

ABSTRACT

EXPLORING THE LINK BETWEEN ATTRIBUTION BIASES AND AGGRESSIVE BEHAVIOR AMONG ADOLESCENTS: ARE PARENTS' ATTRIBUTIONS AND MANAGEMENT OF PEERS CONTRIBUTING FACTORS?

Haeli Gerardy, M.A.
Department of Psychology
Northern Illinois University, 2014
Nina S. Mounts, Director

The current thesis project investigated two parental influences on adolescents' hostile intent attributions and aggression – mothers' hostile intent attributions regarding adolescents' peers and management of peer relationships. Consistent with the small literature on parent-child concordance of hostile attributions, mothers' instrumental hostile intent attributions (IHIA) were related in a positive fashion to adolescents' hostile attributions about peers in the same scenarios. Findings were the first among a sample of mothers and adolescents older than fifth grade. There was some evidence for an interactive effect of mothers' instrumental hostile attributions on higher levels of boys', but not girls', overt aggression. Mothers' peer-management behaviors were not related to adolescents' hostile attributions or aggression, and they did not mediate relations between mothers' hostile attributions and adolescents' aggression. There was some evidence to suggest that mothers' hostile attribution biases regarding relational peer conflict were related to lower levels of consulting about peers.

NORTHERN ILLINOIS UNIVERSITY
DEKALB, ILLINOIS

DECEMBER 2014

EXPLORING THE LINK BETWEEN ATTRIBUTION BIASES AND
AGGRESSIVE BEHAVIOR AMONG ADOLESCENTS: ARE
PARENTS' ATTRIBUTIONS AND MANAGEMENT
OF PEERS CONTRIBUTING FACTORS?

BY

HAELI GERARDY

A THESIS SUBMITTED TO THE GRADUATE SCHOOL
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE
MASTER OF ARTS

DEPARTMENT OF PSYCHOLOGY

Thesis Director:
Nina S. Mounts

TABLE OF CONTENTS

	Page
LIST OF TABLES.....	vii
LIST OF FIGURES.....	x
LIST OF APPENDICES.....	xi
Chapter	
1. BACKGROUND.....	1
Introduction.....	1
Adolescence as a Unique Developmental Context.....	2
Changes in Parent-Child Relationships During Adolescence.....	2
Time Spent with Parents.....	2
Quality of Relationships with Parents.....	3
Parental Influence.....	4
Changes in Peer Relationships During Adolescence.....	5
Time Spent with Peers.....	5
Quality of Relationships with Peers.....	5
Peer Influence.....	6
Adolescents' Aggressive Behavior.....	7
Forms of Aggression.....	8
Overt Aggression.....	9

Chapter	Page
Developmental Trajectories.....	9
Sex Differences.....	10
Overt Aggression and Social-emotional Adjustment.....	11
Relational Aggression.....	12
Developmental Trajectories.....	13
Sex Differences.....	13
Relational Aggression and Social-emotional Adjustment.....	14
Function of Aggression.....	15
Proactive Aggression.....	16
Reactive Aggression.....	17
Understanding Aggression: Social Information Processing and Hostile Attributions.....	18
Assessing Social Information Processing.....	20
Evidence for the SIP Model.....	20
Hostile Attributions and Overt/Physical Aggression.....	22
Hostile Attributions and Relational Aggression.....	25
Summary.....	28
Parenting and Adolescent Aggression.....	29

Chapter	Page
Social Learning Theory.....	29
Defining Parenting: Parenting Styles and Parenting Practices.....	30
Parenting Styles.....	32
Parenting Styles and Social Adjustment: Categorical Approaches to Parenting.....	33
Parenting Styles and Social Adjustment: Dimensional Approaches to Parenting.....	34
Parenting Practices Specific to Peer Relationships and Adolescent Aggression.....	37
Designing.....	37
Supervising.....	38
Consulting.....	40
Guiding.....	41
Summary.....	43
Parenting and Adolescent SIP.....	44
Parental Beliefs and Attributions Influence Parenting.....	45
Parenting Practices and Child/Adolescent Attributions for Social Behavior.....	46
Negative Parenting.....	46
Positive Parenting.....	47
Transmission of Social Attributions from Parents to Children.....	49

Chapter	Page
Summary.....	52
Attributions and Parental Management.....	53
Proposed Factors Influencing Parental Management.....	53
2. THE CURRENT INVESTIGATION.....	57
Hypotheses and Rationale.....	59
3. METHOD.....	65
Procedure.....	66
Measures.....	67
Demographics.....	67
Parental Management of Peer Relationships.....	68
Attributions for Peer Behavior.....	73
Adolescents' Aggressive Behaviors.....	77
4. RESULTS.....	78
Descriptive Statistics and Bivariate Correlations.....	78
Primary Analyses.....	81
Hypothesis 1a (H1a).....	81
Research Question 1b (RQ1b).....	82
Research Question 2a (RQ2a).....	83
Research Question 2b (RQ2b).....	84

Chapter	Page
Research Question 3a (RQ3a).....	87
Research Question 3b (RQ3b).....	88
Research Question 4a (RQ4a).....	90
Research Question 4b (RQ4b).....	91
Research Question 5a (RQ5a).....	93
Research Question 5b (RQ5b).....	94
Research Question 6a (RQ6a).....	95
Research Question 6b (RQ6b).....	100
5. DISCUSSION.....	105
Hypothesis 1a (H1a).....	106
Research Question 1b (RQ1b).....	107
Research Question 2a (RQ2a).....	108
Research Question 2b (RQ2b).....	110
Research Question 3a (RQ3a).....	112
Research Question 3b (RQ3b).....	113
Research Question 4a (RQ4a).....	115
Research Question 4b (RQ4b).....	116
Research Questions 5a and 5b (RQ5a/b).....	119
Research Questions 6a and 6b (RQ6a/b).....	120
Limitations and Future Directions.....	120

Chapter	Page
REFERENCES.....	127
APPENDICES.....	137

LIST OF TABLES

Table	Page
1. Standardized Factor Loadings for the PMPI Items Estimated With Maximum Likelihood in AMOS.....	71
2. Means, Standard Deviations, Skew, and Kurtosis.....	79
3. Bivariate Correlations.....	80
4. Regression Testing the Contribution of Adolescent Sex and Instrumental Hostile Intent Attributions (IHIA) to Overt Aggression.....	82
5. Regression Testing the Contribution of Adolescent Sex and Relational Hostile Intent Attributions (RHIA) to Relational Aggression.....	83
6. Regression Testing the Contribution of Adolescent Sex and Maternal Instrumental Hostile Intent Attributions (IHIA) to Adolescent Overt Aggression.....	85
7. Regression Testing the Contribution of Adolescent Sex and Maternal Relational Hostile Intent Attributions (RHIA) to Adolescent Relational Aggression.....	87
8. Regression Testing the Contribution of Adolescent Sex and Maternal Instrumental Hostile Attributions (IHIA) to Adolescent IHIA.....	89
9. Regression Testing the Contribution of Adolescent Sex and Maternal Relational Hostile Attributions (RHIA) to Adolescent RHIA.....	90
10. Regressions Testing the Contributions of Adolescent Sex, Mothers' Instrumental Hostile Attributions (RQ4a), and Mothers' Relational Hostile Attributions (RQ4b), to their Management of Peer Relationships.....	92

Table	Page
11. Regression Testing the Contribution of Adolescent Sex and Mothers' Management of Peers to Adolescent Instrumental Hostile Intent Attributions (IHIA).....	93
12. Regression Testing the Contribution of Adolescent Sex and Mothers' Management of Peers to Adolescent Relational Hostile Intent Attributions (RHIA).....	94
13. Regression Testing the Contribution of Adolescent Sex, Mothers' Instrumental Intent Attributions, Consulting, and Guiding and Adolescents' Intent Attributions on Overt Aggression.....	96
14. Indirect Effects in the Instrumental-Overt Model, Based on 1,000 Bias-Corrected Bootstrapped Samples.....	99
15. Regression Testing the Contribution of Adolescent Sex, Mothers' Relational Intent Attributions, Consulting, and Guiding and Adolescents' Relational Attributions on Relational Aggression.....	101
16. Indirect Effects in the Relational Model, Based on 1,000 Bias-Corrected Bootstrapped Samples.....	104

LIST OF FIGURES

Figure	Page
1. Hypothesized Model of the Relations Among Mothers' Instrumental Intent Attributions, Parental Management, Adolescent Instrumental Intent Attributions, and Overt Aggression.....	58
2. Hypothesized Model of the Relations Among Mothers' Relational Intent Attributions, Parental Management, Adolescent Relational Intent Attributions, and Relational Aggression.....	59
3. Two-Factor Model of the PMPI as Tested with CFA in AMOS.....	70
4. Plotted Simple Slopes of the Relation Between Maternal Instrumental Hostile Intent Attributions and Adolescent Overt Aggression as Moderated by Adolescent Sex.....	86
5. Results from Testing the Instrumental-Overt Model with PROCESS.....	98
6. Results from Testing the Relational Model with PROCESS.....	103

LIST OF APPENDICES

Appendix	Page
A. PARTICIPANT RECRUITMENT FLYER.....	137
B. RECRUITMENT LETTER FOR TEACHERS.....	139
C. PARENTAL CONSENT.....	141
D. ADOLESCENT ASSENT.....	144
E. DEMOGRAPHIC QUESTIONNAIRE.....	146
F. PARENTAL MANAGEMENT OF PEERS INVENTORY – PARENT VERSION.....	149
G. INTENT ATTRIBUTIONS AND FEELINGS OF DISTRESS – ADOLESCENT VERSION.....	151
H. INTENT ATTRIBUTIONS AND FEELINGS OF DISTRESS – PARENT VERSION.....	162
I. CODING GUIDE FOR PARENTAL INTENT ATTRIBUTIONS ("WHY" QUESTIONS).....	173
J. SAMPLE PARENTAL RESPONSES FOR CODING TRAINING.....	175
K. CSBS-S.....	177

CHAPTER 1

BACKGROUND

Introduction

The intersection of parental and peer environments is important to consider in understanding social development, particularly for adolescents. Indeed, considering the joint impact of parents and peers is arguably one of the most informative areas of study for understanding adolescent social development (Brown & Bakken, 2011), as the peer environment undergoes significant changes in adolescence, notably including increases in the importance of peer relationships (see Smetana, Campione-Barr, & Metzger, 2006, for a discussion of research on adolescent interpersonal relationships).

Although it has been documented that parenting, including specific parenting practices focused on impacting peer relationships (see Brown and Bakken, 2011, for a review), has an impact on adolescents' social adjustment, an important next step is to examine mechanisms of this link. One such mediating mechanism might be adolescents' attributions regarding social behavior, as it has been extensively documented that attributions are important correlates and precursors of social behavior, particularly aggression (see Crick & Dodge, 1994). Therefore, the current thesis investigation aims to advance knowledge regarding the ways in which parents might impact children's representations of and behaviors in their social worlds. Using a paradigm developed by Dodge, Crick, and colleagues (e.g., Crick, 1995; Crick & Dodge, 1994; Dodge, 1980) whereby children are presented with hypothetical peer-conflict scenarios to tap

attributions about provocateur intent, this thesis project explores several relations between parenting, attributions about peer behavior, and adolescent aggressive behavior. Before describing the specific hypotheses of this thesis investigation, a discussion of relevant literatures is reviewed, starting with a brief consideration of changes in parent-child and peer relationships that occur during the adolescence period.

Adolescence as a Unique Developmental Context

Some of the most notable changes occurring during the adolescent period involve transformations in relationships with parents and peers. In this section, I provide an overview of the changes that are most relevant to this investigation.

Changes in Parent-Child Relationships During Adolescence

The period of adolescence is characterized by changes in the quantity and quality of parent-child interactions, especially including time spent with family members and parents, quality of relationships with parents, and parental influence.

Time Spent with Parents

Generally, research has shown that there is a shift in the amount of time spent with family during adolescence. Larson and colleagues (Larson & Richards, 1991; Larson, Richards, Moneta, Holmbeck, & Duckett, 1996) have contributed to our understanding of adolescents' daily companionship with family and peers by using experience-sampling methods (ESM) for which participants respond periodically to prompts (via a beeper, for example) to provide behavioral and emotional information regarding their current experiences. Larson and

Richards (1991) examined fifth-ninth graders' time spent with family on a daily basis for one week using ESM. A decrease in percentage of time spent with family members across adolescence was found, such that fifth graders spent nearly half of their time with family members, but ninth graders spent a little over one fourth of their time with family members. Adolescents (particularly boys) also spent increasingly more time alone across the adolescent period, most often in their bedrooms.

In another investigation, Larson et al. (1996) employed a cross-sequential design to study changes in time spent with family across adolescence using ESM. Adolescents in Grades 5-12 were followed for four years (Time 1 adolescents were in Grades 5-8). Similar to results from Larson and Richards (1991), adolescents spent increasingly less time with family across 5th-12th grade, such that the amount of time spent with family dropped nearly 3% with each grade level. However, this result reflects declines in time spent with the family as a group; time spent alone with mothers and fathers was stable across adolescence.

Quality of Relationships with Parents

Research has also shown that relationships with parents are temporarily characterized by increased conflict during adolescence. Specifically, conflict with parents has been found to peak in early to middle adolescence and decrease thereafter, and negative affect has been found to peak in middle adolescence (see Laursen, Coy, & Collins, 1998, for a meta-analysis of 53 largely cross-sectional studies of conflict among European-American middle-class families). An examination of trajectories in parent-child conflict, support, and power, was provided by De Goede, Branje, and Meeus (2009), whose seven-year longitudinal study followed two groups of adolescents across early (age 12-15) and late (age 16-19) adolescence. It was revealed that

parental support decreased between early and middle adolescence. Between middle and late adolescence, girls' perceptions of support increased, and boys' remained stable, though the difference between girls' and boys' trajectories was only significant regarding support from fathers. Conflict with parents increased between early and middle adolescence, at a steeper rate for girls than boys, and decreased between middle and late adolescence. Finally, adolescents perceived parents as less powerful across adolescence, particularly between early and middle adolescence. Thus, the results of these studies suggest that relationships with parents are characterized by transitory increases in conflict and decreases in parental support around middle adolescence, as well as a gradual shift toward a less strict parent-child power hierarchy.

Parental Influence

The potential for parental influence over adolescents' behaviors has been shown to decline through the adolescent period. Berndt (1979) documents that willingness to heed parental advice regarding behavioral activities decreased with age. Participants were presented with hypothetical scenarios requiring them to choose between performing one of two behaviors – one suggested by their parent, and one for which the subject hypothetically wanted to participate, pitting parental suggestions against children's desires. Scores indicating conforming to parents' behavioral suggestions decreased with age. Additional support for Berndt's findings regarding decreasing conformity to parental suggestions comes from Steinberg and Silverberg (1986), who studied over 800 fifth- to ninth-grade adolescents. Emotional autonomy from parents increased over time, especially between fifth and eighth grade, and girls reported higher levels of emotional autonomy than did boys. General

perceptions of self-reliance also increased over time, particularly between sixth and eighth grade, especially for girls.

Changes in Peer Relationships During Adolescence

The adolescent period is also characterized by important changes in peer relationships, including the time adolescents spend with their peers, perceptions of friendship support, emphasis on peer status and popularity, and increasing susceptibility to peer influence.

Time Spent with Peers

More time is spent in the company of peers across the adolescent period. Larson and Richards (1991) report that girls spent increasingly more time with peers (and alone) across adolescence, as shown by a 13.5% increase in the amount of time spent with peers between fifth and ninth grade. Boys were not found to spend more time with peers, and they spent increasingly more time alone across adolescence. Boys also reported spending less time with friends at home across adolescence. Adolescents' interactions with peers were reported as being quite enjoyable, especially for girls.

Quality of Relationships with Peers

Changes are also evident regarding the quality of adolescents' peer relationships, particularly intimacy and support. Buhrmester (1990) examined intimacy and competency within close friendships and found that there were no mean differences in intimacy for younger versus older adolescents. In contrast, relations between intimacy and adjustment were of a larger magnitude among older adolescents in comparison with younger adolescents. Furman

and Buhrmester (1992) also provide descriptive information regarding the changing nature of adolescents' friendship support in a cross-sectional investigation. Although there were no significant differences in overall perceived friendship support between adjacent grade levels, there were developmental differences in friendship support when compared with parent support. In fourth grade, support from friends was rated lower than support from parents, but in 7th and 10th grades, support from friends was rated significantly higher than support from parents, particularly in 10th grade. Therefore, the extent to which adolescents receive support from friends, relative to parents, appears greater during early and middle adolescence compared to late childhood.

Peer Influence

Another important feature of adolescents' peer functioning concerns the increase in peer influence (see Brechwald & Prinstein, 2011, for a discussion of recent research on peer influence), as research has revealed that conformity to peers' behavior and susceptibility to peer influence is especially evident during adolescence. Berndt (1979) provided evidence of adolescents' willingness to conform to peer behavior using hypothetical situations describing prosocial, neutral, and antisocial behaviors. Mean levels of peer conformity varied across the age groups, such that peer conformity was strongest in sixth and ninth grades, especially for antisocial behaviors. Additionally, boys were more likely than girls to conform to antisocial behaviors. Similarly, Steinberg and Silverberg (1986) document that adolescents' responses to Berndt's (1979) peer conformity vignettes reflected increasing peer conformity between fifth and eighth grade, especially regarding antisocial behaviors, and decreasing conformity between eighth and ninth grade.

In sum, adolescence is marked by significant changes to the nature of relationships with parents and peers. Notably, although adolescents become more autonomous and independent regarding their choices over friends and activities and spend more time away from family, parental influences remain important for social development. Accordingly, the joint influence of family and peer systems may have important implications for adolescent social and emotional development (see Brown & Bakken, 2011, for a review). The current thesis investigation focuses on parenting, attributions about peer behavior, and aggression during the period of early adolescence. In the next section, I review literature on adolescents' aggressive behaviors.

Adolescents' Aggressive Behavior

Understanding adolescents' aggressive behavior is important not only for considering the potential harm that may result for victims of aggression but because those who exhibit aggressive behavioral patterns may also experience maladjustment (see Card, Stucky, Sawalani, & Little, 2008). As conceptualized by Little, Henrich, Jones, and Hawley (2003), researchers have explored several facets of aggressive behavior, primarily distinguished by (a) the way in which aggression is employed (i.e., the "form" the aggressive act takes; see Card et al., 2008, for a meta-analytic review) and (b) the purpose for which aggression is meant to serve (i.e., the "function" of aggression; see Card & Little, 2006, for a meta-analytic review). I now discuss current conceptualizations of aggression, including defining aggression, reviewing developmental trends, and examining associations between aggression and social-emotional adjustment.

