderators of the effects of psychological control on relational aggression including maternal warmth and responsiveness and child temperament.

CHAPTER TWO

THEORETICAL FRAMEWORKS

Direct and Indirect Parental Influences Model

Children's peer relationships are largely influenced by their parents, and therefore, it is important to understand the mechanisms under which the family and peer contexts interact in affecting children's relational aggression. Both families and peer groups influence each other in a bidirectional pathway, and it is the focus of the parental influences model to understand the processes of transferring learning from the family context to the peer context. Specifically, the direct and indirect parental influences model illustrates the way that children's experiences in the family context affect children's peer relationships (Ladd & Pettit, 2002). Direct parental influences involve parents' efforts to socialize the child's social development in the peer context, whereas indirect parental influence, such as parenting styles and discipline practices, refers to aspects in the family that do not provide the child with any explicit connection to the world of peers, but nonetheless have an effect on the child's peer competence (Ladd & Pettit, 2002).

Parents can directly influence their children's peer relationships in a variety of ways, which include acting as a designer, mediator, supervisor, and advisor (Ladd & Pettit, 2002). Parents act as designers of their children's peer interactions by influencing their access to peers through the choice of neighborhood, school, child care, and community activities. Parents take on the role of mediator when they initiate children's peer contacts, such as organizing a play group at home. In addition, by overseeing and regulating children's ongoing peer interactions (e.g., during a play date or at a park), parents are acting as a supervisor of children's peer relationships. Finally, parents can directly influence children's peer relationships by advising children (i.e., through conversation) about the way to initiate friendships, manage conflicts, and

maintain relationships (Ladd & Pettit, 2002). Studies have found that when parents actively arrange their children's participation in extracurricular activities, initiate peer contacts, supervise and intervene in their children's peer interactions, and give advice about peer relationships, their children are more likely to be socially competent and have higher levels of social skills (Eccles & Barber, 1999; Ladd & Golter, 1988; Lollis, 1990; Mize & Pettit, 1997).

In addition to direct parental influences, a large body of evidence supports the concept of indirect parental influences. For example, caregiver-child attachment has been shown to predict the quality of children's peer relationships, such that children with a history of secure attachment have high-quality friendships during middle childhood, whereas children with a history of insecure attachment have greater difficulties with friendship (Ladd & Pettit, 2002). Parents' childrearing styles, parenting behaviors, and parent-child interactions have also been linked with children's relational interactions and skills, and a large body of research has linked these parenting behaviors with children's social competence, including peer acceptance, prosocial behavior, and aggression (e.g., Casas et al., 2006; Hart et al., 1998; Nelson & Crick, 2002). Other indirect parental influences that have been identified included parental attitudes and beliefs, family environment, family pathology, and parental disciplinary styles (Ladd & Pettit, 2002).

Taken together, available evidence indicates that parents influence their children's development of social competence both directly and indirectly. The present study focuses on one specific indirect parental influence on children relational skills or peer interactions, namely parental psychological control. Psychological control is defined as patterns of parent-child interaction that intrude upon the child's psychological and emotional development (Barber et al., 1994; Barber, 1996). Previous studies have linked psychological controlling parenting behaviors with children's internalizing and externalizing problems and poor peer relationships (Ladd &

Pettit, 2002). Therefore, the present study focuses on examining the indirect influences of the family on children's relational aggression, and the pathways in which psychological control and relational aggression are linked will be discussed below.

Parental Control

The effects of parental support and parental control, being as the two general categories of parenting behaviors, on children's social adjustment have been widely examined in numerous research studies. In general, parental support has been considered as parenting behaviors that are uniformly related to positive child development, such as nurturance, warmth, responsiveness, and acceptance (Barber, 2002). In contrast to parental support, parental control is a much more complex and varied construct that has encompassed behaviors such as parental coercion, guilt induction, and monitoring of children's behavior (Barber, 2002). The effects of parental control on child development has been inconsistent, and therefore, the research literature has attempted to distinct between different types of parental control in order to provide some conceptual organization, such as *behavioral control* and *psychological control* (Barber, 1996). Many of these studies have focused on the effect of parental behavioral control on children, whereas relatively less is known about parental use of psychological control and its effects on child adjustment (Barber, 1996; Hart et al., 1998).

Psychological vs. Behavioral Control

Behavioral control is a parenting practice that involves regulation of the child's behavior (Aunola & Nurmi, 2004). Examples of behavioral control include limiting time of television watching and monitoring the child's friendship group and the appearance of the child (e.g., dress, grooming). An appropriate amount of behavioral control, such as firmness, as a strategy for gaining compliance is linked with positive child outcomes, whereas inadequate (e.g., lack of

monitoring) or excessive (e.g., punitiveness) behavioral control has been linked with negative child outcomes (e.g., Barber, 1996; Barber, Olsen, & Shagle, 1994; Coie & Dodge, 1998).

In contrast to behavioral control, psychological control comprises a pattern of parenting practices that includes manipulation of children's thoughts, feelings, and attachments to parents (Aunola & Nurmi, 2004; Barber, 1996; Barber & Buehler, 1996; Nelson & Crick, 2002). Parents who use psychological control often induce guilt in the child in an attempt to exercise control over the psychological world of the child (Aunola & Nurmi, 2004). Psychologically controlling parents may also criticize their children excessively, restrict their children's communication, and express affection to their children contingently in an attempt to control their children. Barber and Buehler (1996) suggested that parental psychological control involves a controlling and constraining parent-child interaction, in which children's individuation process and the development of psychosocial maturity are inhibited. Studies have shown that parents' use of psychological control is linked with negative outcomes in children, which included poor peer relationships, as well as internalizing and externalizing behavior problems (Barber & Buehler, 1996; Morris et al., 2002; Ladd & Pettit, 2002; Olsen et al, 2002).

Parental psychological control is one type of parenting behavior that has been examined as a possible factor that contributes to the development of relational aggression. It is possible that parents' use of psychological control, such as love withdrawal and guilt induction, influence children's development of emotional insecurity and hostility. As the mechanisms underlying psychological control and relational aggression are similar, in which they both involve the use of relational manipulation, children who have psychologically controlling parents may generalize their emotional insecurity from their parent-child relationships to peer relationships, in which they expect that their use of relational aggression will help them to achieve their desired

outcomes in peer relationships. Children may also develop hostility toward their peers as a result of their parents' psychologically controlling behaviors, and attempt to use relational aggression to harm others.

Social Cognitive Theory

Based on the evidence presented above, it is apparent that children's experiences in the family affect their peer relationships, but it is also necessary to understand the processes of the transfer of such an experience from the family to peer context. Social cognitive theory attempts to describe the way that people learn by understanding the inherently complex process of learning, and it has been applied extensively to the understanding of aggression (Bandura, 1973). Social cognitive theory arose from social learning theory, which emphasizes the importance of observing and modeling the behaviors, attitudes, and emotional reactions of others in understanding human behaviors (Bandura, 1986). According to social cognitive theory, an individual's behavior is uniquely determined by a triadic, dynamic, and reciprocal interaction of cognitive, behavioral, and environmental influences (Bandura, 1999).

Social cognitive theory argues that behavior is largely regulated through antecedent cognitive processes (Bandura, 1986). People operate as thinkers to form expectations of behavioral outcomes, in which they construct thoughts about current and future actions, and consequences of a behavior. The ability to form these expectations allows humans to predict the outcomes of their behavior before the behavior is performed. Social cognitive theory suggests that most behavior is learned vicariously, and the component processes underlying observational learning included attention, retention, motor reproduction, and motivation (Bandura, 1986). A person will learn a certain behavior when he or she attends to the modeled event and its characteristics, retains the information to be learned using strategies such as organization and

rehearsal, physically capable of reproducing the learned behaviors, and be motivated by using external, vicarious and self reinforcement (Bandura, 1986). These cognitive processes may change over time as a function of maturation and experience, and therefore, individuals' learning of behaviors may change as a result of the change in the cognition.

In conclusion, the social cognitive theory emphasizes the understanding of the cognitive processes involved in one's behavior. The present study looks at parental indirect influences on children's relational aggression by using this framework to examine the likelihood of children to learn relational skills from their mothers as well as the likelihood that children will later apply those skills to the peer context. As the social cognitive theory suggests that a person will be more likely to learn a certain behavior when he or she is attended and motivated, the present study hypothesizes that children will pay more attention to their mothers' behaviors, and be more motivated to learn their mothers' behaviors when mothers are warm and responsive.

CHAPTER THREE

LITERATURE REVIEW

Relational Aggression

Aggression is generally defined as behaviors that are intended to inflict harm on others (Crick & Grotpeter, 1995). Aggression is receiving an increased research attention because of its relationship to children's current and future social, psychological, behavioral, and academic maladjustment. These maladjustments included peer rejection, peer victimization, depression, anti-social behaviors, and poor academic performance (Crick, 1997; Crick et al., 1999).

Forms of Aggression

Decades of research have identified distinct forms of aggressive behavior. Overt aggression, which includes physical and direct verbal aggression, is more common among boys than girls, involves harming or threatening harm through physical damage or direct verbal insult (Crick, 1997). Examples of overt aggression include pushing, kicking, punching, insults, name calling, and physical threats. Although physical aggression has received the most research attention, recent research indicates that there are various forms of interpersonal conflicts that are beyond physical harm, in which victims are experiencing psychological and emotional harm (Yoon, Barton, & Taiariol, 2005). In contrast to physical aggression, relational aggression is defined as harm or the threat to damage that is inflicted to manipulate or damage peer relationships (Burr, Ostrov, Jansen, Cullerton-Sen, & Crick, 2005; Crick & Grotpeter, 1995; Crick et al., 1997). Examples of relational aggression include spreading rumors, malicious gossip, social alienation, and threats to withdraw friendship.

Distinctiveness of relational and physical aggression. Studies have also examined the link between relational and physical aggression, and the association between current and future

aggressive behaviors has been found. Specifically, Crick et al. (2006b) found that relational aggression is associated with future physical aggression, and that physical aggression predicts future relational aggression for both boys and girls across a 1-year period. They also suggested that the combination of relational and physical aggression is a particularly potent risk factor for future adjustment (Crick et al., 2006b). Although studies consistently show moderate to strong correlations between relational aggression and physical aggression, other research findings confirm the relative distinctiveness of the behaviors (Crick & Grotpeter, 1995; Crick, 1996, 1997). For example, factor analyses conducted on relational and physical aggression items have produced two factors in several studies (Crick et al., 1997, 1999).

Researchers have also found distinct correlations between relational and physical aggression and children's adjustment. In particular, physical aggression has shown to be related to externalizing problems, whereas relational aggression is related to internalizing problems (Crick & Grotpeter, 1995). Most studies conducted on childhood relational aggression have relied on teacher and peer reports, which might be subjective and gender stereotyped. However, a few studies using observational methods have also demonstrated the distinctiveness of physical and relational aggression (Ostrov & Keating, 2004). More about this observational method will be discussed later in this paper.