Forms of Aggression

Typically, aggressive behaviors can be categorized into two different types or forms: direct aggression and indirect aggression (Little et al., 2003), although there is variation regarding nomenclature and fine-grained distinctions in identifying behaviors (see Underwood, Galen, & Paquette, 2001, for a discussion). In a meta-analysis and review of 148 separate studies on child and adolescent aggression, Card et al. (2008) notes that although aggression has been studied using varying methodologies and conceptualizations, it is best captured by two overarching types of behaviors: direct aggression, which is comprised of physically aggressive behaviors such as hitting, as well as verbally aggressive behaviors, such as threats and name-calling; and indirect aggression, which includes harming relationships or standing in the social group, likely without direct confrontation or without the victim knowing. Similarly, Crick and colleagues (e.g., Crick & Grotpeter, 1995) also have referred to these categories of aggression as overt and relational aggression, such that overt aggression is described as antagonism meant to directly harm another person, often measured with a composite score of physically (e.g., hitting, pushing) and verbally (e.g., name-calling) aggressive behaviors (e.g., Crick & Grotpeter, 1995). In line with Crick and colleagues, the current thesis investigation uses the terms overt and relational aggression. As discussed, nuances in defining and studying relational types of aggression are less cohesive across the literature than for overt aggression.

Although overt aggression and relational aggression are considered distinct behaviors, they are often correlated at a modest or high magnitude, although correlations vary based on how aggression is measured. In Card et al.'s (2008) meta-analysis, the average correlation between both forms of aggression across all studies was $r = .76$. The lowest correlation was

found when aggression was measured through direct observation, $r = .33$. Correlations based on reports from parents ($r = .74$), peers ($r = .77$), and child self-assessments ($r = .73$) were comparable. Finally, the meta-analysis revealed that overt aggression and relational aggression are often related to distinct outcomes. Thus, overt aggression and relational aggression capture distinct patterns of behavior, although children and adolescents may engage in both types of behaviors (Underwood, Beron, & Rosen, 2009). I now review research on both forms of aggression, starting with overt aggression.

Overt Aggression

As suggested above, overt aggression is described as behavior meant to directly harm another person (e.g., Crick & Grotpeter, 1995). This section examines developmental trajectories, sex differences, and adjustment related to overt aggression.

Developmental trajectories. The incidence of overt aggression varies across development. Research has shown that children's overtly aggressive behaviors decrease across development, although several distinct developmental patterns have been identified to describe boys and girls who engage in varying levels of aggressive behavior (Bongers, Koot, van der Ende, & Verhulst, 2004). Bongers et al. (2004) documents three longitudinal trajectories of aggressive behavior among nearly 1,300 Dutch boys and girls between the ages of 4 and 18. Aggression was defined as maternal-reported cruelty and meanness, fighting, threatening, and physically attacking others. Regarding the average trajectory for the entire sample, aggression decreased over time and decreased at a steeper rate for boys than for girls. Boys evidenced higher levels of aggression than girls, although by age 18, boys' and girls' rates of aggression were nearly identical. Across development, the majority of children (71%) evidenced low and

stable levels of aggression (*near-zero*), another group (21%) was characterized by initially moderate aggression that decreased to an almost non-existent rate in late-adolescence (*low-decreasers*), and a final group (8%) was characterized by high levels of aggression that decreased over time and remained somewhat aggressive through late-adolescence (*high-decreasers*).

Underwood et al. (2009) document similar trajectories in teacher ratings of early-adolescents' physical aggression. Consistent with Bongers et al. (2004), average ratings of adolescents' physical aggression decreased over time. Approximately 28% of the adolescents were characterized as low and stable in their physical aggression trajectory; 53% were characterized by moderate, slightly declining aggression; and 19% were characterized by higher, more stable aggression. Together, these studies suggest that it is normative for children to become less physically or overtly aggressive over time, and that there appear to be three distinct subtypes of aggressive children who vary in their level of aggression.

Sex differences. Card et al.'s (2008) meta-analysis confirms widespread sex differences in direct aggression (i.e., measured as physical aggression, verbal aggression, or overt aggression - a composite of physical and verbal aggression). Across studies, boys were measured as more aggressive than girls. However, the magnitude of this sex difference was partially dependent on the methods used to measure this behavior: peer nominations and experimenter observations yielded the greatest sex differences, and parent- and self-reports were associated with less pronounced sex differences. Additionally, the sex difference in direct aggression was evident in childhood and adolescence, suggesting that the extent to which boys and girls differed in their ratings of aggressive behavior did not vary as a function of age.

Overt aggression and social-emotional adjustment. Overt or direct types of aggression have long been believed to be associated with a variety of maladjustment outcomes, and Card et al. (2008) confirm that children and adolescents who were directly aggressive also experienced other forms of maladjustment. Specifically, direct aggression was related to greater emotion regulation difficulties, hyperactivity, delinquent behaviors, and peer rejection. Direct aggression was also related to lower levels of prosocial behavior and acceptance from peers. Direct aggression was not related to internalizing difficulties overall.

Whether peers judge overt aggression as acceptable has been found to change across development. In two studies, LaFontana and Cillessen (2002) investigated early adolescents' (fourth-eighth grade) perceptions of traits (e.g., physical aggression, prosocial behavior) characteristic of well-liked and well-known or popular peers. In one study, adolescents rated their peers regarding who was popular/unpopular, who they personally liked/disliked, and who displayed various traits (e.g., "start fights and call other kids names," p. 637). In another study, adolescents provided open-ended responses to describe their perceptions of what makes other peers popular. Results from both studies show that although more adolescents were rated as disliked than liked by their peers when they displayed physical aggression, these physically aggressive children also were rated as popular in sixth through eighth grade, a trend that peaked in sixth grade. However, physically and relationally aggressive behaviors and disruptive behaviors were used to describe unpopular classmates in open-ended interviews. Thus, physically or overtly aggressive peers may be viewed as popular, especially in early adolescence, although they may not be well liked by peers.

In a longitudinal investigation, Cillessen and Borch (2006) document trajectories (5th through 12th grade) of peer preference and popularity among adolescents rated as popular,

based on peer-nomination scores, in fifth grade. Overt aggression predicted lower levels of acceptance from peers in fifth grade. Overtly aggressive boys' and girls' levels of perceived popularity were elevated in early and later adolescence. Specifically, popularity was initially high in fifth grade, declined until ninth grade, and increased to almost initial levels thereafter. For comparison, nonaggressive adolescents received steadily declining scores on popularity. Therefore, adolescents who displayed overt aggression were not well liked by their peers across adolescence, although nominations of popularity or peer-group prominence increased through high school. Thus, adolescents may be motivated to engage in aggressive behavior in order to maintain or elevate their prominence in the peer group.

Relational Aggression

In a seminal investigation of relational aggression, Crick and Grotpeter (1995) define this form of aggression as behavior that is aimed at inflicting harm through hurting others' group status or peer relationships, such as through spreading rumors or excluding others. Using a cross-sectional sample of nearly 500 third- through sixth-graders, Crick and Grotpeter used peer-nomination procedures to rate children's relational and overt aggression. The study provided the first evidence that relational aggression was a distinct construct from overt aggression.

Since Crick and Grotpeter's (1995) initial study, there has been a lack of consensus on describing relationally aggressive behaviors (see Ostrov & Godleski, 2010, and Underwood et al., 2001, for discussions). As discussed in Card et al. (2008), distinctions have been made between three covert forms of aggression: relational aggression, social aggression, and indirect aggression. Ostrov and Godleski (2010) note that *relationally aggressive* behaviors may be

both direct (e.g., threatening to withdraw friendship, not speaking to a friend) and indirect (e.g., gossiping, spreading secrets or lies) in nature. *Social aggression* includes behaviors aimed at damaging self-esteem or status in the social group, such as through malicious nonverbal actions and verbal insults. *Indirect aggression* includes the notion that the aggressor's identity may be kept hidden or not known by his or her victims (Lagerspetz, Bjorkqvist, & Peltonen, 1988). However, some researchers (Card et al., 2008) choose to use *indirect aggression* as a broad, all-encompassing term. Little and colleagues (2003) argue that although these relational forms of aggression share conceptual and empirical features, relational aggression appears to be the broadest term. Thus, I use the term *relational aggression* for the remainder of this investigation. However, the findings that are discussed are not necessarily confined to studies using this definition.

Developmental trajectories. Although children (see Casas et al., 2006) and adolescents engage in relational aggression, it is arguably most prominent in early adolescence (Underwood et al., 2009). In the first study to chart trajectories of relational aggression over time, Underwood et al. (2009) followed children from third through seventh grade. A little over half of their sample was characterized as low and stable in relational aggression and a little less than half of their sample was characterized as initially high and declining in relational aggression. Thus, among 9-13 year olds, it appears that about half of boys and girls engage in high levels of relationally aggressive behaviors.

Sex differences. Early investigations of relational aggression suggested that it is perpetrated more often by girls than boys (Crick & Grotpeter, 1995). Currently, however, researchers believe boys' and girls' relational aggression does not substantially or reliably vary in frequency. In their meta-analysis, Card et al. (2008) report that across studies, the sex

difference in relational aggression was $r = -.07$, slightly favoring girls. Moreover, Underwood et al. (2009) report that sex did not predict initial levels of relationally aggressive trajectories. However, subtle differences in the frequency of specific relationally aggressive behaviors have been reported for boys and girls (Dyches & Mayeux, 2012). Using experience-sampling methods, Dyches and Mayeux (2012) found that girls reported more frequent eye rolling or displaying mean facial expressions and gossiping than did boys.

Relational aggression and social-emotional adjustment. Relational aggression is associated with a variety of adjustment outcomes -- most consistently internalizing disorders. Card et al. (2008) report that, on average across studies, indirect or relational aggression was uniquely associated with higher levels of internalizing problems, delinquency, prosocial behavior, and peer rejection. Adolescents also have reported more positive self-perceptions after engaging in relationally aggressive behaviors (Dyches & Mayeux, 2012).

Again, Cillessen and Borch (2006) inform our understanding of popularity, peer acceptance, and aggression. They found that for relationally aggressive girls and boys, levels of peer acceptance declined steadily across development. In addition, relationally aggressive boys' levels of peer acceptance were always higher than relationally aggressive girls' levels of peer acceptance. For nonaggressive adolescents, peer acceptance was stable across adolescence. In contrast, relationally aggressive adolescents were rated as more popular by peers than were nonaggressive adolescents, although rates of popularity decreased somewhat across adolescence. Similarly, research by Zimmer-Gembeck, Geiger, and Crick (2005) found that relational aggression predicted increases in social prominence. For girls, peer-rated relational aggression in third grade was related to increased social impact scores (i.e., how well-known children were in the peer group) in sixth grade. Related to this, Li and Wright

(2013) report that adolescents who endorsed goals of wanting to be labeled by peers as popular reported greater use of relational aggression. Adolescents who endorsed social preference goals -- wanting to be liked by peers -- reported lower levels of relational aggression.

In sum, research regarding relational aggression presents a complex picture when considering who engages in these behaviors and why they engage in them. In addition, relational aggression is associated with other forms of social or psychological maladjustment. Understanding adolescents' purpose or goal for engaging in aggressive behavior is likely important. Research differentiating adolescents who engage in aggression for different reasons is discussed next.

Function of aggression

In addition to examining the form of aggression, the function or purpose of the aggressive behavior (Little et al., 2003) is also relevant to discussions of aggression.

Little et al. (2003) have defined the function of aggressive behavior as being either instrumental/proactive or reactive in nature. Instrumental or proactive aggression is a purposeful action aimed at accomplishing a desired outcome (Little et al., 2003). Reactive aggression is a retaliatory action occurring in response to frustration and typically results in hostility (Little et al., 2003). Card and Little's (2006) meta-analysis of research on proactive/instrumental and reactive aggression using 42 separate investigations of aggression reveals an average correlation of $r = .68$ between proactive and reactive aggression. Correlations increased in magnitude by .013 each year between ages 10 and 18.

These results suggest that proactive aggression and reactive aggression are distinct, although some children and adolescents engage in aggression increasingly for both reasons. The way in which aggression is measured also affects the magnitude of the correlation between proactive and reactive aggression, such that observer reports yield smaller average correlations ($r = .24$) than teacher, peer, or self-reports, which are similar in magnitude (e.g., $r = .68$). Indeed, Little et al. (2003) found that when using novel questionnaires that allowed for controlling for the form of aggression (overt or relational), proactive and reactive functions of aggression were not correlated and were completely unique constructs. Finally, distinct patterns of adjustment were found among adolescents who engaged in proactive and reactive aggression. These results are discussed for proactive and reactive aggression separately.

Proactive Aggression

As mentioned previously, Little et al. (2003) validate a self-report measure of aggression used to statistically isolate adolescents' pure reports of proactive and reactive aggression separate from the form of the aggression and associations with other forms of adjustment. Among 5th through 10th graders, proactive aggression was related to lower levels of frustration as rated by self and peers, lower levels of peer-rated victimization, and higher levels of social competence and self-reported negative influence, such as coercion, over others. Additionally, boys were more proactively aggressive than were girls. Card and Little's (2006) meta-analysis confirms several of the above trends regarding associations between proactive aggression and adjustment outcomes. Unique associations are reviewed. Proactive aggression was strongly related to higher levels of delinquent behavior, higher levels of peer rejection, and lower levels of peer victimization. Proactive aggression was not significantly related to

internalizing or emotion regulation problems, peer acceptance, social preference, or prosocial behavior.

Reactive Aggression

Adolescents who exhibit reactive forms of aggression are characterized by a different pattern of adjustment than are adolescents who use proactive aggression. Little et al. (2003) found that higher levels of reactive aggression were related to higher levels of hostility and frustration as rated by self and peers, higher levels of negative influence (less so than proactive aggression), higher levels of social competence, higher levels of antisocial behavior, and lower levels of peer-rated victimization. Card and Little's (2006) meta-analytic results generally confirm and expand upon the Little et al. (2003) findings. Higher levels of reactive aggression were related to higher levels of internalizing problems, hyperactivity, delinquent behavior, peer rejection, and peer victimization. Higher levels of reactive aggression were also associated with lower levels of prosocial behavior, social preference, and peer acceptance. The results from this meta-analysis provide strong evidence for the widespread deleterious consequences of reactive aggression on children's and adolescents' social and emotional adjustment.

In summary, there appear to be important differences in the adjustment outcomes of adolescents who engage in aggressive behavior for proactive or reactive purposes. As is discussed, certain social-cognitive factors are useful in understanding differences between adolescents who engage in aggression for different purposes. Namely, adolescents who routinely aggress against their peers in reaction to provocation are characterized by distortions in their cognitive functioning, such as interpreting others' intent and appraisals of their environments.

Understanding Aggression: Social Information Processing and Hostile Attributions

Investigating the cognitive processes that occur with or precede behavior has proven beneficial for understanding aggression. To this end, although various frameworks have been employed, arguably the most comprehensive and empirically successful framework for understanding the way in which children's social cognitions impact aggressive behavior is Crick and Dodge's (1994) social information processing (SIP) model. Lansford et al. (2006) notes that SIP theory has been important for exploring the factors that contribute to the development of aggression. The current thesis investigation is rooted in Crick and Dodge's SIP theory and aims to expand on current understanding for how social-cognitive processing is related to aggressive behavior. This section focuses on describing SIP theory and related research.

As discussed in Crick and Dodge (1994), the SIP approach to understanding aggressive behavior relies on a number of assumptions. First, individuals use knowledge stored in memory to understand social interactions, such that past experiences provide a lens through which children view their social environments. Next, depending on their representations of social interactions (e.g., what is socially acceptable behavior, expectations for how others will treat them), children and adolescents may experience distortions in their encoding (e.g., which cues to attend to) or interpretation of social events. Children may learn to associate particular outcomes with certain behaviors, for example, to expect that using aggression will lead to positive outcomes, such getting what they want. Specifically, Crick and Dodge's (1994) SIP model delineates precisely the mental processes that children and adolescents may experience

during social situations, and how cognitive deficits can impair social abilities. Children and adolescents are believed to process social events in a series of six steps.

Step 1 involves encoding environmental and internal cues. This may include attending to others' facial expressions or verbalizations as well as internal thoughts and feelings. Step 2 involves interpreting the encoded cues, such as deciding whether a provocation was purposely enacted (e.g., intent of others). Notably, it is theorized that interpretation relies on stored knowledge or cognitive representations of previously experienced events. Step 3 involves clarifying or selecting a goal in the situation -- for example, deciding whether it is important to diffuse the situation, maintain social bonds, or get revenge. Step 4 involves accessing or constructing a response to the situation. Here, it is theorized that children evaluate how easily or skillfully the response could be enacted and the anticipated outcome from using that action. In Step 5, a response decision is made, and in Step 6, the response is used, such that the child carries out a behavior or action (although it should be noted that some contemporary studies discuss only five steps, e.g., Kupersmidt, Stelter, & Dodge, 2011). Processing social information in this way is believed to be iterative and cyclical in nature, as engaging in aggression can further perpetuate cognitive processing deficits (see Godleski & Ostrov, 2010, for evidence that aggression predicts hostile attributions), and these steps may be experienced automatically and outside of conscious awareness. Furthermore, the SIP steps have been shown to be unique, evidence discriminate validity, be more predictive of aggression when including more rather than fewer steps, and show that previous steps may impact later steps (Kupersmidt et al., 2011). During each step of processing, it is believed that long-term memory can be updated.

Assessing Social Information Processing

Researchers typically assess children's and adolescents' SIP by presenting a series of hypothetical stories describing situations in which a peer's ambiguous behavior results in some negative outcome for the child (as introduced by Dodge, 1980, as shown following).

Participants are able to interpret each situation and infer whether provocations were intentional based on existing schemas and representations of the social world. There are variations in the way in which children's and adolescents' attributions for peer behavior are assessed and measured, including open-ended responses in an interview format, open-ended typed or written responses, and forced-choice or rating-scale responses. In addition to tapping attributions for peer behavior, it is also common for participants to report their level of imagined distress in the situation (for example, Crick, 1995, as shown following) or their intended behavioral responses.

Evidence for the SIP Model

Lansford et al. (2006) found evidence that early, late, or widespread SIP problems are related to aggression, and they provide longitudinal evidence that earlier SIP patterns predict later aggression. They investigated children's processing during specific SIP steps across childhood and adolescence, characterizing children/adolescents with no SIP difficulties, children/adolescents with early-processing difficulties, children/adolescents with late-processing difficulties, and children/adolescents with general, widespread SIP difficulties. SIP was assessed in kindergarten, 3rd grade, 8th grade, and 11th grade, by having participants view video vignettes and illustrations of ambiguous conflict among actors. At all time points, about

half of the participants were characterized as having no SIP difficulties (ranging from 53% of kindergarteners to 60% of adolescents in 11th grade); between 4% (11th graders) and 22% (8th graders) of participants had difficulties with early SIP; between 14% (8th graders) and 29% (11th graders) had difficulties with late SIP; and 7% (11th graders) to 12% (kindergarteners) had widespread SIP difficulties. Moreover, SIP categorization in 8th grade predicted SIP categorization in 11th grade; those who did not have SIP problems continued to not have SIP problems, and those who had at least one SIP problem showed at least one SIP problem in 11th grade. Additionally, more boys than girls had difficulties with SIP.

Lansford and colleagues (2006) report that eighth graders with no SIP problems had the lowest levels of externalizing, those with early or late SIP problems had somewhat higher levels of externalizing problems, and those with widespread early and late SIP problems showed the highest levels of externalizing, concurrently. Regarding longitudinal associations, kindergarten, but not third grade, SIP predicted Grade 11 externalizing. An interaction emerged in the prediction of eighth grade early and late SIP and Grade 11 externalizing, confirming the previously mentioned concurrent findings: those with no SIP problems had low levels of externalizing, those with early or late SIP problems had somewhat higher levels of SIP problems, and those with early and late SIP problems had the highest levels of externalizing. Thus, earlier difficulties with SIP, most notably regarding widespread difficulties, predicted later aggressive and delinquent behavior in late adolescence.

Although the above studies investigated SIP processing at all steps, myriad research investigations have focused only on the early steps of social information processing -- encoding through goal clarification -- especially attributions of intent. Findings often suggest that aggressive children experience difficulties with interpreting others' intent in social situations.

Specifically, aggressive children and adolescents tend to attribute harmful and intentional volition to others' behaviors during situations in which intent is objectively ambiguous (Crick & Dodge, 1994). This cognitive misattribution has been defined as a hostile attribution bias (e.g., Dodge, 1980) and correlations with aggressive behavior have been documented extensively (see de Castro, Veerman, Koops, Bosch, & Monshouwer, 2002, for a meta-analysis and discussion). As the current thesis investigation focuses on hostile attributions, I now review research on hostile attributions and aggression, particularly focusing on late childhood or early adolescence. I first discuss overt or physical aggression, followed by relational aggression.

Hostile attributions and overt/physical aggression. In a seminal investigation of the role of intent attributions for peer behavior and aggressive behavior, Dodge (1980) provides evidence of problematic social cognition, especially regarding understanding peer intent, among third- through sixth-grade aggressive boys. Procedures included an experimental manipulation of peer-conflict and hypothetical vignettes describing conflict with actual aggressive and nonaggressive classmates. Participants were boys who were rated as aggressive or nonaggressive by peers and teachers. In the social manipulation, participants completed a puzzle task with the goal of earning a prize after successful completion, with the belief that a peer was completing the same task in an adjoining room. The manipulation was that during a break from the task, participants overheard the peer destroying their puzzle, which was actually a recording of a boy making one of three scripted statements; the peer's statement suggested either hostile (i.e., stating that he did not want the boy to win the prize and he would ruin his puzzle), ambiguous (i.e., commenting on how far the boy had progressed in assembling his puzzle), or benign intent (i.e., stating that he would help the boy and did not mean to ruin the

puzzle). In the final step, participants were left alone with their puzzle and their peer's puzzle, and boys' behavioral responses were coded.

Boys who were led to believe that the peer ruined their puzzle with hostile intent responded with greater aggressive behavior, including disassembling the peer's puzzle and expressing verbal anger. Boys who were led to believe that the peer acted with benign intent showed the highest levels of helping behavior. Furthermore, aggressive boys displayed more aggressive behaviors (e.g., verbal hostility, breaking the peer's puzzle) than did nonaggressive boys, but they also displayed more helping behavior than non-aggressive boys in the benign condition. Dodge (1980) notes that this finding is evidence suggesting that aggressive boys are discriminative in their use of aggression; in other words, they are not aggressive in all contexts. There was also some evidence to suggest that aggressive and nonaggressive boys' displays of aggression differed as a function of understanding peers' intent. Although nonaggressive boys exhibited significantly less aggression in the ambiguous condition than the hostile condition, this finding did not hold for aggressive boys. Instead, aggressive boys exhibited more aggression in the ambiguous condition than in the benign condition. Moreover, aggressive boys were more aggressive than nonaggressive boys in the ambiguous condition only. Results from the second experiment show that in response to hypothetical stories describing ambiguous conflict interactions with a known peer, aggressive boys attributed more hostile intent and stated intentions to retaliate with the use of aggression compared to nonaggressive boys.

In a more recent investigation, Fontaine et al. (2010) followed adolescents from ages 15 to 17. Adolescents' hostile attributions and response decisions were assessed after watching video vignettes of ambiguous peer interactions. To tap hostile attributions, adolescents responded regarding who was to blame for the conflict in the video and whether the other

person was trying to be mean. After reading additional written vignettes, adolescents also provided Likert-type scale responses regarding hostile and benign intent. To tap response evaluation and decision-making (RED), adolescents imagined that they responded to each scenario as the actor in the video did. They were asked about the likelihood of responding in that manner, how easy it would be, and how they and others would feel about their response. Girls had lower levels of hostile attributions and antisocial RED than boys. Hostile attributions at age 15 predicted higher levels of aggression and delinquency, controlling for earlier levels, at age 17. In addition, RED mediated the relation between hostile attributions and later antisocial behavior, suggesting that aggressive adolescents have deficits in understanding others' intentions in peer-conflict scenarios and these deficits can lead to additional problems regarding constructing appropriate responses.

A meta-analysis by de Castro et al. (2002) provides a comprehensive view of the relation between hostile attributions and aggressive behavior. Across 41 published and unpublished empirical investigations, the overall effect size for the relation between hostile attributions and overt aggression was $r = .17$, although there was significant variability in the size and direction of this effect (including a span of $r = -.29$ to $r = .65$). Effect sizes varied depending on participant characteristics, such as whether children were rejected by their peers, methodological characteristics, and age; effect sizes were larger among children ages 4-6 and among highly aggressive children ages 6-12. The authors concluded that meta-analytic findings support SIP theoretical assumptions; specifically, hostile attributions are related to aggression, especially among severely aggressive children, reactive or "comorbid" (reactive and proactive) aggressive children, and rejected children.

Finally, it is important to note that some research has also shown unique and somewhat

differential associations between the form of aggressive behavior and difficulties with certain SIP steps. For example, Arsenio, Adams, and Gold (2009) found that among low socioeconomic status (SES), minority, high school adolescents, reactive and proactive aggression were distinctly related to SIP and that difficulties with attention mediated the relation between hostile attributions and aggressive behavior. At the bivariate level, hostile attributions regarding ambiguous peer conflict, and anticipated ease of using aggression in response to unambiguous peer aggression, were related to reactive and proactive aggression. In regressions controlling for age and the non-target form of aggression, hostile attributions at a trend level, and anticipated ease of using aggression were uniquely related to higher levels of reactive, but not proactive, aggression. Moreover, relations between these SIP predictors and reactive aggression were mediated by attentional difficulties. Expecting to be happy after using aggression in response to peer aggression was uniquely related to higher levels of proactive, but not reactive, aggression. Thus, there is some support that hostile attributions are more strongly related to reactive than proactive aggression.

Hostile attributions and relational aggression. There has been growing interest in the research literature regarding whether relationally aggressive children and adolescents exhibit a tendency to interpret others' behavior as intentional, and this question has been met with mixed findings. In the first study exploring intent attributions regarding relational aggression, Crick (1995) studied a cross-sectional sample of third- through sixth-grade children and early adolescents. Relational aggression and overt aggression were assessed with peer nominations, and participants were grouped into relationally aggressive, relationally and overtly aggressive, and nonaggressive categories based on their deviations from the mean. Intent attributions and feelings of distress for peer-conflict situations were assessed using an adaptation of existing

research on physical aggression (e.g., Dodge, 1980). Participants responded to a series of hypothetical peer-conflict situations describing ambiguous relational behaviors (e.g., the participant is not invited to a birthday party) or instrumental behaviors (e.g., the participants' radio is broken), choosing from a list of benign or hostile reasons for why it occurred and how distressed they would be in that situation. Children's intent attributions for relationally and instrumentally provocative hypothetical situations were moderately correlated (e.g., $r = .44$), suggesting that intent attributions are somewhat situation-specific. Relationally aggressive children provided more hostile responses and experienced greater distress in relationally aggressive scenarios than did nonaggressive children, although relationally and instrumentally aggressive children provided more hostile responses for instrumentally provocative scenarios than for relationally provocative scenarios.

Other investigations have added to these findings, as studies have reported significant concurrent associations between hostile attributions for peers' relational behavior and relational aggression among children and early adolescents. Crick, Grotpeter, and Bigbee (2002) used peer nominations of third-graders' through sixth-graders' relational (and physical) aggression and grouped them into highly aggressive and nonaggressive groups. Results showed that relationally aggressive children reported more hostile attributions in relationally aggressive peer-conflict situations than did other groups of children.

More recently, in a study using data from the National Study for Child Health and Development, Godleski and Ostrov (2010) investigated links between hostile attributions for relational and instrumental ambiguous peer-conflict scenarios and relational and physical aggression among second- through sixth-grade children. Children were grouped into physically aggressive, relationally aggressive, comorbid, or nonaggressive categories. For relational peer-

conflict scenarios, comorbid children endorsed more hostile attributions than did nonaggressive children, and girls endorsed more hostile attributions than did boys. For instrumental peer-conflict scenarios, physically aggressive girls endorsed more hostile attributions than did relationally aggressive girls, and all three types of aggressive girls endorsed more hostile attributions than did nonaggressive girls. Comorbid boys endorsed more hostile attributions than did nonaggressive boys. Using dimensional measures of relational aggression, relational attributions were not related to relational aggression over time, although instrumental attributions were predictive of relational aggression over time.

Some studies have failed to find any significant association between hostile attributions and relational aggression. Using procedures similar to Crick (1995) and Crick et al. (2002), Nelson, Mitchell, and Yang (2008) studied relations between fourth-grade children's hostile attributions in relational and instrumental situations and relational and overt aggression. Children's hostile attributions for relationally aggressive scenarios were not significantly related to relational aggression (see also Crain, Finch, & Foster, 2005). Instead, attributions for instrumentally aggressive scenarios were related to overt aggression for boys only. The authors discuss that children interpreted the majority of relationally aggressive scenarios as hostile and to a greater extent than the instrumentally aggressive scenarios. They therefore concluded that children in their sample who exhibited higher levels of attributing hostile intent to others' behaviors were not reliably engaging in higher levels of relational aggression. Relational aggression might not necessarily be related to frustration, and might be used in situations when children are not frustrated.

One factor that may therefore help to account for discrepant findings regarding hostile attributions and relational aggression is the proactive or reactive nature of this aggression.

Typical SIP paradigms, particularly hypothetical peer-conflict scenarios, are arguably more sensitive to tapping reactive types of aggression, as participants are asked to respond to provocation from a peer. However, adolescents who engage in relational aggression with their peers may be doing so with more volition, employing more goal-directed and premeditated acts of aggression, than do adolescents who engage in physical aggression. For example, some adolescents use relational aggression in order to gain social status (e.g., Dyches & Mayeux, 2012), whereas others engage in relational aggression in a retaliatory fashion (Xie, Swift, Cairns, & Cairns, 2002). In one investigation by Xie and colleagues (2002), direct relational behaviors between two or more peers, such as ignoring and excluding others, were reported as being used by adolescents to retaliate immediately in the face of peer conflict, especially in response to a similar behavior. In other words, adolescents reported responding to relational conflict with relational aggression.

Summary

Although much research has established that problems with SIP, including understanding others' intentions, help explain overtly aggressive types of behaviors, research is more mixed regarding relationally aggressive behaviors. The nature of mixed findings regarding relational aggression suggests that more research is needed to understand the processes and contexts for which relational aggression may be linked to deficits in SIP, including hostile attributions for others' behavior. Recent research is moving toward exploring other sources of variance in the link between SIP and aggression, including contextual variables such as experiences in the peer group or family. A question that remains is how aggressive children acquire deficits and biases in cognitive processing. It is likely that parenting might

play a role in these SIP deficits. Before reviewing research on parenting and adolescents' social cognitions and behaviors, the next section outlines several aspects of parenting that might be important in predicting SIP deficits.

Parenting and Adolescent Aggression

Decades of research have been dedicated to exploring relations between parenting and children's social development, including aggressive behavior, generating several separate and large bodies of literature. I begin this section by discussing the distinction between parenting styles and parenting practices (Darling & Steinberg, 1993). I then review studies that have documented relations between parenting styles and aggressive behaviors, particularly among adolescents. Finally, I discuss the ways in which parenting practices are related to adolescents' aggressive behavior.

Social Learning Theory

Understanding the familial origins of aggressive behavior has been largely influenced by social learning theory (Bandura, 1978), which relies on the assumption that experiences in the home serve as a model for social interactions in general (see Coie & Dodge, 1998, for a discussion). A series of classic experimental studies by Bandura, Ross, and Ross (1961, 1963) documents that young children are likely to imitate aggressive behavior as modeled by adults. For example, Bandura et al. (1961) conducted an experimental study of preschool children's aggressive behavior and imitative learning. Preschool children who were matched according to their ratings of observed aggressive behavior with peers were randomly assigned to experimental, nonaggressive, or control conditions. Children in experimental conditions

viewed a same-sex or opposite-sex adult engage in aggressive or nonaggressive behavior. Children in the control condition did not view an adult model. Adults demonstrated aggressively playing with an inflatable doll (i.e., Bobo doll), including a series of unique and ostensibly novel sequences of behaviors, including laying the doll on its side, punching its nose, throwing it in the air, and hitting it with a hammer, using distinct verbally aggressive phrases (e.g., “Sock him in the nose,” p. 576). Nonaggressive adults ignored the doll. Then all children were exposed to a mild form of aggression, which included the experimenter telling children that they could not play with the toys in the room, after they had previously told the children that this was allowed. Children were then taken to another room to play. Children who had witnessed adults’ previous aggressive behavior displayed greater verbal and physical aggression than did children in the nonaggressive and control groups. Importantly, children in the aggressive condition also imitated adults’ unique aggressive behaviors, as well as adults’ nonaggressive verbal remarks. There was also some evidence that imitation was greater among boys who had viewed a male aggressive model.

Based on this research, Bandura (1978) suggests the social learning theory of aggression, which has been influential in framing research on aggressive behavior. Aspects of social learning theory are reflected throughout this section on parenting and aggression.

Defining Parenting: Differentiating Parenting Styles and Parenting Practices

Although extensive research has linked parenting styles to social adjustment, other aspects of parenting are important for understanding these linkages. In their review of theory and research on parenting style conceptualizations, Darling and Steinberg (1993) assert that parenting styles and parenting practices (i.e., specific goal-oriented behaviors aimed at

socializing children to family or societal norms or standards) should be regarded as two distinct aspects of parenting. Parenting practices, as well as relations between parenting and youth adjustment, likely vary according to developmental or social context, such as the overall emotional climate of parenting (i.e., style), and they may have a more direct role in influencing youth outcomes than do parenting styles. Darling and Steinberg further posit that these two aspects of parenting should have different associations with youth adjustment; theoretically, parenting practices should be most clearly understood within the context of relatively specific social or developmental environments. Moreover, Darling and Steinberg assert that parenting practices are most important for understanding developmental outcomes from the same context, such that, for example, parents' involvement in adolescents' peer relationships is likely more relevant and informative for understanding social development than academic achievement. Finally, although parenting styles have been established as important for understanding youth development, this operationalization of parenting may best be retained as a moderating variable on associations between parenting behaviors and youth adjustment (e.g., Fletcher, Walls, Cook, Madison, & Bridges, 2008; Kerr, Stattin, & Ozdemir, 2012); parenting styles are believed to be indirectly related to adolescent social adjustment (Ladd & Pettit, 2002).

Consistent with Darling and Steinberg's (1993) model, Ladd and colleagues (Ladd & LeSieur, 1995; Ladd & Pettit, 2002) suggest that there are four parenting practices that are important in influencing the peer relationships of children and adolescents. They are designing, supervising, consulting, and mediating (Ladd & LeSieur, 1995; Ladd & Pettit, 2002; Mounts, 2008).

Parenting Styles

Parenting styles are patterns of caregiver behaviors that remain stable across the course of socialization and are, thus, inherent to the parent rather than to the child (Darling & Steinberg, 1993). Much research on parenting styles has derived from Baumrind's (1991) and Maccoby and Martin's (1983) parenting style typologies. In a series of studies conducted in the 1960s and 1970s, Baumrind investigated parents' childrearing and discipline behaviors and combined them into qualitatively different types of parenting styles (see Baumrind, 2005, for a discussion). As discussed in Baumrind (2005), caregiving behaviors exhibited by parents in these studies were best captured as separate and qualitatively different parenting typologies that varied according to two important features of parenting: demandingness (i.e., parents' efforts to regulate or control children's behavior, including the use of supervision and discipline, to obtain obedience) and responsiveness (i.e., parents' efforts to encourage children's autonomy through being supportive, warm, and sensitive to children's desires). Based on these features, parents were grouped into three types of parenting: *authoritative*, *authoritarian*, and *permissive*. Authoritative parents were described as both demanding and responsive with their children; authoritarian parents were described as demanding but relatively less responsive with their children; and permissive parents were described as relatively responsive but not demanding with their children.

Maccoby and Martin (1983) provide a similar framework for studying parenting styles, suggesting that parenting can be classified into four clustered patterns of child-rearing behavior that vary in levels of responsiveness (or acceptance) and demandingness (or control). However, in contrast to Baumrind (2005), they differentiated between indulgent and neglectful

parenting. Therefore, they propose four clusters of parenting, based on whether parents are high or low on each dimension of parenting behaviors – accepting/responsive versus rejecting and demanding/controlling versus undemanding/low-controlling. Parents who are accepting/responsive and also demanding/controlling were deemed *authoritative-reciprocal*. Parents who are accepting/responsive and undemanding/low-controlling were *indulgent* (similar to Baumrind’s permissive parenting); parents who are rejecting/unresponsive and demanding/controlling were *authoritarian-autocratic*; and parents who are rejecting/unresponsive and undemanding/low-controlling were *neglectful* or *uninvolved* (a novel contribution). Notably, permissive parenting and authoritarian parenting were discussed as being linked to aggressive behavior.