Sex Differences in Relational and Physical Aggression

Studies using naturalistic observations, peer-, teacher-, and self-reports have found that relationally aggressive behaviors are very common within peer groups, particularly in the interactions between girls (Crick, Ostrov, Burr, Cullerton-Sen, Jansen-Yeh, & Ralston, 2006a; Crick et al., 1999). Crick (1996) suggested that when children are trying to inflict harm on peers, they do so in ways that are most likely to damage goals that are being valued by peers. Since

girls typically value relational issues during social interaction with others, Crick (1996) suggested that girls are more likely than boys to use relational aggression. Several studies using various methods have, in fact, shown that girls are more likely to use relational aggression during social interaction than boys, whereas boys are more likely to use physical aggression than girls (Crick & Grotpeter, 1995; Ostrov & Bishop, 2008; Rys & Bear, 1997). However, other studies have either failed to find significant differences in levels of relational aggression between boys and girls (i.e., Hart et al., 1998).

On the other hand, studies have found fewer gender differences in relational victimization (Crick et al., 1999). In other words, boys are just as likely as girls to be victims of relational aggression. Even though boys and girls both experience relational victimization, girls report more emotional problems and higher levels of negative affect and stress than boys in response to relational victimization (Crick et al., 2006b; Cullerton-Sen & Crick, 2005). It could be explained by the fact that girls value social interactions with peers more so than boys, and therefore, are more likely to be affected by the experience of relational victimization. Taking these studies together, there is obviously a need for research to further understand the development and adjustment of both relationally aggressive children and victims.

Relational Aggression and Child Adjustment

Relational aggression has also been linked to a wide range of difficulties for both perpetrators and victims. Studies found that relationally aggressive children have higher levels of psychological distress, such as anxiety and depression (Crick, 1996, 1997; Crick et al., 1997; Nelson & Crick, 2002), low levels of prosocial behavior (Crick & Grotpeter, 1995), and high levels of peer rejection (see Crick et al., 1999 for a review). Crick and Grotpeter (1995) argued that the aversive nature of relationally aggressive behaviors results in peer dislike, which in turn

reinforces the use of relational aggression in these children and affects their social functioning in later life. Victims of relational aggression are also more rejected and less accepted by their peers (Crick & Grotpeter, 1996), and they report higher anxiety level and depression and lower levels of self-esteem (Crick, 1999). Based on these findings, it is shown that relational aggression is a unique form of aggression which contributes to children's psychosocial maladjustment, and therefore, more studies in this topic need to be conducted in order to provide a better understanding of its nature.

As discussed above, there is sufficient evidence that points to the unique influence of relational aggression on children's development. However, most prior studies in children's use of relational aggression have been cross-sectional, and longitudinal studies of relational aggression and children's adjustment are rare. Crick (1996) conducted the first short-term longitudinal study in understanding the stability of relational aggression. In this study, Crick (1996) assessed children's relational aggression, overt aggression, prosocial behavior, and social adjustment across a 1-year period. Children in the study completed a peer-nomination measure of social behavior and social adjustment at 3 points during the academic year, and teachers' assessment of children's social behavior were also collected during between the first and second assessments with the children. Results from this study suggested that individual differences in relational aggression were stable over time, and that relational aggression contributed unique information in the prediction of future maladjustment, beyond that provided by physical aggression (Crick, 1996).

In another study, Crick et al. (2006b) also studied the relationship of relational aggression, physical aggression, and children's social-psychological adjustment using a short-term longitudinal design. These researchers found that children who engaged in high levels of

relational and physical aggression were at greatest risk for increases in social-psychological maladjustment across a 1-year period. In addition, they found that relational aggression predicted future social maladjustment of children. Although longitudinal studies of relational aggression are very few in number, these studies together suggested that it is necessary to identify relationally aggressive children to prevent future externalizing and internalizing adjustment problems, and that more longitudinal study is needed to assess the association between childhood relational aggression and their future maladjustment.

Relational Aggression during Early Childhood

Existing studies of relational aggression have focused largely on school-age children and adolescents; thus, there is a lack of knowledge about relational aggression in young children. Recent studies have identified relational aggression during the early childhood years, in which relational aggression has been found in children as young as 3 years old (Crick et al., 1997, 1999). These studies have also shown that relational aggression in preschool years has unique features that are different from the relationally aggressive behaviors of school-age children, and that relational aggression becomes more complex over the course of development (Crick et al., 1999; Cullerton-Sen & Crick, 2005). Compared to school-age children, preschoolers engage in relational aggressive acts in a relatively simple and direct ways, in which the acts involved a current situation (Crick et al., 1999).

Although only a few studies have been conducted to date, available evidence suggests that relational aggression is moderately stable across the preschool years (and similar to the stability of physical aggression) and that young children who use relational aggression experience some adjustment difficulties (Crick, 1996; Crick et al., 1997, 1999, 2006a). Specifically, Crick et al. (1999) examined preschoolers' relational aggression across a 1-month

period and found that relational aggression in younger children was highly stable. More recently, Crick et al. (2006a) studied relational aggression in early childhood using an 18-month longitudinal study. These researchers found that relational aggression was associated with future peer rejection problems and that relational aggression in early childhood was moderately stable (Crick et al., 2006a). Given the higher risk for future maladjustment of relationally aggressive children, and the harmful consequences of experiencing relational victimization, the investigation of the antecedents of relational aggression in early childhood is needed.

Familial Antecedents of Relational Aggression

Although the consequences of relational aggression on children's development have been investigated, the antecedents of children's relational aggression are poorly understood. Recent research has sought to identify the family context in which relational aggression may develop. Parents may influence their children's peer relationships both directly and indirectly (Ladd & Pettit, 2002). Directly, parents influence their children's social competence by socializing their children in a peer context. Examples of this direct influence include selecting, arranging and monitoring peer contacts. Indirectly, children learn behavioral and relationships patterns at home, and transfer these learning to their peer interactions.

In the only study of direct parental influences on relational aggression, to date, Werner, Senich, and Przepyszny (2006) examined mothers' direct intervention strategies into their children's conflicts involving relational and physical aggression. Specifically, these researchers investigated mothers' proposed behavioral responses to hypothetical displays of preschoolers' relational and physical aggression. Results from this study suggested that in response to their child's relational aggression, mothers who indicated that they would use moderately power assertive strategies that communicated to their children that a moral or social conventional rule

had been violated had daughters (but not sons) who were described by preschool teachers as less relationally aggressive and more prosocial. These findings provide the first evidence that mothers' explicit feedback to children about relational aggression might directly influence children's behavior in the peer context.

The majority of prior research on parenting and relational aggression has focused on indirect influences. Specifically, parenting styles, interparental conflict, and parental psychological and coercive control have been examined in association with childhood relational aggression. In one study that examined the effects of parenting style and marital conflict on children's development of relational aggression, Hart et al. (1998) found that the lack of responsiveness and high levels of maternal coercion were positively correlated with teacher-ratings of child relational aggression. With respect to indirect influences, several studies have explored how parents' psychological control is associated with children's use of relational aggression (Casas et al., 2006; Hart et al., 1998; Nelson & Crick, 2002; Nelson et al., 2006). Findings from these studies, however, have been mixed, and will be discussed in more detail below. Therefore, the primary focus of the current study is to further investigate the role of maternal psychological control on relational aggression during early childhood.

Assessments of Relational Aggression

Most previous studies have relied on children's self-reports, teacher-reports, and peer nominations to identify relationally aggressive children. Although these assessments are useful for addressing some of the questions associated with relational aggression, they are subject to a variety of biases, such as the recall of the more recent and salient events (Crick et al., 2006a; McEvoy, Estrem, Rodriguez, & Olson, 2003). Surprisingly, very little observational data has been collected on understanding relational aggression. Recently, researchers have begun to use

observational methods, and a reliable and valid naturalistic observational approach for assessing relational aggression among preschoolers has been developed (Ostrov & Keating, 2004). In their study, Ostrov & Keating used two types of observation: naturalistic observation in the classroom setting, and observation during a structured interaction task. The naturalistic observation took place during children's free play time, and the observers were posted a few feet away from the focal child while recording observations on paper as they occurred. The structured interaction consists of a coloring task was designed to provoke mild conflict between pairs of children by limiting the availability of the desirable canyon. The coloring sessions were videotaped and later coded by two observers who were unfamiliar with the nature of the study (Ostrov & Keating, 2004). These observational approaches were further validated by the work of Crick and colleagues (Crick et al., 2006a; Ostrov & Bishop, 2008). Therefore, the observation approach developed by Ostrov and Keating (2004) will be used in this study to assess relational aggression in early childhood.

Psychological Control

Psychological control is a child rearing style that is characterized as pressuring children to comply with the parents through the use of psychologically controlling techniques, such as guilt-induction and love withdrawal (Barber, 1996; Hart et al., 1998). Psychological control has received a lot of recent research attention because of the negative child outcomes associated with this type of parental control (Barber, Olsen, & Shagle, 1994; Grusec & Goodnow, 1994). Morris et al. (2002) suggested that parents execute psychological control through three primary domains, which include cognitions, emotions, and behaviors. Within the first domain, parents' psychological control involves the execution of control over the child's cognitive development, which included the development of identity and self-expression. For example, psychologically

controlling parents' attempts to constrain children's verbal and individual expression may lead their children to result in a lack of independent thinking and expression of ideas. Second, psychologically controlling parents manipulate children's emotions by withdrawing their love from their children or controlling children's emotional expressions in order to exert influence over them. These control strategies affect the development of autonomy in children, and increases their emotional dependency on their parents (Nelson & Crick, 2002). These children may also develop problems associated with emotion regulation, including anxiety or depression. Finally, parents execute psychological control through the restriction of children's behaviors in an attempt to isolate them from outside influences and opportunities, which may limit their ability to learn social skills and behavioral experience (Morris et al., 2002).

Psychological Control and Child Adjustment

Psychological control is thought to be a type of coercive, passive-aggressive control that is hostile toward the child (Morris et al., 2002). Consistent with this view, studies have shown that parental psychological control is linked with negative outcomes in children (Olsen et al, 2002). It is also suggested that parents who use psychological control may put their children at risk for poor peer relationships, as well as internalizing and externalizing behavior problems (Ladd & Pettit, 2002; Olsen et al, 2002). Specifically, Morris et al.'s (2002) study have shown that compared to mothers of boys without externalizing problems, boys with externalizing problems have mothers who use more psychological control. Parental psychological control has also been found to be associated with higher levels of anxiety, depression, and delinquent behaviors in children (Pettit, Laird, Dodge, Bates, & Criss, 2001). Finally, studies found that children diagnosed with anxiety disorders and depression describe their families as generally more controlling and have lower levels of autonomy (Morris et al., 2002).

In summary, available research suggests that parental psychological control has a negative impact on children's development; however, psychological control has been studied as part of an overall parenting style, and very few studies have examined the impact of psychological control independent of other parenting behaviors (Morris et al., 2002). Therefore, more research is needed to understand the unique nature of parental psychological control and its consequences on child development, and the present study aims to address the indirect effect of maternal psychological control on preschooler's relational aggression.

Psychological Control in Early Childhood

According to Erikson, failure to develop autonomy or self-identity during adolescence would lead to confusion about a person's future adult roles (Goldhaber, 2000). Due to its presumed impact on the development of autonomy, the vast majority of research on psychological control has focused on adolescents. As a result, its effect on the psychological well-being of preschool-aged children is not clearly known. However, recent research has indicated a link between psychological control and preschooler's negative outcomes, suggesting that psychological control is associated with preschoolers' internalizing and externalizing behaviors, similar to adolescents' (Casas et al., 2006; Hart et al., 1998; Nelson, Hart, Yang, Olsen, & Jin, 2006; Olsen et al., 2002). Because of the need to look at the link between psychological control and early childhood development, the current study will focus on the unique impact of psychological control on the development in early childhood.