Parenting styles and social adjustment: Categorical approaches to parenting. Based on these conceptualizations of parenting styles, associations between parenting styles and adolescents’ social adjustment, more generally, have been documented in the literature. However, the relationship between parenting style and aggressive behavior has received less research attention.

Steinberg, Lamborn, Darling, Mounts, and Dornbusch (1994) followed a diverse sample of just over 2,300 9th- through 11th-grade adolescents for two years. Adolescents whose parents were categorized as authoritative or authoritarian evidenced decreased problem behaviors and delinquency over time. Adolescents whose parents were categorized as indulgent evidenced increased problem behaviors, and adolescents whose parents were categorized as neglectful evidenced slight decreases in problem behaviors. The latter two groups of adolescents increased in delinquency over time, although this change was greater among the neglectful group.

More recently, Underwood et al. (2009) modeled adolescents' trajectories of physical and relational aggression as influenced by mothers' authoritarian and permissive parenting. Adolescents whose mothers were characterized as having a permissive parenting style were the most likely to be included in a high and increasing trajectory of aggressive behavior, such that they were 12 times more likely to be included in this trajectory than in the low aggression trajectory. Adolescents whose mothers were authoritarian were over five times more likely to be included in the high and increasing trajectory than on the low aggression trajectory. Adolescents whose mothers were authoritarian also were over nine times more likely to be included in the high and increasing rather than the high and stable aggression trajectory.

Similarly, Kerr et al. (2012) extend and expand on existing research on parenting in a two-year longitudinal investigation of Swedish adolescents. Concurrent results largely supported existing research. Authoritative parenting was associated with lower levels of externalizing. Authoritarian and permissive parenting styles also were associated with lower levels of externalizing, and more robustly at seventh grade than at eighth grade. Neglectful parenting was associated with higher levels of externalizing at both time points.

Parenting styles and social adjustment: Dimensional approaches to parenting. Research investigating dimensional conceptualizations of parenting and child or adolescent aggression has largely focused on the dimension of control, including disciplinary practices such as corporal punishment and harsh parenting. Results from a recent meta-analysis of longitudinal research by Ferguson (2013) suggest that corporal punishment and spanking were related to small increases in externalizing and internalizing problems and decreases in cognitive skills over time (see also Gershoff, 2002, for an earlier meta-analysis).

Harsh and negative parenting has also been associated with relational aggression. A meta-analysis by Kawabata, Alink, Tseng, van IJendoorn, and Crick (2011) examine reports of several dimensions of parenting and child/adolescent relational aggression among 48 studies. Parenting was grouped into four clusters based on conceptualizations investigated in the literature. The clusters that emerged were psychologically controlling parenting (e.g., love withdrawal, guilt induction, erratic emotional behavior), negative/harsh parenting (e.g., emotional maltreatment, coercion, harsh discipline), uninvolved parenting (e.g., inconsistent or lax parenting, poor monitoring), and positive parenting (e.g., warmth, acceptance). Maternal psychologically controlling parenting was not strongly related to relational aggression, although this effect was significant for fathers and daughters. There was a significant effect for maternal negative/harsh parenting, paternal negative/harsh parenting, and maternal uninvolved parenting on relational aggression. A small effect was found between maternal/paternal positive parenting and relational aggression such that higher levels of positive parenting were related to lower levels of aggression.

Similarly, in a longitudinal investigation, Allen, Hauser, O'Connor, and Bell (2002) examine the influence of parents' and adolescents' observed hostility and undermining autonomy in parent-adolescent interactions at age 16 on hostility with peers in early adulthood. Overt hostility (e.g., rudeness, interrupting) toward family members during the interaction was observed. Undermining autonomy included behaviors that essentially resulted in other family members having difficulty in asserting their opinions in the interaction, such as ending the conversation or urging others to agree with one's statement. At age 25, participants' peers rated them on their level of hostility. Higher displays of adolescent hostility with parents were related to greater adulthood hostility with peers. Additionally, fathers' higher levels of

undermining autonomy were related to greater adulthood hostility toward peers, even after controlling for adolescent hostility toward fathers. The authors suggested that hostile interactions with parents may teach adolescents that others are likely to treat them with hostility, though findings may also be a snapshot of pre-existing patterns of interaction that were established earlier in development.

Patterson, Dishion, and Bank (1984) at the Oregon Social Learning Center have extensively documented research underscoring how family experiences serve as training for aggression, especially highlighting how parents' responses to child behavior (particularly among boys) perpetuate cycles of aggressive and antisocial behavior. For example, Patterson et al. (1984) investigated 4th-, 7th-, and 10th-grade boys and their mothers to evaluate how parents' discipline practices relate to sequences of parent-child interaction. Reciprocal relations were found between poor discipline and problematic parent-child interactions; a direct link between problematic parent-child interactions and children fighting with peers; and reciprocal relations between children's physical fighting with poor quality peer relations. Additionally, Patterson, DeBaryshe, and Ramsey (1990) present a model for understanding the development of aggressive and antisocial behavior. They posit that early in development, poor parenting sets in motion a cycle of coercive parent-child relations and escalating behavioral problems, including aggression. In middle childhood, children's behaviors are then hypothesized to influence peer and academic difficulties, leading to association with delinquent peers in adolescence. Contextual variables, such as demographic and parental characteristics and family stress, are also believed to affect these relations. Research has indeed shown that adolescents influence one another's level of aggressive behavior, and that aggressive adolescents are likely to choose similarly aggressive adolescents as friends (Sijtsema et al.,

2010). Specific parenting practices also might impact adolescents' aggressive behavior. The next section examines the existing literature on this issue.

Parenting Practices Specific to Peer Relationships and Adolescent Aggression

A growing body of research has examined specific parenting practices related to adolescents' peer relationships (for a recent review of this research, see Brown and Bakken, 2011). This section reviews research on specific parenting practices and the way in which these practices are related to adolescents' adjustment, particularly adolescents' aggression.

Designing. Parents may be actively motivated to affect the peer relationships and social functioning of their adolescents by changing their physical and social environments. Ladd and Pettit (2002) discuss that parents engage in *designing* by attempting to impact children's access to, and interaction with, peers, through influencing their social contexts, such as neighborhoods, schools, or activities. By engaging in designing, parents may affect children's social skills and peer competence, as their decisions or control regarding the social environments of their children affect contact with peers. Social contexts can indeed impact aggressive, delinquent, or competent behaviors. For example, among early adolescents in inner-city Chicago, Jennings, Maldonado-Molina, Reingle, and Komro (2011) report that neighborhood problems, including drug dealing, public alcohol use, and lack of youth activities, were associated with higher levels of physical aggression among early adolescents. Alternatively, it has been documented that organized youth activities, such as arts and leadership programs, are related to higher levels of social competence, including conflict resolution (Shernoff, 2010).

There is evidence that parents' designing impacts adolescents' participation in various structured peer activities. Huebner and Mancini (2003) report that, among high-school adolescents, higher levels of perceived parental endorsement of structured activities were related to higher levels of participation in extracurricular activities and clubs. Additionally, Persson, Kerr, and Stattin (2007) report that parent-child interactions and having friends who engaged in structured activities influenced participation and retention over time in structured activities among adolescents Grades 4-12. Moreover, withdrawing from structured activities and instead participating in unstructured peer interactions predicted increasing delinquency over time, especially among adolescents with negative parent-child relations.

Remarkably few studies have investigated parents' use of designing on adolescents' social behaviors, including aggression. Gerardy, Mounts, Luckner, and Valentiner (2014) documented relations among a novel measure of adolescents' perceptions of parents' provision of access to peers, an aspect of designing, and social adjustment. Adolescents reported how much they believed their parents would allow them to participate in a variety of behaviors with same-sex hypothetical peers. Parents' provision of access to peers was not related to aggressive behaviors. However, reporting moderate levels of parents' access to peers was associated with higher levels of social inclusion and prosocial behavior.

Supervising. More research has focused on parents' supervising or monitoring of peer activities and interactions for influencing social behaviors, including aggression. Ladd and Pettit (2002) define supervising as parents' attempts to monitor or regulate children's peer activities and peer relationships. Research has shown that a lack of parental supervision is related to higher rates of physical aggression among early adolescents in Chicago (Jennings et al., 2011). As acknowledged by Kerr, Stattin, and Burk (2010), knowing about adolescents'

activities is somewhat challenging for parents, partly due to adolescents' time away from home. Therefore, parents may rely on attempts to monitor and make rules regarding adolescents' activities and acquire information regarding activities as ways of influencing antisocial, delinquent, and aggressive behaviors.

Stattin, Kerr, and colleagues (e.g., Kerr & Stattin, 2000; Kerr et al., 2010; Stattin & Kerr, 2000) note that although previous research has assumed that parents' active attempts to monitor their adolescents helped to reduce adolescents' antisocial behavior and association with antisocial peers, these relations are better explained by adolescents' disclosure of information and parental knowledge, rather than active monitoring. Kerr et al. (2010) provides a longitudinal test of these assumptions. In a sample of seventh- and eighth-grade adolescents and their parents in Sweden, parental knowledge predicted decreasing levels of delinquent behavior, while parents' active monitoring efforts were not significantly related to parental knowledge or adolescent disclosure. Evidence regarding monitoring and adolescent delinquency suggests that greater monitoring may be related to increased delinquency. Recently, Tilton-Weaver, Burk, Kerr, and Stattin (2013) suggest that parents' monitoring rules were related to late adolescents selecting fewer delinquent friends. Monitoring rules also predicted fewer delinquent friends among early adolescents who did not perceive themselves to be overly controlled by their parents. In contrast, among early adolescents who believed they were overly controlled, greater monitoring was related to a greater likelihood of selecting delinquent friends. This research focuses on delinquent antisocial behavior and not aggressive behavior. However, similar processes might be at work for understanding parents' monitoring and control and adolescents' aggressive behavior.

Research on aggression has supported the positive role of monitoring and knowledge. Pepler, Jiang, Craig, and Connolly (2008) investigated parental monitoring and knowledge in the contribution of decreasing trajectories of bullying aggression, following adolescents for seven years, starting at age 10-12. Compared to adolescents who never bullied across adolescence, those characterized by a high trajectory of bullying reported lower levels of parental monitoring/knowledge. In other words, parental monitoring/knowledge was related to a greater likelihood of adolescents not engaging in bullying. In a cross-sectional investigation of Norwegian adolescents, Idsoe, Solli, and Cosmovici (2008) document the role of adolescents' perceptions of parents' knowledge (termed *regulation*, e.g., "My parents know what I do in my leisure time," p. 464) on reports of bullying aggression. Similar to Pepler et al. (2008), they found that parents' regulation, or knowledge, was related to lower levels of bullying. Moreover, higher levels of knowledge mediated the relation between positive parent-child relationships and lower levels of bullying.

Consulting. As discussed in Mounts (2008), parental consulting is captured by parents' engagement in problem-solving and provision of advice in conversations about peers. In a nine-month longitudinal study, Mounts (2011) investigated associations between parental management of peers and adolescents' social skills. Higher levels of parent-reported consulting predicted decreases in assertion and responsibility when occurring in the context of high parent-child conflict about peers. It was suggested that parents who engage in higher levels of consulting and conflict about peers might impinge on adolescents' needs for autonomy regarding their friends. Poulin, Nadeau, and Scaramella (2012) also document relations between parental advice-giving and social adjustment among a sample of early adolescents. Parents and adolescents were observed discussing adolescents' actual peer

situations, including peer conflicts. Greater parental advice-giving during discussions was related to lower levels of adolescents' conflict with best friends concurrently and higher levels of prosocial behavior one year later.

Regarding aggressive behavior, Gerardy et al. (2014) found that higher levels of parental consulting were related to lower levels of self-reported physical and relational aggression. Although this study relied solely on adolescents' self-reports of behaviors, this pattern of relations could suggest that parents of less aggressive adolescents engage in greater consulting about their peer relationships. In addition, parental consulting may help adolescents to avoid the use of aggressive behavior, through fostering of problem-solving skills, for example. Future research is needed to explore mechanisms by which consulting relates to lower levels of aggression and document the context by which this relation occurs.

Guiding. Parents may be particularly inclined to influence their adolescents' peer relationships when they perceive them as engaging in aggressive behaviors, for example, because aggressive adolescents choose friends who exhibit similar levels of aggression, and friends can influence one another's relationally aggressive behaviors (Sijtsema et al., 2010). Parental guiding (also referred to as mediating in previous research; e.g., Mounst, 2004) is conceptualized as a firm and directive form of managing adolescents' peer relationships that includes communicating disapproval over friendships and discussing the consequences associated with affiliation with certain peers. Mounst (2011) found that higher levels of parental beliefs regarding authority to make decisions regarding their adolescents' peer relationships were associated with higher levels of guiding.

However, the research on the relation between parents' guiding behaviors and adolescents' aggressive behavior has been inconclusive. For the most part, studies have shown

that guiding is related to social maladjustment. For example, higher levels of parent-reported guiding have been related to adolescents' decreased cooperation over time (Mounts, 2011).

Gerardy et al. (2014) found that higher levels of parental guiding were related to higher levels of relational aggression, but not physical aggression. Similarly, Poulin et al. (2012) showed that higher levels of observed parental intrusiveness in a parent-child discussion task were related to higher levels of concurrent teacher-ratings of adolescent aggression at a trend level.

In another study, Tilton-Weaver and Galambos (2003) report that parents were more concerned about friendships and communicated more disapproval about friendship when their adolescents exhibited behavioral maladjustment. More recent research supports the idea that guiding behaviors, especially communicating disapproval about friends, can exacerbate behavioral problems. Tilton-Weaver et al. (2013) report that among a large sample of early, middle, and late adolescents in Sweden, relations between parents' disapproval over friendships and adolescents' association with problematic peers varied. Among early adolescents who believed they were overly controlled by parents, greater disapproval of friends was linked to greater likelihood of selecting delinquent friends. Among late adolescents, greater disapproval of friends was linked to lower levels of delinquent friends' influence on adolescents' own delinquency. However, among nondelinquent adolescents, greater disapproval of friends was related to higher levels of delinquent friends' influence.

Together, existing research on parental guiding might suggest that parents' firm communication of disapproval about peer relationships occurs as a response to adolescents' levels of aggressive behavior, or in response to problematic peer experiences (Mounts, 2011), but it is also possible that guiding exacerbates behavioral problems such as aggression because it is seen as intrusive (Tilton-Weaver et al., 2013). In this way, adolescents who perceive their

parents as impinging on their autonomy might respond with greater aggression as a way to assert their independence (Allen et al., 2002).

Some studies have documented relations between guiding and positive adolescent social adjustment. In a cross-sectional study of ethnically diverse adolescents, Mounts (2004) found that higher levels of adolescents' perceptions of guiding (and consulting) were related to greater friendship quality. Notably, parental guiding was separate from autonomy granting, which was related to lower levels of friendship conflict, delinquency, and drug use, and there were ethnic group differences regarding associations between management and adjustment. Mounts (2011) also found trend-level increases in assertion over time and some support for moderation of conflict in the link between guiding and decreases in social skills (i.e., assertion and empathy), arguing that the extent to which parents manage their adolescents' peer relationships might have differential implications for social adjustment and parent-child conflict, depending on adolescents' desires for autonomy. Additional research could help to further understand how parental guiding is related to adolescents' social behaviors, including aggression.

Summary

A large body of research documents the impact of parents on children's and adolescents' aggressive behavior. Exploring parenting practices that are specific to peer relationships might be particularly informative for understanding the social functioning, including aggressive behavior, of adolescents. Because consulting and guiding likely reflect parents' active attempts to change their children's behaviors vis a vis peers, the focus of this

investigation is on consulting and guiding and the way in which they are related to SIP and aggression.

Parenting and Adolescent SIP

Parenting is believed to affect children's cognitive framework for understanding the way in which people interact with one another. Interestingly, in Dodge's (2006) model of the etiology and development of hostile attributions, interpreting others' intent as hostile is believed to be a universal experience that emerges early in life, and learning that others' intent is usually benign is a normative developmental task. The interaction of biological predispositions and negative caregiving environments prevents the development of a benign attribution bias and sets in motion a trait-like hostile attribution bias that becomes increasingly impervious to mitigating influences. In addition, parents' own attributions and cognitive distortions regarding others' behavior may be modeled and transferred to children, such as by providing inappropriate advice to children about social situations (see Bugental & Johnston, 2000, for a review and discussion). Furthermore, Dodge (2006) proposes that benign and hostile attributions can be modeled by parents to children.

Consistent with these ideas, three areas of research, which are important for understanding the way in which parenting is related to children's cognitive processing and, subsequently, to their aggressive behavior, is reviewed. In this section, I examine (a) research demonstrating the influence of parental beliefs and attributions on parenting, (b) research demonstrating the influence of parenting practices on children's social attributions, and (c) research on the influence of parents' cognitions about social behavior on children's social attributions.

Parental Beliefs and Attributions Influence Parenting

The role of parents' cognitions has been theoretically discussed in the link between socialization practices and child social development (e.g., see Bugental & Johnston, 2000, for a discussion). Ladd and Pettit (2002) suggest that two types of parental cognitions might be important in influencing parenting behavior. First are cognitions regarding children's social development, such as whether children are progressing in expected ways compared with peers. Second are cognitions regarding general parental beliefs about social development, such as whether children's social skills are a product of heritability. Research has documented the tendency for parents who use harsh parenting practices to interpret their children's behaviors as hostile and purposeful.

A recent example of this research comes from Haskett and Willoughby (2007), who examined parenting in a diverse sample of 5-10-year-old children and their mothers, half of whom had documented cases of child abuse. Parents' hostile attributions and inappropriate expectations regarding child behaviors predicted higher levels of harsh discipline and negative parenting. In turn, harsh/negative parenting predicted higher levels of children's hostile attributions and aggressive responses. Additionally, Glatz, Stattin, and Kerr (2011) reported that higher levels of adolescents' problem behaviors were concurrently and longitudinally associated with higher levels of parents' experience of powerlessness. Powerlessness predicted lower levels of parental warmth and higher levels of coldness-rejection two years later. This research provides evidence that parents' beliefs and cognitions regarding their children's social behaviors and own aptitude impact their parenting.

Parenting Practices and Child/Adolescent Attributions for Social Behavior

Other research has focused on explaining the link between parenting and children's aggression by examining parents' influence on SIP factors, including children's hostile attributions.

Negative Parenting

Negative parent-child interactions have been related to deficits in children's SIP. MacKinnon-Lewis, Rabiner, and Starnes (1999) report that higher proportions of mothers' negative verbal, physical, and affective behaviors toward their sons were related to boys' negative beliefs about unfamiliar, but not familiar, peers. Boys' negative beliefs about unfamiliar peers were also concurrently related to greater peer-rated aggression. Boys' negativity towards mothers was related to higher levels of concurrent negative beliefs about unfamiliar and familiar peers. Negative beliefs about familiar peers were related to lower levels of peer preference, which were related to more negative familiar peer beliefs one year later.

Similarly, Nelson and Coyne (2009) found that restrictive/harsh parenting was specifically related to hostile attributions. Mothers' parenting was unrelated to children's hostile attributions. Fathers' use of psychological control was associated with higher levels of boys' hostile attributions. Interestingly, fathers' corporal punishment was related to lower levels of hostile attributions and feelings of distress among boys and marginally related to higher levels of girls' hostile attributions.

Other research has examined linkages between parenting and hostile attributions among younger children. Runions and Keating (2007) investigated parental influences on young children's attributions and behaviors using the National Institute of Child Health and Human Development (NICHD) Study of Early Child Care and Youth Development (SECCYD) data. Negative parental control and children's hostile attributions in preschool and first grade were related to higher levels of children's externalizing in first grade. Negative parental control was not predictive of children's hostile attributions, but authoritarian attitudes predicted greater endorsement of hostile attributions and aggressive responses. In another study of young children using SECCYD data, Raikes and Thompson (2008) document associations between parenting, attachment, and several aspects of children's social information processing. Early maternal depression during the toddler period was related to higher levels of hostile attributions for ambiguous hypothetical peer-conflict behavior in first grade. Moreover, children who were classified as having a resistant attachment to their mothers at 36 months reported more hostile attributions in first grade.

Positive Parenting

Positive parenting has been linked to SIP, by predicting positive aspects of processing, including benign attributions. For example, Nelson and Coyne (2009) report that warm, positive parenting was associated with children endorsing more benign attributions for peer behavior and reporting lower levels of anticipated distress in peer-conflict situations. Similarly, Raikes and Thompson (2008) document that early maternal sensitivity and first-grade maternal sensitivity each uniquely predicted children's SIP. Specifically, higher levels of sensitivity were associated with children responding to ambiguous hypothetical peer-conflict scenarios

with fewer aggressive solutions in first grade. Higher levels of sensitivity also were related to children providing more socially competent responses to general peer situations, such as making friends, at 4.5 years. Rah and Parke (2008) provide evidence for relations between positive parenting and children's healthy SIP. Their sample included fourth-grade children and their parents, who participated in laboratory discussions of potentially difficult issues for children. Parents' positive interactions were associated with children providing fewer hostile attributions and aggressive goals in regard to parents. Parents' positive interactions with children were related to children providing fewer negative cognitions about peers one year later. These findings underscore the notion that experiences with the family can serve as a foundation for understanding experiences with peers.

Although evidence has been found to support the notion that parents contribute to children's SIP, Stoltz et al. (2013) fail to document a significant link between parenting and children's SIP. They examined the contribution of parenting to fourth-grade children's SIP and aggressive behavior. Although the affective parent-child relationship and negative parenting were related to aggressive behavior in hypothesized directions, the only cognitive factor that was related to parenting was children's positive self-perceptions. Specifically, negative parenting was associated with lower levels of children's positive self-perceptions, and self-perceptions were then related to heightened proactive aggression, among boys. There were no significant associations between parenting and children's hostile intent attributions, aggressive responses, or approval of aggression. Therefore, although the study documented direct relations between parenting and aggression and direct relations between SIP and aggressive behavior, parenting was not related to SIP. The authors suggest that parents' SIP in particular should be examined, as general parenting behaviors may not be strongly linked to children's

SIP. Additionally, it is possible that specific parenting practices related to peer relationships might be stronger predictors of SIP than the more general parenting style. In this investigation, the focus is on specific parenting practices related to peer relationships and the way in which they are related to adolescents' SIP and aggressive behavior.

Transmission of Social Attributions from Parents to Children

A small body of research has explored similarities between parents' and children's social cognitions, including beliefs about peers and SIP. For example, parents' and children's goals and strategies for interacting with others have been positively correlated as measured by responses to open-ended vignettes describing social problems (McDowell, Parke, & Spitzer, 2002). Parents and children have also been shown to provide similar aggressive solutions to hypothetical peer problems (Duman & Margolin, 2007). More specifically, a small number of investigations have explored whether parental hostile intent attributions regarding peer behavior are related to children's hostile intent attributions regarding peer behavior, suggesting that some parents and children might share a tendency to attribute hostile intent to ambiguous social interactions.

Bickett, Milich, and Brown (1996) suggest that studying parents' attributions regarding the same scenarios for which their children endorse hostile attributions is a particularly informative methodology. They found that compared to mothers of nonaggressive boys (ages 7-12), mothers of aggressive boys endorsed more hostile attributions for their children's behavior when responding to scenarios describing hostile and ambiguous provocation from their children. Similarly, aggressive boys endorsed hostile attributions for their mothers'

behaviors in scenarios for which intent was ambiguous. Notably, mothers of nonaggressive boys endorsed fewer hostile attributions for their sons' behavior, even in scenarios for which their behavior was clearly intentional and hostile. Mothers of aggressive boys endorsed more hostile attributions for teacher and peer behaviors toward their children. The authors suggest that these circumstances in particular might impact children's hostile attributions, by parents modeling their own hostile attributions and teaching children to interpret others' intent incorrectly. Although they failed to find specifically a significant correlation between mothers' and sons' hostile attribution biases, the authors proposed that perhaps the transmission of attribution biases is more prominent between parents and children of the same gender.

To address this issue, MacBrayer, Milich, and Hundley (2003) conducted a similar study among mothers and their 8-12-year-old children. Again, the sample consisted of a control group and a clinically-referred behavioral problem/aggression group. Using procedures similar to those of Bickett et al. (1996), they presented mothers and children with ambiguous overt and relational provocation scenarios. Mothers' and daughters', but not mothers' and sons', hostile attribution beliefs were significantly correlated for overtly provocative situations ($r = .53$), although not for relationally provocative situations. In addition, mothers of aggressive children reported more hostile attribution biases in overt and relational situations than did the control group. Specifically, mothers of aggressive children provided more hostile attributions for the behaviors of their children in situations for which their child was the provocateur and they, the parent were the target, and for their children's teachers and peers, compared to the control group.

Halligan, Cooper, Healy, and Murray (2007) also examined associations between parents' attributions for child and peer behavior and children's attributions and behavior,

among a sample of parents and their children (five to seven years) who were rated high on externalizing problems. Using procedures similar to Milich and colleagues (Bickett et al., 1996; MacBrayer et al., 2003), parents' hostile intent regarding their peers and their children were measured from their responses to hypothetical scenarios. Children provided open-ended responses to typical scenarios to tap hostile intent and aggressive responses. At the bivariate level, parents' hostile attributions for their peers', or their children's peers', behavior were not related to children's hostile attributions. Parents who endorsed more hostile attributions for their children's behaviors, as well as more hostile attributions and aggressive responses for their peers' behaviors, reported higher levels of their children's externalizing behaviors. Furthermore, regressions showed that parents' hostile attributions about peers, which they held independent of their representations of their children's behaviors, and children's levels of externalizing problems, each uniquely predicted parents' hostile attributions for their children's behaviors. The finding that parents of aggressive children were characterized by hostile attributions regarding their peers' intent provides support for social learning mechanisms, including the possibility that parents may model hostile attributions or belief systems to their children. Thus, parenting practices might be influenced by a combination of parents' beliefs about the world in general and their specific beliefs about their children.

In another investigation, fourth-grade children and their parents responded to similar versions of hypothetical, ambiguous peer-conflict scenarios regarding overt and relational scenarios (Nelson et al., 2008). Maternal intent attributions were positively correlated with children's overt and relational intent attributions. Paternal intent attributions were correlated with children's relational aggression. Results suggested that the transmission of hostile attributions from parents to their children might vary by parents' and children's gender.

Summary

The above described research studies suggest that the quality of parenting behaviors, parent-child interactions, and parent-child relationships are related to children's social cognitions, including their beliefs about peers, attributions for others' behaviors, and ideas about how to behave when interacting with peers. In some cases, SIP variables have been shown to explain the relation between parenting and aggressive or externalizing behaviors (Haskett & Willoughby, 2007). In other cases, correlations between parents' and children's SIP have been documented (e.g., MacBrayer et al., 2003). It is important to note, however, that this body of literature is relatively scarce, making it difficult to draw strong conclusions regarding the impact of parents on the development or maintenance of children's SIP skills. Furthermore, it has been argued that results regarding parental and child social cognitions and social behavior are mixed, due in part to limited sample sizes and inconsistent methods for assessing attributions. Given the well-established findings regarding the explanatory and predictive role of social cognitions and SIP as precursors to social behavior, investigating the possibility that parents may socialize their children to interpret and represent the social world in adaptive or maladaptive ways continues to present an important research opportunity, especially for the development of preventative models and interventions.

The existing research on parenting and SIP skills has largely focused on early and middle childhood. Indeed, no studies were identified that examined relations among parenting, SIP, and aggressive or externalizing behavior among adolescents, suggesting an important gap in the literature. Investigations regarding parents' influence on adolescent social development

may benefit from considering specific parenting practices related to peers (Collins, Maccoby, Steinberg, Hetherington, & Bornstein, 2000; Darling & Steinberg, 1993; MOUNTS, 2008).

The current investigation examines the relation among parents' SIP skills, adolescents' SIP skills, and the parenting practices of parental management of peer relationships in a sample of early adolescents.

Attributions and Parental Management

Researchers have called for additional investigations into social-cognitive mechanisms that may contribute to understanding the linkages between direct parenting behaviors and adolescents' peer competence (Ladd & Pettit, 2002). MOUNTS (2008) suggests that parents' involvement in their children's social experiences is influenced by the beliefs that they hold regarding their children's social competence as well as other beliefs about social relationships. In turn, it is possible that parents' involvement in their adolescents' peer relationships may act as a mediating factor on the link between parents' hostile intent attributions and adolescent aggression, as the nature of their intent attributions could impact their management practices. Indeed, it has been suggested (Halligan et al., 2007; Nelson et al., 2008) and documented (Haskett & Willoughby, 2007) that parenting can mediate the relation between parental hostile intent attributions and child behavior. This framework may be useful in exploring the ways in which parental management of peer relationships and adolescent adjustment are linked.

Proposed Factors Influencing Parental Management

MOUNTS (2008) provides a theoretical framework outlining several proposed predictors of parental management of adolescents' peer relationships. In this model, parents' goals for

their adolescents' peer relationships, parents' beliefs, parents' perceptions of adolescents' behaviors, and parents' perceptions of adolescents' friends, are conceptualized as impacting parents' peer management behavior, which, in turn, influences adolescent social adjustment. Parents' intent attributions regarding their children's behaviors and other children's behaviors, both of which have been documented as having associations with children's and adolescents' behaviors, would function as one of Mounts' (2008) hypothesized precursors to parental management.

Mounts (2011) investigated precursors to parents' peer management practices and found that a higher number of goals for improving adolescents' peer relationships was related to higher levels of parental consulting. Parents' beliefs about authority over adolescents' friendships were related to parental guiding. Specifically, parents who reported higher levels of authority beliefs also reported higher use of guiding, as well as higher levels of conflicts about peer relationships with their children. Parents' goals and beliefs also evidenced associations with adolescents' social skills over a nine-month period. Additionally, Tilton-Weaver and Galambos (2003) found that parents' peer management practices were predicted from parents' perceptions of their adolescents' behaviors and concerns about adolescents' friendships. Specifically, they found that parents' concerns mediated the relation between adolescents' reports of problem behaviors and parents' communication of disapproval about friendships. Higher levels of problem behaviors and association with deviant friends, as reported by adolescents, were associated with higher levels of parents' concern, and concern was related to higher levels of communication disapproval. Additionally, for fathers, greater beliefs about efficacy regarding managing adolescents' peer relationships were related to higher levels of communicating disapproval.

This research suggests that adolescents' social functioning is related to parents' cognitions about parenting and their peer management practices. Research has not yet explored whether adolescents' aggressive behavior, in particular, is related to parents' cognitions, or whether parents' SIP affects their peer management practices. Parents' conversations about peers that occur when managing their adolescents' peer relationships might be a context for which parents transmit their attributions for others' behaviors (e.g., see Dodge, 2006). Indeed, social learning theories support the possibility that parents can model their attribution styles to their children (e.g., Dodge, 2006; MacBrayer et al., 2003), and this may occur, in part, during parent-child conversations about peers. Parental management behaviors, which inherently include talking about peer-related issues, including adolescents' actual interactions with peers, may thus set the stage for modeling to occur. For example, when a parent engages in consulting about a peer-conflict situation, he/she may help the adolescent to understand the peers' intentions, be it a correct or incorrect assessment. Here, the parents' own dispositions toward attributing hostile or benign intent to others' actions, as well as the adolescents' own history with peers, may likely influence the nature of advice given. In this situation, the mechanism – transmission of attributions of intent from parent to adolescent – may work through modeling.

Additionally, the nature of parents' intention beliefs may also impact the level or nature of management practices. Subsequently, management practices, predicted from parents' attributions, might affect adolescents' attributions or behavior. For example, a parent who has a dispositional hostile attribution bias might assume that a peer acted with hostile intent, and may also assume that this peer is not suitable as a friend. Here, a parent may then engage in guiding as a way to help the child avoid further negative interactions with that hostile peer.

This action may indirectly communicate that the peer is inherently bad or hostile.

Additionally, it is possible that the adolescent perceives him/herself to be over controlled, possibly attributing hostile intent to the parents' action (e.g., rule-setting or prohibition of friendship) and eventually reaching higher levels of aggressive behavior as a way of asserting independence (Allen et al., 2002). Another possibility, supported by research linking higher levels of parental hostile attribution biases and harsh and power-assertive parenting (see Haskett & Willoughby, 2007), is that certain parents with hostile attribution biases may simply use higher levels of guiding as a way of asserting dominance through rule-setting about peers and to avoid further conflict or discussion with her child regarding the issue.

CHAPTER 2

THE CURRENT INVESTIGATION

Two hypothesized conceptual models that represent the hypotheses and research questions are shown following (see Figures 1 and 2). The current investigation focused only on the relationships included in the models, although other patterns of relationships among the variables, such as moderation, are possible. The proposed theoretical models are based on mediational relations among mothers' intent attributions, management, adolescents' intent attributions, and aggression. The use of mediation, as opposed to moderation, is predicated on several rationale: (a) research has suggested that parents' attribution beliefs affect parenting practices (e.g., Haskett & Willoughby, 2007); (b) research has suggested that parents' beliefs affect parental management practices (Mounts, 2008, 2011; Tilton-Weaver & Galambos, 2003); and (c) research and theory suggest that parenting practices mediate the relation between parents' attribution beliefs and child attribution beliefs or behavior (Haskett & Willoughby, 2007). Therefore, although the level of management employed by parents could affect relations between adolescents' attributions and behaviors, a mediational model whereby parents' attributions influence parenting practices as well as adolescent attributions is arguably more thorough and direct. Of note, these models allowed for a test of social learning, or modeling, mechanisms (i.e., the predictive link from parents' attributions to adolescents' attributions) as well as the contribution of parental management to attributions and behavior

The hypotheses and questions labeled with the letter “a” focus on overt aggression, and the hypotheses and questions labeled with the letter “b” focus on relational aggression. I have also noted whether specific hypotheses support a social learning model or a parenting practices model, where appropriate.

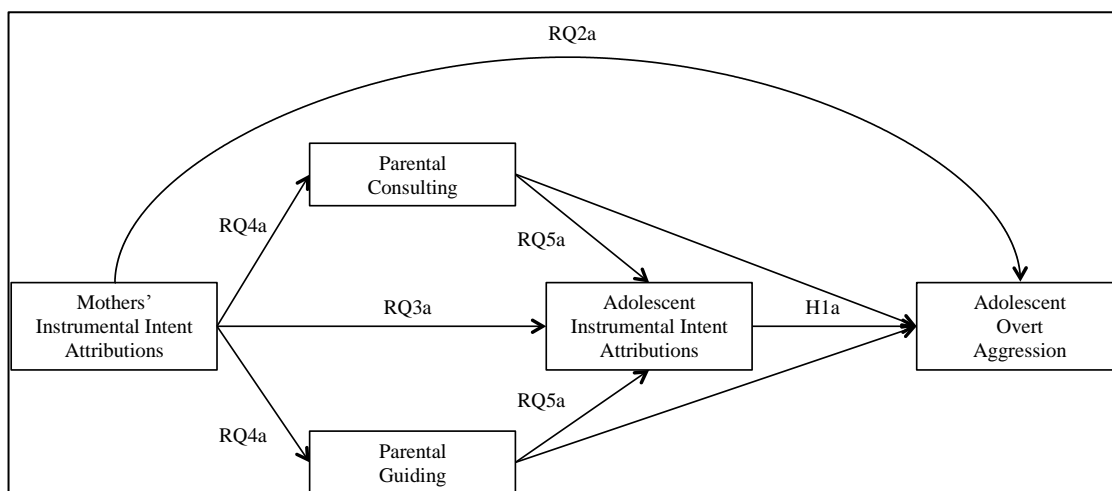


Figure 1. Hypothesized model of the relations among mothers' instrumental intent attributions, parental management, adolescent instrumental intent attributions, and overt aggression.

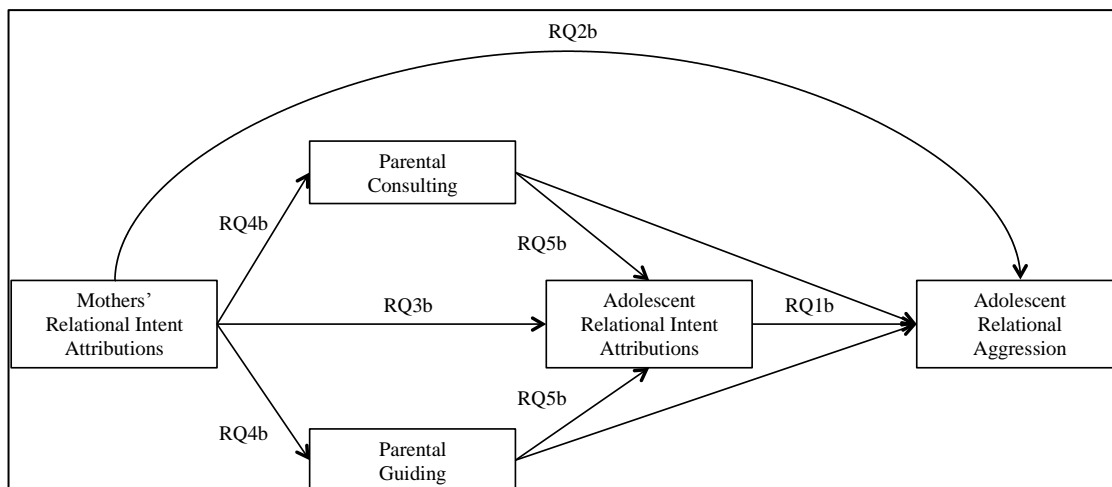


Figure 2. Hypothesized model of the relations among mothers' relational intent attributions, parental management, adolescent relational intent attributions, and relational aggression.