The effect of maternal psychological control on preschoolers' internalizing and externalizing behaviors across cultures has also been investigated. Olsen et al. (2002) found that maternal psychological control was significant related to both externalizing and internalizing behaviors in the U.S. preschool sample. However, children whose mothers reported higher levels

of psychological control were described by teachers as having more disruptive behavior problems in the Russian sample, and that there was no significant association between Chinese mothers' psychological control and children's internalizing and externalizing behaviors (Olsen et al., 2002).

Psychological Control and Relational Aggression

Recently, attention has been paid to the possible role of psychological control in preschool and school-aged children's displays of relational aggression. Since psychological control involves the parental manipulation of children's feelings through threatening or actual damaging their relationship, it is very similar to the nature of relational aggression where relationally manipulative behaviors were used to harm others (Hart et al., 1998). In fact, love withdrawal and erratic emotional behavior observed in psychological control are focusing on the manipulation of the love relationship, which is similar to the relationship manipulations strategies that are used by relationally aggressive children toward their peers (Nelson & Crick, 2002).

Relationally aggressive children also tend to report having enmeshed friendships and parent-child relationships, and it is suggested that psychologically controlling parenting behavior results from parents' needs to gain or reserve their psychological power in the parent-child relationship (Grotmeter & Crick, 1996; Grotmeter, Crick, & O'Brien, 1996; Nelson & Crick, 2002; Morris et al., 2002). As a result, these parents may manipulate the boundaries between them and their children in an effort to impede their children's development of autonomy (Morris et al., 2002). Based on this view, the psychologically controlling behaviors from parents may lead to an extremely close parent-child relationship, which in turn allows the child to learn behaviors from his or her parents easily. Using the social cognitive perspective, relationally

aggressive children may generalize their experiences with parents at home to the peer context by using relational aggression as a way to achieve desired outcomes. The feeling insecurity and hostility developed as a result of parents' psychologically controlling parenting behaviors may also lead to children's use of relational aggression to harm their peers. Because of their similarities, several studies have explored associations between parental psychological control and child relational aggression.

In one of the first studies on the topic of parental psychological control and children's relational aggression, Nelson and Crick (2002) examined fathers' and mothers' use of psychological and behavioral control on third-grade boys' and girls' relationally aggressive behaviors. These researchers found an association between parental control strategies and children's relational aggression; however this association was moderated by child and parent gender. Specifically, maternal behavioral control was related to third-grade boys' relational aggression, and fathers' (but not mothers') use of psychological control was related to third-grade girls' relational aggression. Similarly, Casas et al. (2006) looked at the effect of parental report of psychological control on both teacher and parental assessment of preschoolers' relational aggression. These researchers found that both paternal and maternal use of psychological control were positively correlated with girls' relational aggression, whereas parental psychological control was not related to boys' relational aggression.

Several studies, to date, have explored the effects of psychological and coercive control on relational aggression in cultures outside of the United States. Hart and colleagues (Hart et al., 1998) studied Russian parents and their preschool-aged children and failed to find a significant association between parental use of psychological control and boys or girls' relational aggression. However, they did report that maternal coercive behavior and the lack paternal

responsiveness were positively related to teacher-ratings of child relational aggression. In contrast, in a study using a Chinese sample, Nelson et al. (2006) examined the relation between parents' rating of their spouse's parenting practices and children's relational aggression, found that psychological control from mothers and fathers was related to relational aggression in girls (Nelson et al., 2006). Furthermore, these researchers found that girls are more relationally aggressive when mothers, relative to fathers, engage in more behavioral control, and when fathers, relative to mothers, engage in more psychological control (Nelson et al., 2006).

Generally speaking, studies found that parental behavioral and psychological control are associated with both physical and relational aggression. The hypothesis that psychological control is uniquely associated with child relational aggression has not yet been supported. The different findings resulted from these studies could possibly be explained by the fact that parental psychological control and child relational aggression have been assessed using different assessments. No studies, to date, have utilized multiple methods and informants, and further investigation is needed to extend the knowledge in this topic. Therefore, the current study is aimed to extend previous research work by using multiple methods and informants in assessing maternal psychological control and child relational aggression.

Assessments of Psychological Control

Most prior studies have assessed psychological control using parental self-reports, spousal reports, and adolescent self-reports (Casas et al., 2006; Crick & Nelson, 2002; Hart et al., 1998; Nelson et al., 2006). Some researchers have suggested that preschool children could not reliably report on parental psychological control. They argued that the psychological controlling dimension of parenting is too complex, and that children of preschool age are not able to report their parents' use of psychological control accurately. However, research from the peer

sociometric literature have shown that preschoolers are capable of providing reliable and valid reports of peers' behaviors on scales that are administered in a developmentally appropriate format, which provides evidence for preschool children's abilities to report on others' behaviors (Morris et al., 2002; Sessa, Avenevoli, Steinberg, & Morris, 2001).

In the present study, a multi-method, multi-informant approach will be used to assess parental psychological control. Children's perception of their mothers' psychologically controlling behaviors will be assessed using the Child Puppet Interview techniques developed by Sessa et al. (2001). The Child Puppet Interview is a child-report measure of parent-child relationship measure that uses a child-friendly interactive interview. In this interview, children are presented with two identical puppets that provide opposite statements about one of their parents, and children are asked to choose the puppet that best represents him or her. In addition, mothers' self-report of psychological control will be collected in the present study.

Moderators and Mediators of the Effects of Psychological Control

One reason of the mixed findings found in the research of psychological control and relational aggression might be because of the mediation or moderation effect that is taking place. With the exception of using gender as a moderator, there are no studies that have looked at the moderation or mediation effect between psychological control and relational aggression; however, a few studies to date have investigated possible mediators and moderators between parental psychological control and other behavioral outcomes in children. For example, in a study conducted by Loukas, Paulos, and Robinson (2005), children's social evaluative anxiety was examined as a mediator between maternal psychological control and girls' socially aggressive behaviors. Social aggression involves the use of relationship manipulation as a way to damage others' self-esteem and/or social status, and as such, is similar to the use of relationship

manipulation to harm others in relational aggression (Galen & Underwood, 1997; Loukas et al., 2005). On the other hand, social evaluative anxiety refers to the fear of being judged by the others in a social setting (Loukas et al., 2005). In Loukas and colleagues' study, they found that maternal psychological control was positively associated with both adolescent boys' and girls' social aggression, and that children's social evaluative anxiety served as a mediator between the association of maternal psychological control and *girls'* social aggression. These results suggest that parental psychological control may lead to higher level of social evaluative anxiety in adolescents, and that adolescents who are high in social evaluative anxiety may execute social aggression, as it is an indirect way of aggression expression that could keep them anonymous. Based on these findings, it is possible that the examination of potential mediator or moderator will contribute more knowledge about the relation between psychological control and relational aggression.

Available evidence also suggests that child characteristics and parent characteristics might act as moderators of the effects of parental psychological control. Specifically, Morris et al. (2002) identified child gender as a moderator, such that high levels of psychological control were associated with internalizing problems for girls, whereas high levels of parental psychological control were associated with externalizing problem for boys. In addition to child gender, child temperament was also found in this study to serve as a moderator between parental psychological control and children's outcomes. Specifically, children who have temperamental predisposition toward irritable distress were more likely to develop adjustment difficulties when exposed to mothers' psychologically controlling behaviors (Morris et al., 2002). More about the results of this study will be discussed in the section of temperament.

In another study, parental affection was examined as a moderator of the association of parental psychological control and children's mathematical performance (Aunola & Nurmi, 2004). Specifically, these researchers found that high levels of psychological control exercised by mothers, coupled with high levels of affection, predicted children's slow progress in mathematics. The authors suggested that such a combination of high psychological control and high affection produces enmeshment among family members, which may lead to child maladjustment as a result of children's inability to develop individualization and psychological autonomy (Aunola & Nurmi, 2004). In such an affectionate parent-child relationship, parent and child are closely connected, and children in these parent-child relationships are more likely than children who are not in an affectionate parent-child relationship to attend to their parent, and therefore, to learn from their parents.

Whereas a large body of research has documented the importance of a balance between closeness and separateness between the parent and the child, an excessive need for closeness or autonomy are associated with problems within and beyond the relationship (Hodges, Finnegan, & Perry, 1999). In a study of mother-child relationships, researchers found that children who had excessively close relationship with their mother were at risk for increased adjustment difficulties over time (Hodges et al., 1999). Similarly, Grotzinger, Crick, and O'Brien (1996) examined the relationships between relationally and overtly aggressive children and their mothers, and found that relationally aggressive children reported being significantly closer to their mothers than children that were not relationally aggressive. These researchers suggested that within the context of exclusive relationships with parents, children may learn that close relationships are highly valued, and that the manipulation of such relationships is an effective way to achieve one's goal. Because of the possible occurrence of learning within an affectionate relationship, the

present study examines the way that maternal warmth and responsiveness would increase the closeness within the mother-child relationship, which will in turn increase the likelihood of children's learning of relational skills from their psychologically controlling mothers.

The present study suggests that when psychologically controlling mothers are warm and responsive, it increases the likelihood that the child would learn or imitate the relational skills from the parent and apply it to the peer context, in which relational aggression is used to achieve desired outcomes. This assumption is very similar to MacDonald (1992)'s suggestion, in which he proposed that warmth not only facilitates children's compliance and acceptance of adult values, but also facilitates imitation of the parental figure by children. Elaborating from MacDonald's idea, it is reasonable to assume that children would imitate their mothers' behaviors when their relationship is warm and responsive.

Maternal Warmth and Responsiveness

In an early study, Nadin (1971) found that maternal sensitivity to children's needs was related to cognitive growth in low SES preschool children, and suggested that maternal child-rearing practices significantly affect the child's responses to a preschool program. Closely related to the concept of maternal sensitivity, maternal warmth and responsiveness are two positive child-rearing dimensions that have been studied intensively in the parent-child literature and have been linked with children's positive outcomes. Warmth refers to parents' emotional expression of love; whereas responsiveness refers to parents' intentionally fostering of individuality and self-assertion by being supportive and accepting to children's needs (Baumrind, 1996).

Maternal warmth and responsiveness have been linked with a variety of child outcomes, which include peer acceptance, academic achievement, emotional regulation, and aggression-

hostility (Chen, Liu, & Li, 2000). The development of social skills has also been linked with maternal warmth and responsiveness (e.g., Steelman, Assel, Seank, Smith, & Landry, 2002). In a recent study, Davidov and Grusec (2006) examined the relationship of maternal warmth and responsiveness with children's socio-emotional functioning, and found that maternal warmth significantly predicted children's adaptive regulation of positive affect as well as boys' peer group acceptance.

Recently, researchers have been trying to tease apart the relations of warmth and responsiveness to child outcomes to determine whether these constructs are distinct and to the extent to which each makes a *unique* contribution to child outcomes. Davidov and Grusec (2006) found that maternal responsiveness, but not warmth, predicted children's negative affect regulation, empathy, and prosocial responding. However, the present study would consider warmth and responsive as two closely related parenting dimensions, and to focus on the degree of which the closeness between the mother and the child produced by maternal warmth and responsiveness facilitates children's learning relational skills from their psychologically controlling mothers, and to generalize those skills to the peer context.