Hypotheses and Rationale

The current investigation examined the following hypotheses and research questions:

Hypothesis 1a (H1a): It is hypothesized that a greater number of hostile intent attributions for peer behavior in ambiguous hypothetical scenarios of instrumental provocation will be associated with higher levels of adolescents' overt aggression.

Research Question 1b (RQ1b): Are a greater number of hostile intent attributions for peer behavior in ambiguous hypothetical scenarios of relational provocation associated with higher levels of adolescents' relational aggression?

Rationale: The association between hostile attribution biases and physical or overt aggression has been documented extensively in the research literature, although there are several methodological moderators of this effect (see de Castro et al., 2002, for meta-analysis).

Researchers have documented that relationally aggressive adolescents endorse a higher number of hostile attributions for relationally aggressive peer-conflict scenarios to a greater extent than overtly aggressive adolescents (e.g., Crick, 1995; Crick et al., 2002), although other research has failed to document an association between relational aggression and hostile attributions in relationally aggressive scenarios (Crain et al., 2005; Nelson et al., 2008). Additionally, less research has investigated linkages between relational aggression and hostile attributions using continuous or dimensional analyses (Crain et al., 2005; Godleski & Ostrov, 2010; Nelson et al., 2008). Therefore, this research question is intended to add to the somewhat inconsistent findings in the literature and extend findings using continuous, rather than categorical approaches. Given the ambiguity of the current pattern of findings, a directional hypothesis regarding relational attributions and aggression was not made.

Research Question 2a (RQ2a): Are mothers' instrumental hostile intent attributions (IHIA) positively associated with girls' and boys' overtly aggressive behaviors?

Research Question 2b (RQ2b): Are mothers' relational hostile intent attributions (RHIA) positively associated with girls' and boys' relationally aggressive behaviors?

Rationale: Using methods similar to the current investigation, Milich and colleagues (e.g., Bickett et al., 1996; MacBrayer et al., 2003) document that mothers of aggressive children endorsed more hostile attributions for their children's behavior and their children's peers' behavior compared to mothers of nonaggressive children. However, this research was based on comparing children diagnosed for behavioral disorders (including aggressive behavior) and control group children and their mothers. Research has not typically examined mothers' hostile attributions and child aggression in a dimensional sense, especially concerning relational aggression and relationally aggressive peer-conflict scenarios (but see Nelson et al.,

2008, for an exception). Finally, to my knowledge, no research has examined these relations among adolescent samples (see Nelson et al., 2008). Therefore, a directional hypothesis has not been made.

Research Question 3a (RQ3a): Are mothers' instrumental hostile intent attributions positively correlated with girls' and boys' instrumental hostile intent attributions?

Research Question 3b (RQ3b): Are mothers' relational hostile intent attributions positively correlated with girls' and boys' relational hostile intent attributions?

Rationale: Social learning mechanisms are believed to underlie the transmission of attributional belief patterns from parents to children. MacBrayer et al. (2003) report that mothers' hostile intent attributions for instrumental (but not relational) provocations scenarios were significantly correlated with girls', but not boys', hostile intent attributions for instrumental provocations scenarios. Nelson et al. (2008) report that mothers' attributions correlated with children's instrumental and relational hostile intent attributions. Other research has failed to document significant correlations (Halligan et al., 2007). Overall, few studies examine relations between mothers' and children's (and none examine mothers' and adolescents' over the age of 12) intent attributions for peer behavior. Therefore, this research question is designed to add to the literature, although a directional hypothesis has not been made.

Research Question 4a (RQ4a): Are mothers' instrumental hostile intent attributions related to their management of peer relationships (i.e., consulting and guiding)?

Research Question 4b (RQ4b): Are mothers' relational hostile intent attributions related to their management of peer relationships (i.e., consulting and guiding)?

Rationale: Although direct transmission of attribution styles from parents to adolescents is possible (see RQ3a and RQ3b, above), it is also possible that parents' attributions impact adolescents' attributions and behavior through parenting practices. Research has documented that parents' caregiving behaviors are predicted from their beliefs about their children and that parents' hostile attributions are related to harsh/neglectful parenting practices (Haskett & Willoughby, 2007). Theoretical suppositions also have emphasized the role of parents' cognitions for impacting their parenting (see Bugental & Johnston, 2000, for a discussion). Regarding parental management of peer relationships in particular, parents' goals and beliefs are believed to be important in predicting parenting (Mounts, 2008), and some research has emerged documenting parents' goals (Mounts, 2011), parenting efficacy, and concerns about adolescents' friendships (Tilton-Weaver & Galambos, 2003) for predicting management practices. However, research has not explored whether parents' tendencies to interpret others' (including adolescents' peers) intent are related to their management practices, although it is theoretically possible that parents' beliefs about the hostile and intentional (or benign) nature of their children's peers' behaviors, or their own dispositional attribution style more generally, predicts their engagement in peer-management practices. Therefore, directional hypotheses have not been made.

Research Question 5a (RQ5a): Are mothers' consulting and guiding associated with adolescents' instrumental hostile intent attributions?

Research Question 5b (RQ5b): Are mothers' consulting and guiding associated with adolescents' relational hostile intent attributions?

Rationale: Ladd and Petit (2002) suggest that direct parenting practices, parental management of peers, can impact children's social competence, including aggressive

behaviors. It seems possible that consulting and guiding might also affect social information processing, including attributions of intent, either directly, such as through impacting problem solving (in the case of consulting), or indirectly, through setting rules about peers (in the case of guiding). Moreover, management might be a context for which social learning, or modeling of parents' intent attributions, occur. In other words, as management inherently involves discussions about actual peer interactions, likely often including peer conflict, these discussions might be a context for which transmission of parents' attributional styles to their adolescents occurs. Empirically, studies have documented linkages between negative aspects of parenting and children's hostile intent attributions (MacKinnon-Lewis et al., 1999; Nelson & Coyne, 2009), as well as between positive parenting and children's benign intent attributions (Nelson & Coyne, 2009; Rah & Parke, 2008). Parental management of peers is believed to be affected by adolescents' social functioning (Mounts, 2008; Tilton-Weaver & Galambos, 2003), and management has been shown to correlate with adolescent relational and physical aggression (Gerardy et al., 2014). However, it is not known whether these relations extend to adolescents' social-cognitive processing, such as whether parents' management practices are associated with adolescents' intent attributions.

Research Question 6a (RQ6a): Does parental management of peer relationships mediate associations between mothers' instrumental hostile intent attributions regarding ambiguous peer behavior and adolescents' overt aggression?

Research Question 6b (RQ6b): Does parental management of peer relationships mediate associations between mothers' relational hostile intent attributions regarding ambiguous peer behavior and adolescents' relational aggression?

Rationale: Although social learning mechanisms support the possibility of direct transmission of parents' intent attributions to their children, for example through modeling, parenting practices might work as a mediating factor in this link, supporting a parenting practices model. Parenting styles and parenting practices have been theorized to mediate the relation between parents' social cognition, including hostile intent attributions, and adolescents' aggression, and this mediated relation has been documented empirically regarding negative/harsh parenting (Haskett & Willoughby, 2007). However, research has not explored whether parents' management of peer relationships might mediate relations between parents' intent attributions and adolescents' aggression.

CHAPTER 3

METHOD

This investigation used data from a larger study exploring parents' involvement in adolescents' peer relationships and social-emotional adjustment. The original sample included 73 dyads of mothers and their early adolescent children (37 males) ages 10-15 ($M_{\text{age}} = 12.34$). As reported by their mothers, three adolescents were diagnosed with an Autism Spectrum Disorder. Due to the nature of their participation (e.g., taking much longer to complete questionnaires compared to other adolescent participants) and considering the focus on social relationships in the current study, these three families were excluded from all analyses. Among these 70 dyads, there were complete data on the variables of interest from 68 dyads. The final sample ($N = 68$) was comprised of 50% males and females ($M_{\text{age}} = 12.41$). The racial/ethnic composition of the final sample was 54.8% Caucasian only, 17.6% African-American only, 4.4% Hispanic only, and 22.1% mixed racial/ethnic background. Mothers' highest reported level of education ranged from less than high school (2.9%), to a high school degree (5.9%), to two years of college or less (38.2%), to a four-year degree (22.1%), to some school beyond college (8.8%), and to a graduate or professional degree (22.1%). The majority of adolescents lived with both parents (60.3%) or with their mother only (25%), and some reported living with their mother and stepfather (11.8%) or part time with each parent (2.9%).

Procedure

As part of the larger study, flyers (see Appendix A) served as the primary means to solicit participants. School officials at several public middle schools received flyers for classroom distribution. Teachers were instructed (see Appendix B for a copy of the letter given to teachers) to announce that the adolescents should take the flyers home to their parents. Additionally, flyers were posted in public businesses in the DeKalb-Sycamore community (e.g., libraries, shopping centers) and the Northern Illinois University campus. All recruitment materials and procedures for the larger study were approved by the Northern Illinois University Institutional Review Board. As specified on the flyers, participants were instructed to contact the laboratory to learn more information and volunteer to participate in the study. When participants had been scheduled for an interview, they received an email with additional information regarding study procedures (e.g., parking procedures, laboratory location, campus map) and were invited to the laboratory for data collection. At the beginning of each data collection session, research staff explained the procedures to participants and also explained their rights as a research participant. Research assistants answered questions that participants had. Subsequently, written consent was collected from the mothers and written assent was collected from the adolescents (see Appendices C and D).

As part of the larger study, dyads completed questionnaires, participated in video-recorded mother-adolescent interaction tasks, and completed interviews with research assistants. Additionally, adolescents participated in a computer-based task (Cyberball; Williams, Cheung, & Choi, 2000), which served as a manipulation of peer exclusion and inclusion in the guise of an electronic game of catch with peers. Participants completed each

component of the study in the following order: (a) initial paper questionnaire completion; (b) video-recorded mother-adolescent interaction tasks; (c) computer-based questionnaire completion; (d) interviews; and (e) Cyberball. The current thesis investigation used only questionnaire data.

Data were collected by trained graduate research assistants and undergraduate research assistants from a Northern Illinois University laboratory. All research assistants completed university ethics requirements for working with human participants (i.e., Collaborative Institutional Training Initiative training) and received extensive training regarding the data collection protocol. The lead graduate research assistant first demonstrated the research protocol, and research assistants were provided materials to assist them in learning the protocol. Then research assistants practiced the protocol with other research assistants. All research assistants were required to demonstrate proper execution of the data collection protocol with the lead graduate research assistant before working with participants.

Measures

Although the larger study employed a battery of questionnaires assessing mothers' and adolescents' reports of parenting and adolescent social and emotional adjustment, only the following measures were used in the current thesis project.

Demographics

A brief questionnaire asked mothers to provide information about their children's age, sex, race/ethnicity, which parents or guardians the child lives with, and parental education (see Appendix E).

Parental Management of Peer Relationships

Mothers' reports of their management of peer relationships, including 10 items for consulting (i.e., provision of advice and assistance with problem-solving regarding peers) and 18 items for guiding (i.e., directive instruction aimed at influencing peer relationships) via the *Parental Management of Peer Relationships Inventory* (PMPI; Mounts, 2004, 2011) were completed. This 28-item measure (see Appendix F) asked mothers to respond regarding how much they agreed with each statement on a 4-point Likert-type scale ranging from 1 (strongly disagree) to 4 (strongly agree). Mean subscale scores of mothers' reports of parental consulting and guiding were used in analyses. Previous research on the factor structure of the PMPI has consistently supported the use of guiding (previously referred to as mediating) as a unique factor (e.g., Mounts, 2004; Soenens, Vansteenkiste, Smits, Lowet, & Goossens, 2007), and data obtained from the guiding subscale had evidenced acceptable internal consistency in the literature (e.g., guiding $\alpha = .72-.73$; Mounts, 2004, 2011).

For example, Soenens et al. (2007) conducted a principal components analysis on the PMPI items reported in Mounts (2004), finding support for five items loading on a prohibiting factor ("My parents tell me if they don't want me to hang around with certain kids"), six items loading on a guiding factor ("My parents talk to me about the pros and cons of hanging around with certain people"), and four items loading on a supporting factor ("My parents encourage me to hang around with kids that they like"). Prohibiting and guiding, which were later combined to form the guiding subscale in Mounts (2011), as well as in the current thesis investigation, were moderately and positively correlated ($r = .44$).

The consulting subscale (e.g., “I listen to my child when he/she tells me about problems with friends”) was later added to the PMPI, and research using only consulting and guiding as two factors of parental management of peers has supported the internal consistency of these subscales (Gerardy et al., 2014; Mounts, 2011). In the current study, Cronbach alphas for mothers’ reports of their management behaviors were .71 for consulting and .73 for guiding; these values were identical to reliabilities reported in Mounts (2011). Research has not, however, examined the factor structure of the current version of the PMPI.

Therefore, a confirmatory factor analysis (CFA) was conducted on the parent version of the PMPI, as reported by the mothers in the current sample, using maximum likelihood estimation in Analysis of Moment Structures (Arbuckle, 2012) in the Statistical Package for the Social Sciences (SPSS), using procedures outlined by Kline (2011). The two-factor model specified consulting and guiding as two separate, but correlated, factors of parental management (see Figure 3). One factor loading for consulting and one factor loading for guiding were fixed at 1.00 (Kline, 2011). The model did not fit the data well ($\chi^2 = 564.39, p < .001, CFI = .50, RMSEA = .09$). However, as shown in Table 1, the majority of the standardized factor loadings for the consulting items were above .40 and were statistically significant at $p < .05$. There was more variability regarding the factor loadings for the guiding items, such that many were below .40, and none were statistically significant.

Although these results suggest that the two-factor structure appears to fit the data poorly in the current sample, and that modifications might be applied to the parental management items, particularly the guiding items, it is important to note that the factor analytic results from the CFA is based on a relatively small sample size. Due to the potentially limited power to reliably obtain information about the factor analytic structure of the consulting and guiding

subscales of the PMPI, the current thesis investigation uses the original items comprising each subscale rather than making modifications to the scale in an exploratory fashion. However, results suggest that further research on the structure and items comprising the PMPI, using larger sample sizes, might be warranted.

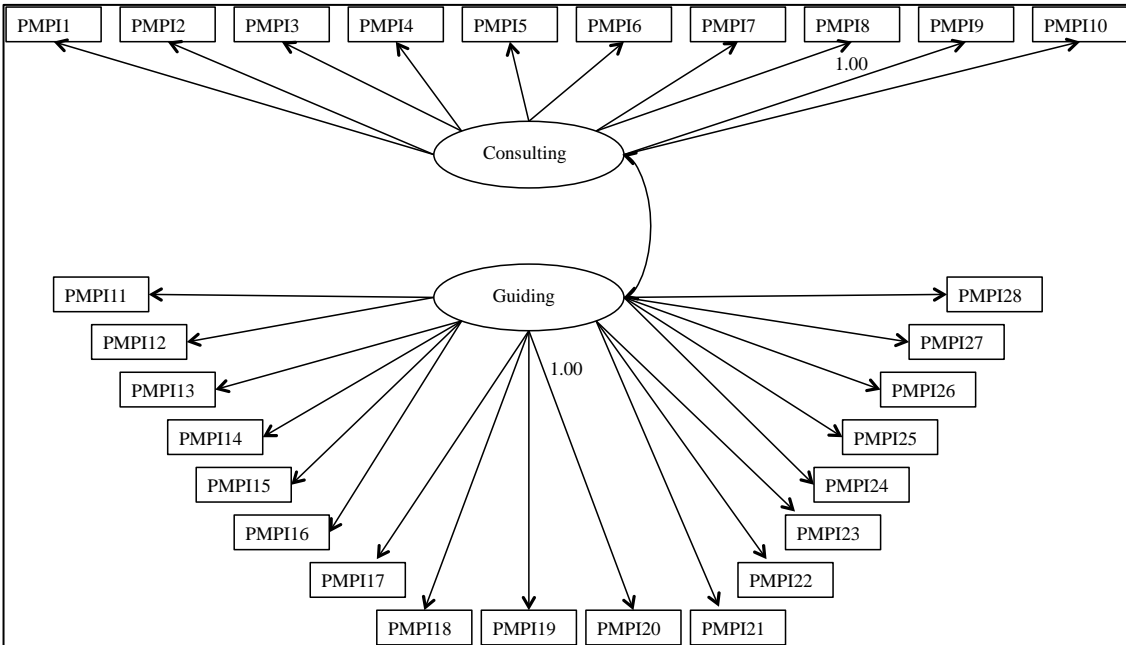


Figure 3. Two-factor model of the PMPI as tested with CFA in AMOS.

Table 1

Standardized Factor Loadings for the PMPI Items Estimated with Maximum Likelihood in AMOS

Item	Standardized factor loading	
	<u>Consulting</u>	<u>Guiding</u>
When my child is having a problem with a friend, he/she can ask me for help in solving it.	.426^{**}	
I give my child good advice about solving problems with a friend.	.645^{***}	
My child can ask me for help when he/she is having trouble with a friend.	.266 [*]	
My child and I talk about ways of making new friends.	.437^{**}	
I encourage my child to think of his/her friend's viewpoint when he/she has had a disagreement with a friend.	.191	
When my child has a disagreement with a friend he/she usually talks with me about it.	.751^{***}	
My child spends a lot of time talking with me about his/her friendships.	.539^{***}	
I think that having friends is important for adolescents.	.224 ⁺	
I listen to my child when he/she tells me about problems with a friend.	.433^{**}	
<i>I encourage my child to think of several ways to solve a problem with a friend.</i>	.676	
My child is only friends with kids who are good students because that is what I want.		.259
I help my child think of ways to meet new kids.		.187
I want my child in certain activities at school because of the kinds of kids he/she will meet in them.		.371

(Continued on following page)

Table 1 continued

Item	Standardized factor loading	
	<u>Consulting</u>	<u>Guiding</u>
I encourage my child to do activities with kids I like.		.519
I let my child know who I want to be their friends.		.635
If my child's friends do things that I don't approve of, my child stops being friends with them.		.452
I encourage my child to invite kids I like over to the house.		.112
I don't talk to my child about his/her friends. (reverse coded)		.132
I want my child to be friends with kids who don't drink alcohol or do drugs.		.205
<i>I only want my child hanging around with kids who are like our family.</i>		.170
I tell my child if I don't want him/her to hang around with certain kids.		.599
I talk to my child about the pros and cons of hanging around with certain people.		.332
I want my child to be friends with kids who are good students.		.338
I think that if my child's friends are doing bad things, he/she must be doing them too.		.064
I support my child in his/her activities because I like the friends he/she meets in them.		.001
I tell my child that I don't like his/her her friends.		.515
I tell my child that who he/she has for friends will affect his/her future.		.687
I influence my child's selection of friends.		.631

Note. *** $p < .001$, ** $p < .01$, * $p < .05$, + $p < .10$. Factor loadings above .40 are bolded. Items fixed to 1.00 are italicized.

Attributions for Peer Behavior

A measure adapted from Crick et al. (2002) and Bailey and Ostrov (2008) was used to assess adolescents' attributions about peer behavior in the context of hypothetical ambiguous social scenarios. Adolescents read a set of hypothetical stories describing 10 provocative interactions with peers that resulted in negative consequences for the subject, and for which the peer's intent or motive was unclear (see Appendix G). Half of the stories described instrumental peer conflicts (e.g., "peer breaks your new iPod") and half of the stories describe relational peer conflicts (e.g., "two peers from class whisper and laugh to each other after looking at you"). After reading each scenario, participants were instructed to choose one response for each of three questions, explained in detail below.

The first question instructed participants to choose from a list of four potential reasons explaining the peer's behavior in the hypothetical interaction; two of these responses described hostile reasons and two responses described benign reasons. Accordingly, participants' responses were coded as either hostile (1) or benign (0). The second question asked whether the peer was or was not trying to be mean (also coded hostile [1] or benign [0], respectively). Within each story type (i.e., instrumental and relational provocation), participants' responses to both questions were averaged to create a composite hostile attribution score. Thus, one variable was created tapping instrumental hostile attributions, and one variable was created tapping relational hostile attributions, with higher mean scores indicating more endorsement of hostile attributions.

These measures have evidenced acceptable to good reliabilities in the literature, especially for instrumental provocation scenarios (e.g., $\alpha = .71-.86$; Bailey & Ostrov, 2008;

Crick, 1995; Crick, et al., 2002); more caution has been advised regarding the internal consistency of the relational provocation scenarios (Cronbach alphas have ranged from .64 to .78; Bailey & Ostrov, 2008; Crick, 1995; Crick, et al., 2002). In the current study, Cronbach's alpha for adolescents' instrumental intent attributions was .77, and Cronbach's alpha for adolescents' relational intent attributions was .58.

Of note, following each story, a third question also asked participants how upset or mad they would be if the interaction had happened in real life (i.e., 0 *not upset at all*; 1 *a little upset or mad*; 2 *very upset or mad*), in order to tap feelings of distress relevant to the provocation. Within each story type, responses can be summed or averaged to create a composite measure of distress for instrumental and relational situations. These procedures have also evidenced acceptable internal reliability (e.g., $\alpha = .74$; Crick et al., 2002); however, only participants' responses regarding provocateur intent (and not feelings of distress) were used in the current thesis project.

Mothers also completed the attribution measure, with the instructions to imagine that each scenario was happening to her child (see Appendix H). In this way, mothers' perceptions of peer intent during hypothetical interactions between peers and their adolescents were assessed. Although the Crick et al. (2002) and Bailey and Ostrov (2008) measures were not originally designed to tap parents' attributions for their children's peers' behaviors in ambiguous situations, previous research has utilized similar methodology whereby parents are presented with the same hypothetical stories as their children, and their attributions for the provocations as well as perceptions of their children's feelings of distress are assessed (e.g., Bickett et al., 1996; MacBrayer et al., 2003; Nelson et al., 2008). Research exploring parental and adolescent attributions for peer behavior has shown that parents' responses are best tapped

through using open-ended questionnaires (rather than a forced-choice format), which allows for a more valid assessment of parents' attributions (R. Milich, personal communication, October 23, 2012). Therefore, questions regarding rationale for peer behavior (e.g., "Why did the kid break your child's iPod?") were assessed in an open-ended format, and questions regarding intent (i.e., the child was/was not trying to be mean) were assessed in the same format as described in the adolescent version above.

Mothers' responses regarding rationale for peer behavior were coded for benign and hostile attributions, using instructions from MacBrayer et al. (2003) (see Appendix I). These instructions specify that two independent raters code mothers' hostile and benign responses according to the following criteria. A response was coded as benign (0) if at least one of the following was evident: the event (a) resulted from an accident, misunderstanding, temporary state, third party, or circumstance, (b) was described as being due to a neutral characteristic/action of the participant, or (c) was attributed to the hypothetical peer but described as fulfilling a helping function (i.e., benefiting the subject). As it was possible that mothers would provide more than one response regarding aggressor intentionality, the entire answer was coded benign if at least one non-hostile response was given (see MacBrayer et al., 2003, for a discussion). Indeed, mothers in the current study sometimes provided more than one explanation of intent in response to the scenarios. A response was coded as hostile (1) according to the following criteria: the hypothetical event was ascribed to the provocateur's characteristic/state, not the subject, and either (a) the peer acted with intention or to achieve something, or (b) the personality trait attributed to the provocateur's actions assumes hostility/indifference/insensitivity/lack of concern. Based on these procedures, Cohen's Kappa coefficients between two independent raters' agreement on mothers' attribution responses have

been shown to be acceptable in the literature ($\kappa = .85$, Bickett et al., 1996; $\kappa = .85$, MacBrayer et al., 2003).

Two graduate research assistants (including the author) served as two independent raters of mothers' intent attributions. The research assistants were provided with the coding manual, and sample hypothetical responses (see Appendix J) were coded as a training exercise until inter-rater reliability kappa reached .80. Thereafter, inter-rater reliability of 20% of the responses was assessed by two coders. Kappa was calculated on 14 mothers' responses to each of 10 scenarios. There were six instances of missing data for which mothers did not provide a response that could be coded using the current guidelines. In addition, mothers' responses that did not clearly suggest intent were not coded. Examples of these responses included "I don't know;" "Who cares;" and "Depends on the child and the circumstances." Therefore, there were a total of 134 responses that were used to calculate inter-rater agreement. There was 100% agreement among the raters. Cohen's Kappa was calculated using Barnette's (2005) computational procedures in Microsoft Excel. Cohen's Kappa was 1.00, $p < .001$, 95% confidence interval (.84, 1.00).

Procedures for creating averaged composite measures of mothers' instrumental and relational attributions were identical to those outlined above for adolescents, with the exception that mothers' open-ended responses regarding rationale for peer behavior were coded first. As with the adolescents' attribution scale, only reports of peer intent were used in the current study; mothers' perceptions of their adolescents' feelings of distress were not used. Cronbach's alpha for mothers' instrumental intent attributions was .75, and Cronbach's alpha for mothers' relational intent attributions was .60.

Finally, it is important to note that the attribution measure modeled from Crick et al. (2002) and Bailey and Ostrov (2008) was modified to be appropriate for use with early adolescents, as these assessments were originally intended for use with elementary aged children. The activities and scenarios described in the hypothetical vignettes depicting peer behaviors must, therefore, be relevant and appropriate to adolescents' interactions with peers in order for them to be internally valid (i.e., tapping adolescents' true responses to these scenarios) and externally valid (i.e., readily able to generalize to real-life settings outside of the laboratory). Moreover, language for descriptions of items was modified to reflect current culture (i.e., "radio" was changed to "iPod").

Adolescents' Aggressive Behaviors

To tap aggressive behavior, adolescents completed a modified version of the *Child Social Behaviors Scale* (CSBS-S, Crick & Grotpeter, 1995). This 27-item self-report measure (see Appendix K) assesses physical aggression (three items), relational aggression (six items), verbal aggression (three items), prosocial behavior (four items), social inclusion (two items), and loneliness (one item), with items added (Luckner, 2012) to assess playful relational behaviors (five items) and rough and tumble play (three items). Each question asked respondents to answer on a 5-point Likert-type scale ranging from 1 (never true) to 5 (almost always true). Mean subscale scores for overt (physical aggression and verbal aggression composite) and relational aggression were used in analyses for this thesis investigation. Cronbach's alphas were .86 for overt aggression and .74 for relational aggression, suggesting that the data from these measures evidenced acceptable to good reliability.

CHAPTER 4

RESULTS

Descriptive Statistics and Bivariate Correlations

Descriptive statistics for the variables of interest, including means, standard deviations, skew, and kurtosis, are presented in Table 2. Raw mean values, that have not been transformed or mean-centered, are presented. As shown in Table 2, adolescent overt aggression and relational aggression were significantly non-normal, according to the distribution plots and the critical ratio (CR) cutoff of ± 1.96 (i.e., normality statistic divided by its standard error; Kline, 2011). Moreover, the Kolmogorov-Smirnov statistics (overt aggression = .19; relational aggression = .16) and Shapiro-Wilk statistics (overt aggression = .86; relational aggression = .89) testing for violations of normality were significant at $p < .001$ (Kline, 2011). Together, these statistics suggest that overt aggression and relational aggression evidenced non-normal distributions. To correct for violations of normality, natural log transformations were applied to the overt aggression and relational aggression variables prior to inclusion in the primary analyses, which are described following. The natural log-transformed versions of overt aggression and relational aggression exhibited correction in their skew (overt aggression skew = .52, CR = 1.80; relational aggression skew = .48, CR = 1.66) and kurtosis (overt aggression kurtosis = -.67, CR = -1.18; relational aggression kurtosis = -.54, CR = -.94). Bivariate correlations among the raw variables of interest are presented in Table 3.

Table 2

Means, Standard Deviations, Skew, and Kurtosis

<u>Variable</u>	<u>Mean</u>	<u>SD</u>	<u>Min.</u>	<u>Max.</u>	<u>Skew (CR)</u>	<u>Kurtosis (CR)</u>
Adolescent IHIA	.37	.27	.00	1.00	.46 (1.59)	-.67 (-1.17)
Adolescent RHIA	.57	.18	.00	1.00	-.49 (-1.67)	.75 (1.30)
Adolescent Overt Aggression	1.60	.52	1.00	3.17	1.33 (4.57)*	2.12 (3.70)*
Adolescent Relational Aggression	1.63	.65	1.00	4.17	1.13 (3.87)*	.84 (1.47)
Mother IHIA	.28	.24	.00	.88	.52 (1.79)	-.60 (-1.05)
Mother RHIA	.48	.19	.20	1.00	.38 (1.26)	-.10 (-.17)
Mother Consulting	2.90	.59	1.00	3.90	.01 (.02)	-.29 (-.50)
Mother Guiding	2.59	.42	1.44	3.44	.46 (1.58)	.27 (.47)

Notes. IHIA = Instrumental hostile intent attributions; RHIA = Relational hostile intent attributions; CR = critical ratio (skew/skew standard error); *normality violation based on +/- 1.96 cutoff; N = 68.

Table 3

Bivariate Correlations							
<u>Variables</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
1. Adolescent IHIA	---						
2. Adolescent RHIA	.16	---					
3. Adolescent OA	.20 ⁺	-.02	---				
4. Adolescent RA	.26 [*]	.00	.69 ^{***}	---			
5. Mother IHIA	.37 ^{**}	-.02	.16	.05	---		
6. Mother RHIA	.21 ⁺	.04	.24 [*]	.12	.58 ^{***}	---	
7. Mother Consulting	.11	.15	-.08	-.12	-.15	-.22 ⁺	---
8. Mother Guiding	.07	-.04	.11	.11	.04	.08	.23 ⁺

Notes. IHIA = Instrumental hostile intent attributions; RHIA = Relational hostile intent attributions; OA = Overt aggression;

RA = Relational aggression; ⁺ $p < .10$; ^{*} $p < .05$; ^{**} $p < .01$; ^{***} $p < .001$.

Primary Analyses

For the primary analyses, results are presented in order of hypothesis. A series of hierarchical regression analyses, in accordance with Cohen, Cohen, West, and Aiken (2003), were conducted to test Hypothesis 1a through Research Question 5b. All continuous variables were mean centered prior to inclusion in analyses.

Hypothesis 1a (H1a)

H1a stated, “It is hypothesized that a greater number of hostile intent attributions for peer behavior in ambiguous hypothetical scenarios of instrumental provocation will be associated with higher levels of adolescents’ overt aggression.”

To test this hypothesis, a hierarchical regression analysis was conducted. Adolescent sex, dummy coded as 0 = girl 1 = boy, was entered in Step 1. The adolescent-reported, instrumental attribution score was entered in Step 2. Adolescents’ log-transformed overt aggression score was the dependent variable. Results from the regression are presented in Table 4. Adolescent sex was not related to overt aggression ($\beta = .17, B = .12, p = .179$). Adolescents’ instrumental intent attributions were not significantly related to their level of overt aggression ($\beta = .16, B = .22, p = .190$). Thus, although intent attributions were related to higher levels of aggression, as hypothesized, results were below conventional alpha levels standards, and H1a was not supported.

Table 4

Regression Testing the Contribution of Adolescent Sex and Instrumental Hostile Intent Attributions (IHIA) to Overt Aggression

Variable	Overt Aggression			
	<i>B</i>	<i>SE</i>	β	ΔR^2
Step 1				.03
Adolescent sex	.12	.09	.17	
Step 2				.03
Adolescent IHIA	.22	.17	.16	
Total R^2				.05

Note. The interaction between adolescent sex and IHIA was also tested in the prediction of overt aggression. However, this effect was not significant and is not presented here.

Research Question 1b (RQ1b)

RQ1b asked “Are a greater number of hostile intent attributions for peer behavior in ambiguous hypothetical scenarios of relational provocation associated with higher levels of adolescent’s relational aggression?”

To test this research question, a hierarchical regression analysis was conducted. Adolescent sex, coded as 0 = girl 1 = boy, was entered in Step 1. The adolescent-reported, relational attribution score was entered in Step 2. Adolescents’ log-transformed relational aggression score was the dependent variable. Results from the regression are presented in Table 5. Adolescent sex was not related to relational aggression ($\beta = .12$ $B = .07$, $p = .327$). Adolescents’ hostile relational attributions were not related to their level of relational aggression ($\beta = .03$, $B = .02$, $p = .879$), and thus, RQ1b was not supported.

Table 5

Regression Testing the Contribution of Adolescent Sex and Relational Hostile Intent Attributions (RHIA) to Relational Aggression

Variable	Relational Aggression			
	<u>B</u>	<u>SE</u>	<u>β</u>	<u>ΔR²</u>
Step 1				.02
Adolescent sex	.07	.07	.12	
Step 2				.03
Adolescent RHIA	.03	.20	.02	
Total R ²				.02

Note. The interaction between adolescent sex and RHIA was also tested in the prediction of relational aggression. However, this effect was not significant and is not presented here.

Research Question 2a (RQ2a)

RQ2a asked, “Are mothers’ instrumental hostile intent attributions positively associated with girls’ and boys’ overt aggression?”

To test this research question, a hierarchical regression analysis was conducted. The interaction term was created by multiplying the sex variable by the mean-centered maternal attribution score. Adolescent sex, coded as 0 = girl 1 = boy, was entered in Step 1. The mother-reported, instrumental attribution score was entered in Step 2. The interaction between adolescent sex and mothers’ instrumental attributions was entered in Step 3. Adolescents’ log-transformed overt aggression score was the dependent variable.

Results are presented in Table 6. There was not a main effect of adolescent sex on overt aggression ($\beta = .17, B = .12, p = .179$). There was not a main effect of maternal instrumental attributions on adolescents' level of overt aggression ($\beta = .14, B = .21, p = .243$). The interaction between maternal instrumental attributions and adolescent sex approached statistical significance ($\beta = .28, B = .63, p = .084$).

The interaction between maternal instrumental attributions and adolescent sex was probed according to procedures from Hayes and Matthes (2009), by estimating the conditional effects of maternal instrumental attributions for boys and for girls. As shown in Figure 4, for boys, more maternal instrumental attributions were related to higher levels of adolescents' overt aggression, $b = .56, t(64) = 2.10, p = .039, CI (.03, 1.10)$. For girls, the simple regression slope of the relation between maternal attributions and overt aggression was not statistically significant different from zero, $b = -.07, t(64) = -.29, p = .775, CI (-.55, .41)$. These results provide some evidence that the relation between maternal hostile attributions for instrumental scenarios and adolescents' overt aggression is moderated by adolescent sex. As higher levels of maternal hostile attributions were related to higher levels of boys' overt aggression, at a trend level, there is partial support for RQ2a.

Research Question 2b (RQ2b)

RQ2b asked, "Are mothers' relational hostile intent attributions positively associated with girls' and boys' relational aggression?"

To test this research question, a hierarchical regression analysis was conducted. The interaction term was created by multiplying the sex variable by the mean-centered maternal

attribution score. Adolescent sex, coded as 0 = girl 1 = boy, was entered in Step 1. The mother-reported, relational attribution score was entered in Step 2. The interaction between adolescent sex and mothers' relational attributions was entered in Step 3. Adolescents' log-transformed relational aggression score was the dependent variable.

Table 6

Regression Testing the Contribution of Adolescent Sex and Maternal Instrumental Hostile Intent Attributions (IHIA) to Adolescent Overt Aggression

Variable	Overt Aggression			
	<i>B</i>	<i>SE</i>	β	ΔR^2
Step 1				.03
Adolescent sex	.12	.09	.17	
Step 2				.02
Maternal IHIA	.21	.18	.14	
Step 3				.04+
Maternal IHIA x Sex	.63+	.40	.28+	
Total R^2				.02

Note. + $p < .10$

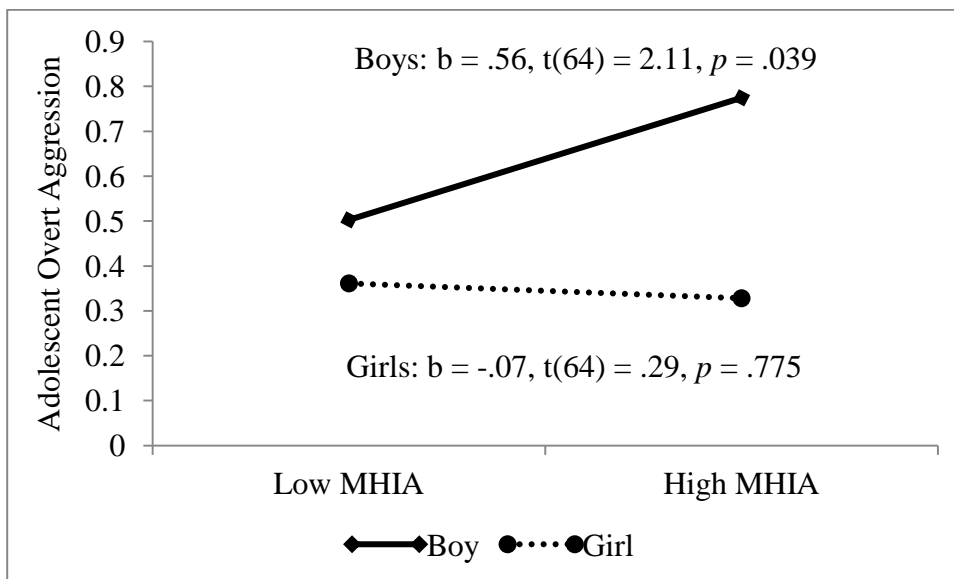


Figure 4. Plotted simple slopes of the relation between maternal instrumental hostile intent attributions and adolescent overt aggression as moderated by adolescent sex.