Child Temperament

Studies of childhood aggression have looked at the influence of temperament as an internal factor, as well as its interaction with the qualities of the socializing environment, on children's development of aggressive behaviors (Rubin, Burgess, Dwyer, & Hastings, 2003; Rubin, Hastings, Chen, Stewart, McNichol, 1998). Temperament has been interpreted as a general construct of behavior traits that are biologically rooted and relatively stable that appear early in life (Bates, Pettit, Dodge, & Ridge, 1998; Rubin et al., 1998). Children with difficult temperament have been described as high in negative reactivity, which refers to children's

tendency to react to stressors in ways that are characterized as high degrees of emotional liability, such as sadness, anger, or fear (Morris et al., 2002).

Previous studies have found an association between children's negative reactivity and the concurrent and subsequent presentation of both internalizing and externalizing problems (Bates et al., 1998; Rubin et al., 2003). However, findings regarding the association between specific components of temperament and child outcomes have been mixed. Rothbart, Ahadi, and Hershey (1994) found that anger and fear appeared to be regulated by two different neurological systems. Specifically, the anger component of negative reactivity predicted aggressive and antisocial activities, whereas children's fearful wariness appeared to make them vulnerable to the development of internalizing disorders (Rothbart et al., 1994).

Similarly, in the only study examined the moderation effect of children's temperament on the relation between parental psychological control and children's outcomes, Morris et al. (2002) found that children with high negative reactivity are at higher risk for developing emotional and behavioral problems when their parents are psychologically controlling. Specifically, these researchers suggested that children with a predisposition toward negative reactivity were more likely to experience intrusive parenting behaviors as aversive, which increased their likelihood of being affected by parents' psychologically controlling behaviors. However, these researchers found that psychological control was related to externalizing problems in children with high fearful distress, and to internalizing behaviors among children high in irritable distress.

Because psychological control is considered as an intrusive parental control, it is reasonable to assume that children with high negative affect are likely to be more reactive to their parents' psychological control. Therefore, the present study will examine children's

negative reactivity (subscales of anger, sadness, and fear) as a moderator between the association of maternal psychological control and childhood relational aggression.

The Present Study

The present study is designed to both replicate and extend existing knowledge on the role of parental psychological control for relational aggression during early childhood. Specifically, this study will provide new information to the field by using a short-term longitudinal design and observational methods, and by exploring potential moderators of the effects of psychological control on relational aggression including maternal warmth and responsiveness and child temperament. Additional research questions will focus on gender differences in mothers' use of psychological control.

Drawing on previous research on this topic, three hypotheses will be tested. First, mothers' use of psychological control is expected to be associated with relationally aggressive behaviors in preschoolers both concurrently and longitudinally. Specifically, it is expected that children who have mothers who use high levels of psychological control will show an increased use of relational aggression in peer relationships at both time 1 and time 2 of the assessment. The second and third hypotheses concern the moderating effect of maternal warmth and responsiveness and child temperament. Specifically, the second hypothesis states that maternal warmth and responsiveness will serve as moderators of mothers' use of psychological control and children' relational aggression, such that children who have warm and responsive *and* psychologically controlling mothers will show an increased use of relational aggression. Finally, I predict that in children whose mothers employ similar degree of psychological control, children who have a high level of negative reactivity will show more relationally aggressive behaviors.

CHAPTER FOUR

METHOD

Participants

Participants in the present study were 58 3- to 6-year-old children (M age = 53.82 months, SD = 5.68; 30 boys; 28 girls) and their mothers (M age = 35.04 years, SD = 5.63) who took part in a larger investigation of early childhood social development being carried out by faculty in the department of Human Development (Preschoolers and Pals Project). All participants were recruited through early childhood education programs in Pullman, WA. Of those 58 children who participated in the present study, 1.7 % were 3-year-old, 79.3% were 4-year-old, 17.3% were 5-year-old, and 1.7% were 6-year-old. Mothers' ethnicity was fairly homogeneous with 70.2% describing themselves as Caucasian mothers, 12.3% Asian, and 17.5% reporting membership in other ethnic groups. The median level of education completed by mothers was a Bachelor's Degree. Thirty-five percent of mothers completed high school or an Associates Degree, 36.8% completed a Bachelor's Degree, and 28.1 % completed a graduate or professional degree. Most of the mothers participating reported being married (84.2%), and the household income reported ranged from \$10,000 to \$70,000 or more with a median level of \$40,000-\$70,000. There were some missing data from mothers, in which one mother did not report her race, one parent did not report her education, one mother did not report her marital status, 3 mothers did not report the household income of their families, and six mothers did not report their age. T-tests and correlational analyses were conducted to determine if the main variables of interest differed as a function of child age, maternal ethnicity, education, marital status, and household income. No significant effects of demographic variables were found; thus we did not control for demographic variables in the central analyses.

Procedures

Overview

The Preschoolers and Pals Project was carried out in both the school setting and in the laboratory. Six preschool and childcare programs serving children from diverse socio-economic and ethnic backgrounds in the Pullman area were recruited for the larger study. The directors of these programs were contacted by the principal investigators, and the principal investigators held meetings with directors and key staff during which the study was described and permission to recruit participants through the centers was granted. During the first phase of the study (Classroom-Based Assessment), consent from parents of all children ages 3 to 6 was sought to conduct naturalistic observations of children's social behavior in the classroom setting, and to obtain teacher-ratings of children's behavior. One hundred and eighty-five children distributed across 14 classrooms in six preschool programs took part in this initial phase.

In the second phase (approximately 6 months after the first phase of the study), all children who took part in classroom-based assessment and their primary caregivers were invited to take part in a laboratory assessment (pre-session surveys assessment and laboratory assessment) by sending home consent forms. Parents were asked to either return the consent form to their child's teacher or to mail it back in an enclosed envelope. Consent was obtained from 88 families, and parents of 63 children agreed to participate in both the pre-session surveys assessment and laboratory assessment. The final sample of the pre-session survey assessment and laboratory session was 58 and 43 children and their mothers. Twenty families who agreed to do the laboratory portion of the study were not assessed due to a variety of reasons, for example, summer vacation, scheduling problems, and moving out of the town. A one-way analysis of variance (ANOVA) was conducted to compare between children who came to the laboratory

assessment with children who did not come to the laboratory assessment on teacher-rated relational aggression, and results suggested that the two groups of children were not significantly different ($F(1, 63) = 1.60, n.s.$). In the final phase of the study (approximately 1 year after the first phase of the study), follow-up behavioral data (teacher-ratings) were collected from teachers of 39 children whose parents participated in the pre-session surveys assessment. Behavioral data on seven children were unavailable due to the families moving out of the area.

Classroom-Based Assessments

Teacher-ratings of social behavior and adjustment. Lead teachers in each classroom provided consent prior to completing behavior ratings on each participant during a two-week period in the fall, and they were paid for \$2 for each completed survey; an additional \$2 per survey was contributed to the classroom fund for teaching materials. Two preschools prohibited teachers from being individually compensated for their participation in research activities. In these situations, all monies were contributed to the classroom fund.

Naturalistic observation of aggression and prosocial behavior. Naturalistic observations of children's peer interactions were conducted by trained research assistants. Each child was observed for 10 minutes during unstructured play sessions on 6 separate occasions across a 3-month period. Extensive training took place in a preschool that was not a part of the study prior to conducting actual observations. Two observers coded approximately 20% of the total observations to assess reliability, and the inter-rater reliabilities of the observation were 100 % for cases involving relational aggression and 50 % for cases involving relational victimization.

Laboratory Session

Pre-session surveys assessment. Each target child's mother completed a packet of surveys prior to coming to the laboratory that assessed parenting styles and strategies.

Participants were instructed to either mail the completed surveys to the principal investigators or to bring them to the laboratory session.

Laboratory assessment. During the laboratory sessions conducted in the Family Observation Laboratory in the Department of Human Development, each target child and his or her mother engaged in a series of interaction tasks. During the first 10 minutes, mother was asked to engage in a free play session where she was to play with her child using toys in the laboratory in the way that they normally do. This free play session allowed the mother and the child to relax and get comfortable with the laboratory environment. After this session, mother was asked to leave the room to complete surveys regarding their parenting practices in another room. At this time, a research assistant entered the room, and conducted the Child Puppet Interview with the child. Upon the completion of the child interview, the mother and the child were instructed to engage in several other interactive tasks of the larger investigation that were not examined at in the present study. After the final task, the mother and the child were thanked and allowed to ask any questions that they had regarding the study. The laboratory assessment was videotaped behind the one-way mirror in the observation laboratory, and trained research assistants coded the interactions after the completion of the session. Families were compensated \$50 for their participation in the laboratory visit.

Measures

Teacher-ratings of Social Behavior and Adjustment

The Preschool Social Behavior Scale-Teacher Form developed by Crick and colleagues (PSBS-T; Crick et al., 1997) was used to assess children's prosocial and aggressive behavior. Lead teacher in each classroom rated children's behavior on 42 items making up 11 scales. For the present study, only 27 items and five scales were assessed: relational aggression (9 items),

relational victimization (3 items), physical aggression (8 items), physical victimization (3 items), and prosocial behavior (4 items). Each item was rated on a 5-point Likert scale (1 = never or almost never true to 5 = always or almost always true).

The PSBS-T has been shown to be a measure that has excellent psychometric properties. Factor analyses have confirmed the existence of separate factors for relational and physical aggression across several studies, and Cronbach's alphas for the two subscales typically exceed .90 (Crick et al., 1997; Ostrov & Keating, 2002). Additional evidence for the validity of this instrument included the significant correlation between teacher ratings and the naturalistic observations of the relational and physical aggression (Ostrov & Keating, 2002). In the present study, the Cronbach's alphas for the five subscales ranged from .62 to .90.

Naturalistic Observation of Aggression and Prosocial Behavior

Using procedures developed by Ostrov and Keating (2004), target children were being observed for 10 minutes during unstructured play sessions on six separate occasions across a 3-month period. Each target child was observed by observers using a focal child approach to record the instances of relational aggression, physical aggression, verbal aggression, nonverbal aggression and prosocial behaviors. Crick et al. (2006a)'s study also supported the reliability and concurrent validity of the observational scheme, and correlational analyses between the teacher ratings and parent reports of relational aggression *and* naturalistic observations of relational aggression to examine the concurrent validity of the observational scheme in the present study. However, observed relational aggression was not related to teacher ratings of relational aggression or parent reports of relational aggression, and therefore, failed to support the concurrent validity of the observational scheme (Teacher ratings: $r = .01, n.s.$; Parent reports: $r = -.12, n.s.$).

Parent-ratings of Social Behavior and Adjustment

The modified Preschool Social Behavior Scale developed by Crick and colleagues (PSBS; Crick et al., 1997) was used to assess parent ratings of children's aggressive and prosocial behavior. Those items in the parent rating parallel the PSBS-T items with respect to aggression and prosocial behavior, in which 27 items and five scales were assessed: relational aggression (9 items), relational victimization (3 items), physical aggression (8 items), physical victimization (3 items), and prosocial behavior (4 items). The response scale for each item ranges from 1 ("never true") to 5 ("almost always true"). In Ostrov and Bishop's (2008) study, the scales of physical and relational aggression showed internal consistency with a Cronbach's alphas of .71 for physical aggression and .67 for relational aggression. In the present study, the Cronbach's alphas for the five subscales ranged from .65 to .83.

Maternal Warmth and Responsiveness

Seven items taken from the authoritative parenting style scale of the Parenting Practices Questionnaire (Robinson, Mandleco, Olsen, & Hart, 1995) were used to measure mothers' perceptions of warmth towards the target children. Respondents rated how often they engaged in each behavior using a 5-point Likert scale (1 = never to 5 = always). In the present study, the Cronbach's alpha for this scale was .78.

Maternal Psychological Control

Mothers' perceptions of their use of psychological control with target children were assessed using 20 items developed by Barber (1996) and Hart et al., (1998). Respondents rated how often they engage in each behavior using a 5-point Likert scale (1 = never to 5 = always). Factor loadings for the Psychological Control items scale ranged from .41 to .76, with a

Cronbach's alpha of .73 (Hart et al., 1998; Barber, 1996). The present study found a Cronbach's alpha of .84 for the 20-item Psychological Control Scale.

The Child Puppet Interview

The Child Puppet Interview-Parent Scales (CPI-P) was developed by Sessa et al. (2001) to assess children's perceptions of the parent-child relationship. The interview is a child self-report measure that uses a child-friendly interactive interview, in which two identical monkey hand puppets presented a series of opposite statements about the children's mother. Children were asked to choose the puppet that best represents their mothers' behaviors either by pointing to the puppet, repeating the statement that the puppet has said, or putting the statement in their own words. All children's responses were videotaped for later coding. Children respond to 82 items grouped into six subscales, including Structure, Demandingness, Psychological Control, Responsiveness, Positive Affect, and Hostility. In the present study, only the Warmth and Responsiveness and Psychological Control scales were used. Children were interviewed individually regarding their mothers' warmth and responsiveness (6 items) and the use of psychological control (13 items) in the laboratory assessment of this study.

The psychometric properties of this assessment have been examined in two separate investigations. In a previous study using a preschool sample, Pearson correlation between Warmth and Responsiveness and Psychological Control ($r = -.24, p < .01$) suggested that these two dimensions of parenting are perceived as conceptually distinct (Morris et al., 2001). It also suggested an acceptable internal consistency ($\alpha = .68$) and a high degree of stability in preschoolers' perceptions of Warmth and Responsiveness ($r = .81, p < .01$) (Sessa et al., 2001). In a study using the Psychological Control Scale with children ages 6 to 9, it was found that children of this age can reliably report on their mothers' psychologically controlling behaviors (α

= .73) (Morris et al., 2002). However, when the Psychological Control Scale was used with a preschool sample, the Cronbach's alpha ($\alpha = .42$) suggested preschool children's lack of capability in providing reliable reports of psychological control. In the present study, two coders coded 51% of all interviews, and they agreed on 98 percent of both the Warmth and Responsiveness Scale and Psychological Control Scale coding decisions. The Kappas for the Warmth and Responsiveness Scale and the Psychological Control Scale ranged from .64 to 1 and from .9 to 1, respectively. Reliability analyses indicated an acceptable internal consistency for the Warmth and Responsiveness measure: $\alpha = .56$, and a high level of internal consistency for the Psychological Control measure: $\alpha = .80$.

Child Temperament

Mothers' reports of their children's temperament were assessed using the short form of the Children's Behavior Questionnaire (CBQ) developed by Putnam and Rothbart (2006), which consisted of 36 items and 15 scales. Mothers were asked to rate each item on the CBQ using a 7-point Likert scale (1=extremely untrue to 7=extremely true). The present study utilized information from Anger (3 items), Fear (3 items) and Sadness scales (3 items). Because of the low initial Cronbach's alphas found for these scales, the item of "rarely gets upset when told s/he has to go to bed" in the Anger scale and the item of "rarely becomes discouraged when s/he has trouble making something work" in the Sadness scale were dropped. The initially low scale alphas found here are consistent with the unacceptably low internal consistency estimates found for the three scales in Putnam & Rothbart's (2006) study. The final Cronbach's alphas for the Anger, Fear, and the Sadness scales were .80, .53, and .55 respectively.

CHAPTER FIVE

RESULTS

The purpose of this study was to investigate the relation between maternal psychological control and preschoolers' relational aggression. Specifically, descriptive analyses were conducted to examine the stability of relational aggression. Descriptive analyses were also conducted to examine the correlations among informants on reports of children's relational aggression and parenting dimensions, the relations between parenting dimensions and child outcomes, as well as child temperament and child outcomes. In addition, several analyses were conducted for testing hypotheses of the current study. Finally, additional analyses were conducted to explore other relations between maternal psychological control, child temperament, and children's relational aggression. The results are presented below.

Descriptive Analyses

Correlations among Informants

Correlations among observer, mother, and teacher reports of children's relational aggression, and mother and children reports of parenting dimensions were assessed. As shown in Table 1, teacher reports of relational aggression at time 1 were significantly correlated with parent reports of relational aggression ($r = .40, p < .01$). However, observer reports of relational aggression were not associated with teacher or parent ratings of relational aggression at time 1 (Teacher: $r = .01, n.s.$; Parent: $r = -.12, n.s.$). For parenting dimensions, mother reports of warmth were not correlated with child reports ($r = .01, n.s.$), nor were mother and child reports of psychological control ($r = .15, n.s.$) (see Table 2).

Table 1

Correlations among Informants on Relational Aggression

Scale	1	2	3	4
1. Parent Report	-			
2. Naturalistic Observation	-.12	-		
3. Teacher Report (Time 1)	.40**	.00	-	
4. Teacher Report (Time 2)	.30	.44**	.31*	-

Note. * $p < .05$; ** $p < .01$; Number of participants vary from 37 to 58.

Table 2

Correlations among Informants on Parenting Dimensions

Scale	1	2	3	4
1. Warmth (Child)	-			
2. Warmth (Parent)	.01	-		
3. Psychological Control (Child)	.36*	.16	-	
4. Psychological Control (Parent)	.04	-.22	.15	-

Note. * $p < .05$; Number of participants vary from 38 to 53.

Frequency of Observed Relational Aggression

Of the 58 participating children, 17.2% (10 children) displayed relational aggression in the classroom observation. Ten percent of these children showed one incidence of relational aggression, and the remaining children showed two incidences of relational aggression. Because relational aggression was observed at low rates, and observed relational aggression was not correlated with teacher ratings or parent reports of relational aggression, data from the naturalistic observation were excluded from all future analyses.

Stability of Relational Aggression

A series of bivariate correlations were computed both for the whole sample and separately for boys and girls using teacher reports of relational aggression at time 1 and time 2 to examine the stability of relational aggression across 1 year. This analysis showed that time 1 and time 2 relational aggression scores were significantly correlated ($r = .31, p < .05$), and indicated the stability of relational aggression in early childhood years. However, when bivariate correlations were computed separately for boys and girls, relational aggression at time 1 and time 2 were not significantly correlated.

Concurrent Associations between Parenting, Temperament and Child Outcomes

Parenting dimensions and child social behaviors. Correlational analyses were conducted to examine the concurrent relations between maternal psychological control and warmth and responsiveness and child outcomes at time 1. The pattern of correlations suggested that maternal psychological control was consistently associated with negative child outcomes, while maternal warmth and responsiveness was related to positive child outcomes (see Table 3). Contrary to predictions, however, maternal psychological control was not significantly correlated with children's relational aggression as reported by teachers and mothers. When other indices of

Table 3

Concurrent Associations between Parenting Dimensions and Child Outcomes

Scale	Warmth (Child)	Warmth (Parent)	PC (Child)	PC (Parent)
Teacher Report				
Relational Aggression	-.01	-.14	-.11	-.22
Physical Aggression	.25	.01	.36*	-.13
Relational Victimization	.04	-.20	-.01	-.16
Physical Victimization	.21	.02	.40**	-.04
Prosocial Behaviors	.04	.30*	-.34*	-.28*
Parent Report				
Relational Aggression	-.03	-.29*	-.17	.10
Physical Aggression	.18	-.05	.21	.07
Relational Victimization	.06	-.25	-.14	.12
Physical Victimization	-.03	-.15	-.03	-.19
Prosocial Behaviors	-.21	.05	-.14	-.27

Note. * $p < .05$; ** $p < .01$; PC = Psychological Control; Number of participants vary from 38 to 56.

children's social behavior were examined, however, significant correlations were found. For maternal psychological control, both child and mother reports were negatively correlated with teacher-ratings of prosocial behavior ($r = -.34$ and $-.28$, $ps < .05$). Child reports of maternal psychological control were positively correlated with teacher reports of physical aggression ($r = .36$, $p < .05$) and physical victimization ($r = .40$, $p < .01$). Finally, mother reports of warmth and responsiveness were negatively correlated with child relational aggression, as rated by mothers ($r = -.29$, $p < .05$) and positively correlated with teacher reports of prosocial behavior ($r = .30$, $p < .05$). Altogether, the findings suggest that maternal psychological control was associated with negative child outcomes, which included lower levels prosocial behavior, and higher levels of physical aggression and physical victimization. On the other hand, findings suggest that maternal warmth and responsiveness was related to positive child outcomes, which included lower levels of relational aggression and higher levels of prosocial behaviors.

Temperament and child outcomes. The relations between temperament subscales and child outcomes at time 1 were examined using correlation coefficients. The results are shown in Table 4. Child anger was positively correlated with mother reports of relational aggression ($r = .35$, $p < .05$) and physical aggression ($r = .43$, $p < .01$), and negatively correlated with prosocial behavior ($r = -.40$, $p < .01$). Anger was also positively correlated to teacher reports of physical aggression ($r = .27$, $p < .05$). Contrary to predictions, sadness and fear were not associated with concurrent child outcomes. The findings suggest that children who are high in anger are more likely to have difficulties in their social relationships.

Longitudinal Associations between Parenting, Temperament and Child Outcomes

The relations between parenting and temperament at time 1 and child outcomes at time 2 were examined using correlation coefficients. The results are shown in Table 5 and Table 6.

Table 4

Concurrent Associations between Temperament and Child Outcomes

Scale	Anger	Fear	Sadness
Teacher Report			
Relational Aggression	-.08	-.03	-.27
Physical Aggression	.27*	-.03	.01
Relational Victimization	.10	-.05	-.16
Physical Victimization	.17	-.02	-.07
Prosocial Behaviors	-.26	.05	.09
Parent Report			
Relational Aggression	.35*	-.17	.02
Physical Aggression	.43**	-.13	-.00
Relational Victimization	.18	.17	-.03
Physical Victimization	.25	.02	.12
Prosocial Behaviors	-.40**	.26	.11

Note. * $p < .05$; ** $p < .01$; $N = 53$.

Table 5

Longitudinal Associations between Parenting Dimensions and Child Outcomes

Scale	Warmth (Child)	Warmth (Parent)	PC (Child)	PC (Parent)
Teacher Report				
Relational Aggression	.13	.17	-.37*	-.17
Physical Aggression	.03	.12	-.11	.01
Relational Victimization	-.04	.18	.06	.02
Physical Victimization	.01	.11	-.16	.07
Prosocial Behaviors	-.01	.05	-.14	-.27

Note. * $p < .05$; ** $p < .01$; PC = Psychological Control; Number of participants vary from 36 to 53.

Table 6

Longitudinal Associations between Temperament and Child Outcomes

Scale	Anger	Fear	Sadness
Teacher Report			
Relational Aggression	-.02	.12	.03
Physical Aggression	.32	.05	.29
Relational Victimization	.32	.11	.33*
Physical Victimization	.33*	.03	.19
Prosocial Behaviors	-.26	-.01	-.10

Note. * $p < .05$; ** $p < .01$; Time 2 N = 37.

Contrary to predictions, child reports of mothers' psychological control were negatively correlated with teacher reports of relational aggression at time 2 ($r = -.37, p < .05$). With respect to child temperament, anger was positively correlated with time 2 physical victimization ($r = .33, p < .05$), and sadness was positively correlated with relational victimization ($r = .33, p < .05$).

Hypothesis Testing

Maternal Psychological Control and Preschooler's Relational Aggression

Hypothesis one states that children whose mothers use high levels of psychological control will display higher levels of relational aggression in the peer context. This hypothesis was tested using bivariate correlations. As indicated in Tables 3 and 5, only one correlation reached significance: child reports of mothers' psychological control were significantly correlated with teacher reports of children's relational aggression at time 2, however, in the opposite direction as predicted ($r = -.37, p < .05$).

Because there were no significant simple correlations between maternal psychological control and child relational aggression at time 1, no further analyses were conducted. To examine the longitudinal association of psychological control and future relational aggression further, we conducted a hierarchical regression analysis with relational aggression at time 2 as the dependent variable and child reports of psychological control at time 1 as the independent variable.

Relational aggression at time 1 was included at the first step to examine the ability of maternal psychological control to predict *changes* in relational aggression across the one-year period.

Although the overall regression model was not significant, $F(2, 35) = 2.81, p < .10$, the addition of psychological control at step two did explain a significant amount of unique variance in children's relational aggression scores at time 2, $F(1, 33) = 4.70, p < .05$. Consistent with the

correlational analyses, higher levels of maternal psychological control predicted decreases in relational aggression across the one-year period ($\beta = -.35, p < .05$).

Sex differences. To assess sex differences in maternal psychological control, a one-way analysis of variance (ANOVA) was conducted in which child sex served as the independent variable, and mother reports and child reports of maternal psychological control were the dependent variables. Separate correlational analyses by child sex were also conducted to assess whether the association between maternal psychological control and children's relational aggression varied as a function of child sex. The results of the ANOVA suggested that there were no significant sex differences in mothers' use of psychological control (Child report: $F(1, 38) = 1.81, n.s.$; Parent report: $F(1,38) = 1.23, n.s.$). Correlational analyses also suggested no significant sex differences in the association of psychological control and relational aggression (see Table 7). Taken together, these results suggest that maternal psychological control is unrelated to children's use of relational aggression in this preschool sample.

Tests of Moderation: Maternal Warmth and Responsiveness and Child Temperament

Concurrent analyses. A series of hierarchical multiple regression equations were conducted to test whether maternal warmth and responsiveness and/or child temperament moderates the association of psychological control and relational aggression. The hypothesis that the association of maternal psychological control and child relational aggression would be exacerbated when mothers showed high levels of warmth and responsiveness, and that psychological control was expected to have little to no impact on children's relational aggression when mothers showed low levels of warmth and responsiveness was tested. To test this hypothesis, multiple hierarchical regression analyses were conducted. Relational aggression scores at time 1 were the dependent variable. At the first step, the main effect of maternal

psychological control and warmth and responsiveness was entered. At the second step, the interaction of psychological control and warmth and responsiveness was entered (both variables were first centered). A significant effect at the second step would suggest that moderation was taking place. All second steps of the models were nonsignificant in explaining significant variance in children's relational aggression, except the model where child report of maternal warmth moderated the effect of parent report of psychological control on time 1 parent report of relational aggression (see Table 8). Because of the large number of concurrent analyses conducted, and that only one of the 20 concurrent moderation models was found to be significant, the significant finding may represent a type I error, in which the statistical difference found is a false positive. Therefore, the significant moderation model found will not be interpreted in the discussion.

The second hypothesis was that child temperament would moderate the association of maternal psychological control and child relational aggression. A similar analytic approach was taken, in which a series of hierarchical multiple regression equations were conducted to test whether child temperament moderates the association of psychological control and relational aggression. Specifically, it was expected that the association of maternal psychological control and child relational aggression would be intensified when children showed a high level of negative reactivity, and that psychological control was expected to have little to no impact on children's relational aggression when children showed a low level negative reactivity. Separate hierarchical multiple regression analyses conducted using different temperament variables as predictors: anger, fear, and sadness. Relational aggression scores at time 1 were entered as the dependent variable. At the first step, the main effects of maternal psychological control and child temperament (anger, fear, or sadness) were entered. At the second step, the interaction of

psychological control and child temperament (anger, fear, or sadness) was entered. Again, the overall models were nonsignificant, and the second steps failed to explain significant variance in children's relational aggression (see Table 8).

Longitudinal analyses. In this next set of analyses, we examined whether moderation effects were present when predicting children's future relational aggression. At the first step, time 1 scores for relational aggression were entered as control variables. At the second step, the main effect of maternal psychological control and warmth and responsiveness or child temperament was entered. At the third step, the interaction of psychological control and warmth and responsiveness or child temperament was entered. Results failed to support the prediction that maternal warm and responsive will moderate the association between maternal psychological control and children's relational aggression. Most of the results also failed to support the moderation effect of child temperament, with one exception. Child anger moderated the association of child report of psychological control and children's relational aggression at time 2 (see Table 9). Similar to the concurrent moderation analyses, because of the large numbers of tests conducted and the small sample size for the longitudinal analyses, the significant model found is considered as spurious, and therefore, will not be interpreted in the discussion.

Table 7

Sex Differences in Psychological Control and the Associations of Psychological Control and Relational Aggression

Scale	PC (Child)	PC (Parent)
Boys		
RA Teacher Report Time 1	-.11	-.11
RA Teacher Report Time 2	-.27	-.10
RA Parent Report Time 1	-.19	.07
Girls		
RA Teacher Report Time 1	-.00	-.37
RA Teacher Report Time 2	-.43	-.27
RA Parent Report Time 1	-.05	.26

PC = Psychological Control, RA = Relational Aggression; Number of participants vary from 18 to 28.

Table 8

Test of Moderation (Step II): Concurrent Models

Predictor Variables	ΔR^2	F Δ	df	Sig. F Change
Relational Aggression-Teacher Report				
PC_P X Warmth_P	.03	1.59	(1, 49)	.21
PC_P X Warmth_C	.08	2.92	(1, 34)	.10
PC_P X Anger	.01	.70	(1, 47)	.41
PC_P X Fear	.00	.08	(1, 47)	.77
PC_P X Sadness	.00	.10	(1, 47)	.76
PC_C X Warmth_P	.00	.01	(1, 34)	.92
PC_C X Warmth_C	.01	.18	(1, 37)	.67
PC_C X Anger	.00	.03	(1, 33)	.86
PC_C X Fear	.01	.21	(1, 33)	.65
PC_C X Sadness	.07	2.85	(1, 33)	.10
Relational Aggression-Parent Report				
PC_P X Warmth_P	.03	1.67	(1, 48)	.20
PC_P X Warmth_C	.13	5.20	(1, 34)	.03*
PC_P X Anger	.02	1.01	(1, 47)	.32
PC_P X Fear	.00	.06	(1, 47)	.81
PC_P X Sadness	.04	1.71	(1, 47)	.20
PC_C X Warmth_P	.01	.30	(1, 34)	.59
PC_C X Warmth_C	.02	.79	(1, 35)	.38
PC_C X Anger	.00	.08	(1, 33)	.79
PC_C X Fear	.00	.07	(1, 33)	.80
PC_C X Sadness	.04	1.44	(1, 33)	.24

Note. * $p < .05$; PC = Parent Report of Psychological Control, PC_C = Child Report of Psychological Control, Warmth_P = Parent Report of Warmth, Warmth_C = Child Report of Warmth

Table 9

Test of Moderation (Step III): Longitudinal Models

Predictor Variables	ΔR^2	F Δ	df	Sig. F Change
Relational Aggression-Teacher Report				
PC_P X Warmth_P	.01	.23	(1, 31)	.63
PC_P X Warmth_C	.06	2.10	(1, 29)	.16
PC_P X Anger	.02	.56	(1, 31)	.46
PC_P X Fear	.01	.13	(1, 31)	.72
PC_P X Sadness	.00	.11	(1, 31)	.74
PC_C X Warmth_P	.01	.30	(1, 29)	.60
PC_C X Warmth_C	.00	.03	(1, 31)	.86
PC_C X Anger	.11	4.26	(1, 29)	.05*
PC_C X Fear	.07	2.56	(1, 29)	.12
PC_C X Sadness	.02	.63	(1, 29)	.44

Note. * $p < .05$; PC = Parent Report of Psychological Control, PC_C = Child Report of Psychological Control, Warmth_P = Parent Report of Warmth, Warmth_C = Child Report of Warmth

CHAPTER SIX

DISCUSSION

This study aimed to replicate findings from previous studies of psychological control, and to provide new information to the field by using a short-term longitudinal design and observational methods. In addition, it is the first study to explore potential moderators of the effects of psychological control on relational aggression including maternal warmth and responsiveness and child temperament. Due to the small sample and resulting lack of power, the findings must be considered exploratory. The findings of the present study have several implications for our understanding of the association between maternal psychological control and preschoolers' relational aggression.

Inter-informant Agreement

The analyses examining inter-informant agreement on maternal psychological control, warmth and responsiveness, and children's relational aggression indicate that researchers need to be cautious when designing studies and determining who will provide information about parenting and child social behaviors. To a large extent, children and parents did not agree with one another about mothers' psychologically controlling behaviors and their levels of warmth and responsiveness. However, because child reports of maternal psychological control predicted *future* levels of children's relational aggression (albeit in the opposite direction than predicted), it may be informative for researchers to consider children's perceptions of parenting behaviors when examining the effects of parenting dimensions on children's adjustment. The disagreement between parents and children may also reflect meaningful differences in the perspectives of mothers and their preschool children rather than methodological problems associated with child self-report of parenting. Sessa et al. (2001) suggested that preschool children's self-report provided a more subjective perspective of their mothers' parenting that is more similar to observers' views of the mother-child relationship than mothers' own reports of parenting.

Because the present study suggests that preschool children can articulate internally consistent description of their experience of parenting, and the possibility that parental biases in self-report will create a more positive image of child-rearing behaviors, obtaining child self-report of parenting is valuable in providing important information about parents' parenting.

Consistent with prior research (McEvoy, Estrem, Rodriguez, & Olson, 2003; Ostrov & Bishop, 2008), parents and teachers agreed with one another about children's relational aggression, whereas there was much less agreement between teachers and observers and parents and observers with respect to relational aggression. In a study examining intermethod agreement on children's relational and physical aggression, McEvoy et al. (2003) found that teacher ratings and observers did not agree with each other on children's relational aggression. In a recent study, Ostrov and Bishop (2008) found that teachers and parents significantly agreed with each other for relational aggression, whereas parent and observer reports of relational aggression were not significantly correlated. Teachers and observers, however, had a moderate level of agreement for relational aggression. In fact, it was not always possible for observers to hear the children's conversations on the playground in the present study, which has also been stated in previous studies as a general problem for observing relational aggression in preschool settings (i.e., McEvoy et al., 2003; Ostrov & Bishop, 2008), and therefore, may have made it difficult to capture incidences of relational aggression. However, because teacher ratings and parent reports of children's relational aggression may be biased by the child's reputation or gender-role stereotypes (Ostrov, Crick, & Keating, 2005), observations of relational aggression would be useful and important in providing a more objective form of information that will help us to understand the phenomenon of relational aggression. The fact that parent reports and teacher ratings of relational aggression were correlated suggests that, despite observing children in different contexts, parents are important informants of children's relational aggression in early childhood. In particular, Stauffacher and DeHart (2005) found that relational aggression was

observed to occur more often in preschoolers' interactions with their siblings than preschoolers' interactions with their friends, which also suggests that parents' observation of interactions between siblings provide valuable information about children's relational aggression in the family context. Because parents' parenting may change as a result of their children's behaviors, using parents as informants of child relational aggression will provide unique information about the relation between parenting dimensions and relational aggression. Nevertheless, the best approach to assess relational aggression in early childhood may be to use multiple informants and observational methods in future studies to add to the reliability of the ratings.

Stability of Relational Aggression

Previous research suggests that relational aggression in the preschool years is moderately stable, and that its stability is similar to that of physical aggression (Crick, 1996; Crick et al., 1997, 1999, 2006a). Consistent with previous work, the results of the present study support the stability of relational aggression during the early childhood period. As individual differences in relational aggression are relatively stable over time, and that studies suggested the adjustment difficulties experienced by young children who use relational aggression, such higher levels of psychological distress, low levels of prosocial behavior, and high levels of peer rejection (Crick & Grotpeter, 1995; Crick et al., 1999; Nelson & Crick, 2002), more research on relational aggression in early childhood years should be conducted in the future to better prevent this behavior in young children.

Maternal Psychological Control and Preschoolers' Relational Aggression

Concurrent Correlation

The findings of the current study indicated that maternal psychological control was not associated with children's concurrent relational aggression, although it is associated with physically aggressive behavior in early childhood. As discussed previously, prior studies on this topic have yielded mixed findings, and this unexpected finding can be interpreted in several

different ways. First, it is possible that the association of psychological control and relational aggression is limited to certain cultures. For example, in Nelson and Crick's (2002) study in which the relation between psychological control and relational aggression was confirmed involved Chinese families. Researchers have also suggested the aspects of psychological control, as love withdrawal and guilt induction, are normative in the Chinese culture (Nelson et al., 2006; Olsen et al., 2002). Therefore, researchers should investigate whether the effect of psychological control on relational aggression is culture specific.

Second, it is also possible that the association of psychological control and relational aggression does not emerge until later in development. For example, in Nelson and Crick's (2002) study where the relation between psychological control and relational aggression was supported utilized a sample of third-grade children. In particular, Barber (1996) suggested the effects of psychological control may be more detrimental for adolescents than for younger children, in which adolescents' autonomy development is undermined by parental psychological control. Therefore, more studies will need to be conducted to better the effect of psychological control on relational aggression in early childhood.

Longitudinal Correlation

Methodological issues might explain the finding that higher levels of maternal psychological control (as reported by children) predicted *lower* levels of relational aggression one year later. Specifically, although the Psychological Control Scale utilized in the puppet interview has proven to be reliable, the validity of children's reports of maternal psychological control is in question. First of all, as discussed previously, children and mothers disagreed in their reports of psychological control ($r = .15, n.s.$) and warmth and responsiveness ($r = .01, n.s.$). Second, a significant and *positive* correlation between child reports of maternal warmth and responsiveness and maternal psychological control was found ($r = .36, p < .05$), suggesting that preschoolers might be unable to perceive the two parenting dimensions as conceptually

distinct. Although preschoolers' ability to report on others' behaviors has been supported in previous studies using the variations of the Berkeley Puppet Interview, some researchers have argued that the parenting dimension of psychological control may be too complex for children of preschool age to report accurately (Morris et al., 2002; Sessa et al., 2001).

It is important to note, however, that child and mother reports of psychological control were similarly correlated with several child outcomes reported by teachers, although many of these correlations failed to reach significance. Specifically, both child reports and mother reports of psychological control were negatively correlated with children's relational aggression at time 1 (child reports: $r = -.11$, *n.s.*; mother reports: $r = -.22$, *n.s.*) and time 2 (child reports: $r = -.37$, $p < .05$; mother reports: $r = -.17$, *n.s.*). Furthermore, both child reports and mother reports of psychological control were negatively correlated with children's prosocial behaviors at both time 1 (child reports: $r = -.34$, $p < .05$; mother reports: $r = -.28$, $p < .05$) and time 2 (child reports: $r = -.14$, *n.s.*; mother reports: $r = -.27$, *n.s.*). These findings raise some doubts about the explanation that the children in the current study were unable to report their mothers' psychological control accurately.

Another possibility to explain the finding is that psychological control, in fact, reduces children's engagement in relational aggression across preschool years. Several items on the psychological control scale examined mothers' reactions to children's misbehaviors (e.g. when I am bad, my mom ignores me; my mom gets mad whenever I disagree with her). It is possible that these psychologically controlling behaviors are effective at *discouraging* children to engage in behaviors that are not supported by their mothers, such as relational aggression. Similarly, past research has documented that mothers who used higher levels of power assertion and rule violation had daughters who were less relational aggressive in preschool, and the power assertion finding appears to contradict previous research linking parental control to negative (not positive) outcomes in children (Werner et al., 2006). Given that this is the first longitudinal investigation

of maternal psychological control and relational aggression, these findings need to be replicated before drawing firm conclusions.

Finally, it is possible that the impact of parental psychological control on children varies as a function of parent and child sex. Nelson and Crick's (2002) study supported a significant positive correlation between psychological control and relational aggression; however this association was only strong between fathers and third-grade daughters. Likewise, Casas et al. (2006) also found that fathers' use of psychological control is positively correlated with girls' relational aggression, and suggested the importance of fathers in their daughters' development. Because of the lack of data on fathers' psychological control in the present study, it is also not known whether fathers' use of psychological control may play a more significant role in children's development of relational aggression.

Moderation: Maternal Warmth and Responsiveness

The effect of maternal warmth and responsiveness as a moderator in the association of maternal psychological control and child relational aggression was tested, and the majority of the results failed to support the prediction that children who have psychologically controlling *and* warm and responsive mothers will show an increased use of relational aggression. The lack of finding can again be explained by the possibility that children are not capable of perceiving the parenting dimensions of warmth and responsiveness and psychological control as two separate constructs, and therefore, making it impossible for researchers to come across any significant result using child reports to support this moderation model. Another possibility is that other aspects of parenting or parent-child relationship may act as moderators in the association of psychological control and relation aggression. Specifically, Brown, Arnold, Dobbs, and Doctoroff (2007) examined parenting predictors of relational aggression among school-aged children, which included positive affect, negative affect, overreactivity, and laxness. These

researchers found that negative maternal affect predicted more relational aggression, which suggested the possibility of the moderation effect of other parenting aspects.

Moderation: Temperament

The majority of the results also failed to support the hypothesis that children who have a high level of negative reactivity would show more relationally aggressive behaviors when mothers employ similar degree of psychological control. These findings might be explained in part by the methodological problems of the temperament measure. Specifically, the present study utilized three subscales of the short form of the CBQ, which included Anger, Fear, and Sadness. Consistent with Putnam & Rothbart (2006), the present study found two unacceptably low initial Cronbach's alphas for the Anger and Sadness scales, which resulted in dropping one item from each scale. Because there were only three items on the Fear scale and two items on both the Anger and Sadness scales, more items may be needed to capture children's temperament.

Strengths and Limitations

The present study offers some unique contributions to the psychological control and relational aggression literatures. Specifically, the present study replicated some findings from previous studies about the association of psychological control and relational aggression, such as the stability relational aggression during early childhood and the relations between parenting dimensions (i.e. psychological control *and* warmth and responsiveness) and child social behaviors (i.e. relational aggression, physical aggression, and prosocial behavior). The present study also offers new information to the field in several different ways. In particular, the present study utilized a short-term longitudinal design to assess the relation between maternal psychological control and children's future relational aggression. The present study also provides additional information to the field about the validity and reliability of different informants by obtaining information from multiple informants to assess parenting dimensions and children's social behaviors. Finally, there are very few studies in which the moderation models have been

proposed and examined systematically, the present study also adds additional information to the literature by conducting the first exploration of potential moderators of the effects of psychological control on relational aggression, which included maternal warmth and responsiveness and child temperament. Limitations of the present study that may have weakened the study's ability to detect significant findings to support proposed hypotheses will be discussed below.

The present study had several limitations that may have hampered the ability to detect hypothesized relations among variables assessed. First, the present study may have limited by its small sample size which resulted in low statistical power for testing hypotheses. For example, the small sample size limited the ability to detect sex differences in children's relational aggression and mothers' use of psychological control, as well as the effects of maternal psychological control on boys' and girls' relational aggression.

Second, the present study may have been limited by the non-representative sample used. In particular, mothers in the present study were fairly well educated, and well educated parents may have a broader range of discipline and guidance strategies resulting in less use of psychological control. The lack of variability in the sample is also indicated by the high household income reported by mothers and mothers' ethnically homogeneous, with a large majority of the mothers being Caucasian or Asian. Barber (1996) found that poorer youth are more likely than higher-income youth to report their parents' use of psychological control, and that Black youth and Hispanic youth are more likely than White youth to report more parental psychological control. While Barber's (1996) study was conducted with a different age group of children, the results provide important information about the characteristics of parents who use psychological control. Therefore, the lack of variability in the sample as well as the low psychological control scores reported may have limited the study's ability to detect the associations previously found between psychological control and relational aggression.

In addition, children in the present study did not display high levels of relational aggression as reported by teachers, mothers, and observers. It is possible that higher levels of relational aggression are necessary to yield any significant correlation with psychological control, and the low levels of relational aggression reported in the present study may again be explained by the lack of variability in the sample. Finally, the short form of CBQ utilized in the present does not seem to be reliable in assessing child temperament, in which low initial alphas were found for two of the three scales selected for the present study, and therefore, may have limited the ability to detect significant correlations associated with child temperament.

Future Directions

The failure to find significant associations between psychological control and relational aggression points to the need to broaden our examination of parental influences on child relational aggression. One important direction for future research will be to examine direct, rather than indirect parental influences (e.g., psychological control) impacting the development of relational aggression during early childhood. In the first study examining direct parental influences on relational aggression, Werner et al. (2006) examined mothers' proposed behavioral responses to hypothetical displays of preschoolers' relational and physical aggression, and suggested that mothers' explicit feedback to children about relational aggression might directly influence children's behavior in the peer context. Therefore, future studies on relational aggression may focus on parenting dimensions that directly influence children's relational aggression.

Future studies should also include the direct observation of parental psychological control and warmth and responsiveness. In the present study, mother and child reports of both psychological control and warmth and responsiveness were not significantly correlated with each other. Similarly, in Sessa et al.'s (2001) study, a greater correspondence was found between observer and child report of parenting than that between mother and observe *and* mother and

child reports. Taken together, these findings may suggest that parents may be biased in reporting their own parenting behaviors in a socially desirable way, and that observation reports of parenting behaviors may be needed in order to reduce self-report biases.

Furthermore, as with most research in this domain, the present study did not include fathers. This shortage limited the ability to examine the relation of psychological control and relational aggression on different parent-child dyads. There is evidence that fathers' psychological control is a strong indicator of daughters' relational aggression (Casas et al., 2006; Nelson & Crick, 2002), and therefore, future studies on relational aggression should include fathers to further support the role of fathers' psychological control on children's development of relational aggression. Finally, future studies should also include ethnic minority groups and low-income families of which youth have reported higher levels of psychological control in their parents' parenting, and to examine the relation between psychological control and relational aggression using a representative sample.

CHPATER SEVEN

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APPENDIX A

Teacher-Ratings of Social Behavior and Adjustment

TEACHER-RATINGS OF SOCIAL BEHAVIOR AND ADJUSTMENT

Instructions: Please use the rating scale below to indicate how often this child engages in each of the following behaviors or how often the following things happen to this child. Circle the appropriate number for each behavior.

Never or almost never true	Not often	Sometimes	Often	Always or almost always true
1	2	3	4	5

Relational Aggression

- | | | | | | |
|--|---|---|---|---|---|
| 1. This child ignores a peer or refuses to listen (e.g., may cover his/her ears) if he/she is mad at that peer. | 1 | 2 | 3 | 4 | 5 |
| 2. This child tells other kids that he/she won't play with them unless they do what the child wants. | 1 | 2 | 3 | 4 | 5 |
| 3. This child tells others not to play with or be a peer's friend. | 1 | 2 | 3 | 4 | 5 |
| 4. When mad at a peer, this child keeps that peer from being in the play group. | 1 | 2 | 3 | 4 | 5 |
| 5. This child tries to embarrass peers by making fun of them in front of other kids. | 1 | 2 | 3 | 4 | 5 |
| 6. This child tells a peer they won't be invited to his/her birthday party unless he/she does what the child wants. | 1 | 2 | 3 | 4 | 5 |
| 7. This child walks away or turns his/her back when he/she is mad at another peer. | 1 | 2 | 3 | 4 | 5 |
| 8. This child tries to get others to dislike a peer (e.g., by whispering mean things about the child behind his/her back). | 1 | 2 | 3 | 4 | 5 |
| 9. This child verbally threatens to keep a peer out of the play group if the peer doesn't do what the child says. | 1 | 2 | 3 | 4 | 5 |

Relational Victimization

- | | | | | | |
|--|---|---|---|---|---|
| 1. This child gets ignored by playmates when they are mad at him/her. | 1 | 2 | 3 | 4 | 5 |
| 2. This child gets left out of the group when someone is mad at him/her or wants to get back at him/her. | 1 | 2 | 3 | 4 | 5 |
| 3. This child gets told "You aren't my friend" if he/she does not comply with a playmate's request. | 1 | 2 | 3 | 4 | 5 |

Physical Aggression

1. This child kicks or hits others.	1	2	3	4	5
2. This child verbally threatens to hit or beat up other children.	1	2	3	4	5
3. This child pushes or shoves other children.	1	2	3	4	5
4. This child verbally threatens to physically harm another peer in order to get what he/she wants.	1	2	3	4	5
5. This child ruins other children's things (e.g., art projects, toys) when he/she is upset.	1	2	3	4	5
6. This child throws things at others when he/she doesn't get his/her own way.	1	2	3	4	5
7. This child verbally threatens to push a peer off a toy (e.g., tricycle) or ruin what the peer is working on (e.g., building blocks) unless the peer shares.	1	2	3	4	5
8. This child hurts other children by pinching them.	1	2	3	4	5

Physical Victimization

1. This child gets hit, kicked, or pinched by peers.	1	2	3	4	5
2. This child gets pushed or shoved by peers.	1	2	3	4	5
3. This child gets called mean names (e.g., "baby").	1	2	3	4	5

Prosocial Behavior

1. This child is good at sharing and taking turns.	1	2	3	4	5
2. This child is helpful to peers.	1	2	3	4	5
3. This child is kind to peers.	1	2	3	4	5
4. This child says or does nice things for other kids.	1	2	3	4	5

APPENDIX B

Parent-Ratings of Social Behavior and Adjustment

PARENT-RATINGS OF SOCIAL BEHAVIOR AND ADJUSTMENT

Instructions: Please use the rating scale below to indicate how often your child engages in each of the following behaviors or how often the following things happen to your child. Circle the appropriate number for each behavior.

Never or almost never true	Not often	Sometimes	Often	Always or almost always true
1	2	3	4	5

Relational Aggression

- | | | | | | |
|---|---|---|---|---|---|
| 1. Ignores a peer or refuses to listen (e.g., may cover his/her ears) if he/she is mad at that peer. | 1 | 2 | 3 | 4 | 5 |
| 2. Tells other kids that he/she won't play with them unless they do what the child wants. | 1 | 2 | 3 | 4 | 5 |
| 3. Tells others not to play with or be a peer's friend. | 1 | 2 | 3 | 4 | 5 |
| 4. When mad at a peer, this child keeps that peer from being in the play group. | 1 | 2 | 3 | 4 | 5 |
| 5. Tries to embarrass peers by making fun of them in front of other kids. | 1 | 2 | 3 | 4 | 5 |
| 6. Tells a peer they won't be invited to his/her birthday party unless he/she does what the child wants. | 1 | 2 | 3 | 4 | 5 |
| 7. Walks away or turns his/her back when he/she is mad at another peer. | 1 | 2 | 3 | 4 | 5 |
| 8. Tries to get others to dislike a peer (e.g., by whispering mean things about the child behind his/her back). | 1 | 2 | 3 | 4 | 5 |
| 9. Verbally threatens to keep a peer out of the play group if the peer doesn't do what the child says. | 1 | 2 | 3 | 4 | 5 |

Relational Victimization

- | | | | | | |
|---|---|---|---|---|---|
| 1. Gets ignored by playmates when they are mad at him/her. | 1 | 2 | 3 | 4 | 5 |
| 2. Gets left out of the group when someone is mad at him/her or wants to get back at him/her. | 1 | 2 | 3 | 4 | 5 |
| 3. Gets told "You aren't my friend" if he/she does not comply with a playmate's request. | 1 | 2 | 3 | 4 | 5 |

Physical Aggression

1. Kicks or hits others.	1	2	3	4	5
2. Verbally threatens to hit or beat up other children.	1	2	3	4	5
3. Pushes or shoves other children.	1	2	3	4	5
4. Verbally threatens to physically harm another peer in order to get what he/she wants.	1	2	3	4	5
5. Ruins other children's things (e.g., art projects, toys) when he/she is upset.	1	2	3	4	5
6. Throws things at others when he/she doesn't get his/her own way.	1	2	3	4	5
7. Verbally threatens to push a peer off a toy (e.g., tricycle) or ruin what the peer is working on (e.g., building blocks) unless the peer shares.	1	2	3	4	5
8. Hurts other children by pinching them.	1	2	3	4	5

Physical Victimization

1. Gets hit, kicked, or pinched by peers.	1	2	3	4	5
2. Gets pushed or shoved by peers.	1	2	3	4	5
3. Gets called mean names (e.g., "baby").	1	2	3	4	5

Prosocial Behavior

1. Sharing and taking turns.	1	2	3	4	5
2. Helpful to peers.	1	2	3	4	5
3. Kind to peers.	1	2	3	4	5
4. Says or does nice things for other kids.	1	2	3	4	5

APPENDIX C

Child Puppet Interview

CHILD PUPPET INTERVIEW

Warmth and Responsiveness

1. My mom laughs at my jokes/ My mom does not laugh at my jokes.
2. My mom hugs and kisses me a lot/ My mom does not hug and kiss me a lot.
3. My mom says I do a good job/ My mom does not say I do a good job.
4. My mom reads to me/ my mom does not read to me.
5. My mom does not give me special presents/ My mom gives me special presents.
6. My mom lets me sit on her lap/ My mom does not let me sit on her lap.

Psychological Control

1. My mom gets mad whenever I disagree with her/ My mom doesn't always get made when I disagree with her
2. When I am bad, my mom ignores me/ When I am bad, my mom does not ignore me
3. When I cry, my mom does not get mad at me/ When I cry, my mom gets mad at me.
4. My mom wishes I were a different kid/ My mom does not wish I were a different kid.
5. My mom likes to hear what I have to say/ My mom does not like to hear what I have to say.
6. My mom tells me what to play/ My mom does not tell me what to play.
7. My mom does not say that I do not love her enough/ My mom says that I do not love her enough.
8. My mom tells me I have good ideas/ My mom does not tell me I have good ideas.
9. My mom likes it when I ask a lot of questions/ My mom does not like it when I ask a lot of questions.
10. Sometimes my mom says, "I wish you would just grow up."/ My mom never says, "I wish you would just grow up."
11. My mom likes to hear my ideas about things/ My mom does not like to hear my ideas about things.
12. My mom likes to hear my ideas about things/ My mom does not like to hear my ideas about things.
13. My mom tells me, "grown-ups are always right."/ My mom does not tell me, "grown-ups are always right."

APPENDIX D

Children's Behavior Questionnaire

CHILDREN'S BEHAVIOR QUESTIONNAIRE

On the next pages you will see a set of statements that describe children's reactions to a number of situations. We would like you to tell us what your child's reaction is likely to be in those situations. There are of course no "correct" ways of reacting; children differ widely in their reactions, and it is these differences we are trying to learn about. Please read each statement and decide whether it is a "true" or "untrue" description of your child's reaction within the past six months. Use the following scale to indicate how well a statement describes your child:

Circle # If the statement is:

- 1 extremely untrue of your child
- 2 quite untrue of your child
- 3 slightly untrue of your child
- 4 neither true nor false of your child
- 5 slightly true of your child
- 6 quite true of your child
- 7 extremely true of your child

If you cannot answer one of the items because you have never seen the child in that situation, for example, if the statement is about the child's reaction to your singing and you have never sung to your child, then circle NA (not applicable).

Anger/Frustration

1. Has temper tantrums when s/he doesn't get what s/he wants.

1 2 3 4 5 6 7 NA

2. Gets quite frustrated when prevented from doing something s/he wants to do.

1 2 3 4 5 6 7 NA

3. Rarely gets upset when told s/he has to go to bed.

1 2 3 4 5 6 7 NA

Fear

1. Is afraid of fire.

1 2 3 4 5 6 7 NA

2. Is afraid of the dark.

1 2 3 4 5 6 7 NA

3. Is rarely frightened by "monsters" seen on TV or at movies.

1 2 3 4 5 6 7 NA

Sadness

1. Cries sadly when a favorite toy gets lost or broken.

1 2 3 4 5 6 7 NA

2. Tends to become sad if the family's plans don't work out.

1 2 3 4 5 6 7 NA

3. Rarely becomes discouraged when s/he has trouble making something work.

1 2 3 4 5 6 7 NA