Results are presented in Table 7. Adolescent sex was not related to relational aggression ($\beta = .12$, $B = .07$, $p = .327$). Maternal relational attributions were not related to adolescents' level of relational aggression ($\beta = .09$, $B = .14$, $p = .492$). The interaction between adolescent sex and maternal instrumental attributions was also not significant ($\beta = .23$, $B = .60$, $p = .143$). Therefore, RQ2b was not supported.

Table 7

Regression Testing the Contribution of Adolescent Sex and Maternal Relational Hostile Intent Attributions (RHIA) to Adolescent Relational Aggression

Variable	Relational Aggression			
	<i>B</i>	<i>SE</i>	β	ΔR^2
Step 1				.02
Adolescent sex	.07	.07	.12	
Step 2				.01
Maternal RHIA	.14	.20	.09	
Step 3				.03
Maternal RHIA x Sex	.60	.40	.23	
Total R^2				.05

Research Question 3a (RQ3a)

RQ3a asked, “Are mothers’ instrumental hostile intent attributions positively correlated with girls’ and boys’ instrumental hostile intent attributions?”

To test this research question, a hierarchical regression analysis was conducted. The interaction term was created by multiplying the sex variable by the mean-centered maternal attribution score. Adolescent sex, coded as 0 = girl 1 = boy, was entered in Step 1. The mother-reported, instrumental attribution score was entered in Step 2. The interaction between adolescent sex and mothers’ instrumental attributions was entered in Step 3.

As shown in Table 8, adolescent sex was related to instrumental attributions at a trend level, such that boys endorsed more hostile instrumental attributions than did girls ($\beta = .21, B = .11, p = .092$). Consistent with the question of RQ3a, more maternal hostile instrumental attributions were related to more adolescent hostile instrumental attributions ($\beta = .35, B = .30, p = .003$). The interaction between adolescent sex and maternal instrumental attributions was not significant ($\beta = .24, B = .40, p = .11$).

Research Question 3b (RQ3b)

RQ3b asked, “Are mothers’ relational hostile intent attributions positively correlated with girls’ and boys’ relational hostile intent attributions?”

To test this research question, a hierarchical regression analysis was conducted. The interaction term was created by multiplying the sex variable by the mean-centered maternal attribution score. Adolescent sex, coded as 0 = girl 1 = boy, was entered in Step 1. The mother-reported, relational attribution score was entered in Step 2. The interaction between adolescent sex and mothers’ relational attributions was entered in Step 3. Results are presented in Table 9. Adolescent sex was not related to relational attributions ($\beta = -.01, B = -.03, p = .792$). Maternal relational attributions were not related adolescent relational attributions ($\beta = .04, B = .04, p = .734$). The interaction between adolescent sex and maternal instrumental attributions was not significant ($\beta = .08, B = .12, p = .644$). Therefore, RQ3b was not supported.

Table 8

Regression Testing the Contribution of Adolescent Sex and Maternal Instrumental Hostile Intent Attributions (IHIA) to Adolescent IHIA

Variable	Instrumental Intent Attributions			
	<u>B</u>	<u>SE</u>	<u>β</u>	<u>ΔR²</u>
Step 1				.04
Adolescent sex	.11+	.06	.21+	
Step 2				.12
Maternal IHIA	.39**	.13	.35**	
Step 3				.03
Maternal IHIA x Sex	.40	.25	.24	
Total R ²				.20

Note. ** $p < .01$; + $p < .10$.

Table 9

Regression Testing the Contribution of Adolescent Sex and Maternal Relational Hostile Intent Attributions (RHIA) to Adolescent RHIA

Variable	Relational Intent Attributions			
	<i>B</i>	<i>SE</i>	β	ΔR^2
Step 1				.00
Adolescent sex	-.01	.04	-.03	
Step 2				.00
Maternal RHIA	.04	.12	.04	
Step 3				.00
Maternal RHIA x Sex	.12	.25	.08	
Total R^2				.01

Research Question 4a (RQ4a)

RQ4a asked, “Are mothers’ instrumental hostile intent attributions related to their management of peer relationships (i.e., consulting and guiding)?”

To test this research question, two hierarchical linear regression models were performed, once with mothers’ reports of consulting as the dependent variable and a second time with mothers’ reports of guiding as the dependent variable. Each time, adolescent sex, coded as 0 = girl 1 = boy, was entered in Step 1. Mothers’ instrumental attribution score was entered in Step 2. Results are presented in Table 10. Adolescent sex was not related to mothers’ reports of consulting ($\beta = .09, B = .05, p = .459$) or guiding ($\beta = .18, B = .10, p =$

.146). Mothers' instrumental attributions were not related to their level of consulting ($\beta = -.05$, $B = -.06$, $p = .761$) or guiding ($\beta = -.20$, $B = -.34$, $p = .176$). Therefore, there was no evidence that mothers' instrumental intent attributions were related to their management of peer relationships, and RQ4a was not supported.

Research Question 4b (RQ4b)

RQ4b asked, "Are mothers' relational hostile intent attributions related to their management of peer relationships (i.e., consulting and guiding)?"

To test this research question, two hierarchical linear regression models were performed, once with mothers' reports of consulting as the dependent variable and a second time with mothers' reports of guiding as the dependent variable. Each time, adolescent sex, coded as 0 = girl 1 = boy, was entered in Step 1. Mothers' relational attributions scores were entered in Step 2.

Results are presented in Table 10. As previously stated, adolescent sex was not related to mothers' reports of consulting ($\beta = .09$, $B = .05$, $p = .459$), or guiding ($\beta = .18$, $B = .10$, $p = .146$). Greater endorsement of mothers' relational attributions was related to lower levels of consulting at a trend level ($\beta = -.23$, $B = -.38$, $p = .062$). Mothers' relational attributions were not related to their guiding ($\beta = .09$, $B = .13$, $p = .576$). Therefore, there is partial support for RQ4b, as mothers' relational intent attributions were related to their consulting at a trend level.

Table 10

Regressions Testing the Contributions of Adolescent Sex, Mothers' Instrumental Hostile Attributions (RQ4a), and Mothers' Relational Hostile Attributions (RQ4b), to their Management of Peer Relationships

Variable	Consulting				Guiding			
	<i>B</i>	<i>SE</i>	β	ΔR^2	<i>B</i>	<i>SE</i>	β	ΔR^2
Step 1				.01				.03
Adolescent sex	.06	.08	.09		.10	.07	.18	
Step 2				.02/.05 ⁺				.00/.01
Maternal IHIA	-.21	.16	-.16		.03	.15	.02	
Maternal RHIA	-.38 ⁺	.20	-.23 ⁺		.11	.19	.07	
Total R^2				.04/.06				.03/.04

Notes. IHIA = Instrumental hostile intent attributions; RHIA = Relational hostile intent attributions. IHIA and RHIA were included as individual predictors in separate models, although they are presented together. ΔR^2 and Total R^2 values to the left of the slash are from the IHIA models, and to the right of the slash are from the RHIA models. ⁺ $p < .10$.

Research Question 5a (RQ5a)

RQ5a asked, “Are mothers’ consulting and guiding associated with adolescents’ instrumental hostile intent attributions?”

To test this research question, a hierarchical regression analysis was conducted. Adolescent sex, coded as 0 = girl 1 = boy, was entered in Step 1. Mothers’ reports of consulting and guiding were entered together in Step 2. As shown in Table 11, adolescent sex was related to instrumental intent attributions at a trend level ($\beta = .21, B = .11, p = .092$); boys endorsed slightly more instrumental hostile intent attributions than did girls. There was not a significant relation between consulting ($\beta = .09, B = .08, p = .456$) or guiding ($\beta = .01, B = .01, p = .927$) and adolescents’ instrumental attributions. Therefore, RQ5a was not supported.

Table 11

Regression Testing the Contribution of Adolescent Sex and Mothers’ Management of Peers to Adolescent Instrumental Hostile Intent Attributions (IHIA)

Variable	Adolescent IHIA			
	<u>B</u>	<u>SE</u>	<u>β</u>	<u>ΔR^2</u>
Step 1				.04+
Adolescent sex	.11+	.06	.21+	
Step 2				.01
Maternal consulting	.08	.11	.09	
Maternal guiding	.01	.12	.01	
Total R^2				.05

Note. + $p < .10$.

Research Question 5b (RQ5b)

RQ5b asked, “Are mothers’ consulting and guiding associated with adolescents’ relational hostile intent attributions?”

To test this research question, a hierarchical regression analysis was conducted. Adolescent sex, coded as 0 = girl 1 = boy, was entered in Step 1. Mothers’ reports of consulting and guiding were entered together in Step 2. As shown in Table 12, adolescent sex was not related to relational intent attributions ($\beta = -.03$, $B = -.01$, $p = .792$). There was not a significant relation between consulting ($\beta = .17$, $B = .10$, $p = .196$) or guiding ($\beta = -.07$, $B = -.04$, $p = .583$) and adolescents’ relational intent attributions. Therefore, RQ5b was not supported.

Table 12

Regression Testing the Contribution of Adolescent Sex and Mothers’ Management of Peers to Adolescent Relational Hostile Intent Attributions (RHIA)

Variable	Adolescent RHIA			
	B	SE	β	ΔR^2
Step 1				.00
Adolescent sex	-.01	.04	-.03	
Step 2				.03
Maternal consulting	.10	.08	.17	
Maternal guiding	-.04	.08	-.07	
Total R^2				.03

Research Question 6a (RQ6a)

RQ6a asked, “Does parental management of peer relationships mediate associations between mothers’ instrumental hostile intent attributions regarding ambiguous peer behavior and adolescents’ overt aggression?”

First, a hierarchical linear regression analysis was conducted to test the effect of mothers’ instrumental intent attributions, consulting, and guiding and adolescents’ attributions on adolescents’ overt aggression, controlling for adolescent sex. The dependent variable was adolescents’ log-transformed overt aggression. Step 1 included sex, coded as 0 = girl 1 = boy. Step 2 included mothers’ instrumental intent attributions. Step 3 included mothers’ consulting and guiding scores, entered together. Step 4 included adolescents’ instrumental intent attributions.

Results from this regression are presented in Table 13. Adolescent sex was not related to overt aggression ($\beta = .17, B = .12, p = .170$). Mothers’ instrumental intent attributions were not related to adolescent overt aggression, ($\beta = .14, B = .21, p = .243$). Mothers’ consulting ($\beta = -.16, B = -.19, p = .204$) and guiding ($\beta = .11, B = .13, p = .403$) were not related to adolescent overt aggression. Controlling for all other variables, adolescents’ instrumental attributions were not related to their level of overt aggression ($\beta = .16, B = .22, p = .240$). Overall, results from this regression suggest that the hypothesized instrumental-overt aggression model may not be viable for explaining adolescents’ overt aggression.

To test the instrumental-overt aggression model further, two serial multiple mediator models (Hayes, 2013) were used to examine the total, direct, and indirect (i.e., mediated)

effects within the model, as specified in Figure 1. This analysis was conducted with the PROCESS (Hayes, 2013) procedure, accomplished using a macro within SPSS. PROCESS uses 1,000 bootstrapped samples to test the indirect effects of the variables in the model, and derives a bias-corrected bootstrap confidence interval around the coefficient for each effect (Hayes, 2013). Indirect effects are interpreted as significant if the confidence interval does not contain zero (Hayes, 2013).

Table 13

Regression Testing the Contribution of Adolescent Sex, Mothers' Instrumental Intent Attributions, Consulting, and Guiding and Adolescents' Intent Attributions on Overt Aggression

Variable	Overt Aggression			
	<i>B</i>	<i>SE</i>	β	ΔR^2
Step 1				.03
Adolescent sex	.12	.09	.17	
Step 2				.02
Maternal IHIA	.21	.18	.14	
Step 3				.03
Maternal consulting	-.19	.15	-.16	
Maternal guiding	.13	.16	.11	
Step 4				.02
Adolescent IHIA	.22	.18	.16	
Total R^2				.04

Note. IHIA = Instrumental hostile intent attributions.

For the current analyses, effects tested with PROCESS included the total effect and direct effect of mothers' instrumental attributions on adolescents' overt aggression, and the direct and indirect effects of the mediator variables within the model. Specifically, the log-transformed adolescent overt aggression was the outcome variable, mothers' instrumental intent attribution score was the predictor variable, and mothers' consulting and guiding and adolescents' instrumental intent attributions were mediator variables of the relation between mothers' instrumental attributions and adolescents' overt aggression. In order to control for the effect of adolescent sex, adolescent sex was included as a covariate. All continuous predictor variables were centered prior to inclusion in analyses.

PROCESS estimated the direct effect of mothers' instrumental intent attributions on (a) their consulting/guiding, (b) adolescents' instrumental intent attributions, and (c) adolescents' overt aggression. To test for mediation, 1,000 bootstrapped samples estimated (a) the effect of mothers' intent attributions on adolescent intent attributions through consulting/guiding, (b) the effect of mothers' intent attributions on adolescent aggression through adolescent intent attributions, and (c) the effect of mothers' intent attribution on adolescent aggression through consulting/guiding and adolescent intent attributions in serial. Two models were tested for the unique effects of consulting and guiding, while controlling for the non-target form of management. Thus, the model was run once with consulting entered as serially prior to guiding, and again with guiding entered as serially prior to consulting.

Results regarding relations specified in the overt attributions-aggression model are presented in Figure 5. The only significant relation that emerged was between maternal instrumental attributions and adolescent instrumental attributions. Controlling for adolescent sex, as well as the effects of maternal consulting and guiding, the relation between maternal

and adolescent instrumental attributions was still significant, $a_3 = .42, p = .002, 95\% \text{ CI} (.16, .67)$. The total effect of maternal instrumental attributions and the mediator variables on adolescent overt aggression was $.13, 95\% \text{ CI} (-.09, .32)$ ($\text{CI} [-.06, .34]$ when guiding was entered first into the model), which was not statistically significant. The direct effect of maternal instrumental attributions on adolescent overt aggression was also not significant $c' = .08, p = .683, 95\% \text{ CI} (-.32, .48)$.

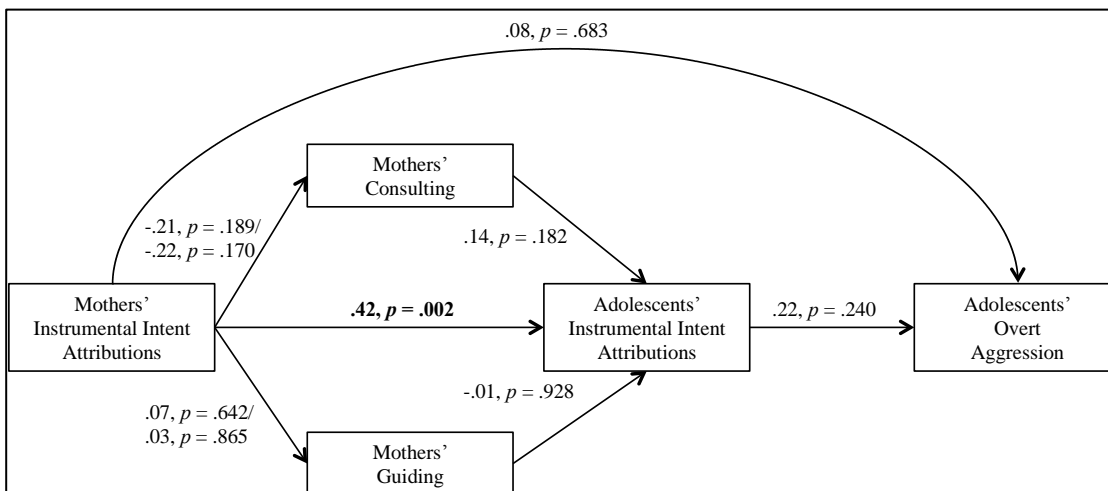


Figure 5. Results from testing the instrumental-overt model with PROCESS. *Notes.* Boldface indicates a significant effect. When results differed, coefficients from running the serial model with consulting entered first are to the left of the slash, and coefficients from running the serial model with guiding entered first are to the right of the slash.

Results of the indirect effects from each set of bootstrapping analyses in the instrumental-overt model are presented in Table 14. None of the indirect effects of the relation

Table 14

Indirect Effects in the Instrumental-Overt Model, Based on 1,000 Bias-Corrected Bootstrapped Samples

Indirect effect	<u>Coefficient</u>	<u>95% CI (Lower)</u>	<u>95% CI (Upper)</u>
MIHIA -> Consulting -> Adolescent OA	.05	-.01	.20
MIHIA -> Consulting -> AIHIA -> Adolescent OA	-.01	-.06	.00
MIHIA -> Guiding -> Adolescent OA	.01/.00	-.02/-.04	.11/.10
MIHIA -> Guiding -> AIHIA -> Adolescent OA	-.00	-.02/-.01	.01
MIHIA -> AIHIA -> Adolescent OA	.09	-.07/-.04	.24/.28

Notes. MIHIA = Maternal instrumental hostile intent attributions; AIHIA = Adolescent instrumental hostile intent attributions; OA = overt aggression; If values differed, values to the left of the slash denote analyses that ran with consulting first and values to the right of the slash denote analyses that ran with guiding first.

between maternal instrumental attributions and adolescent overt aggression were significant. Because there was no evidence to suggest that consulting, guiding, or adolescent attributions, mediated the relation between maternal attributions and adolescent aggression, either separately or in the overall multiple serial mediated model, RQ6a was not supported.

Research Question 6b (RQ6b)

RQ6b asked, “Does parental management of peer relationships mediate associations between mothers’ relational hostile intent attributions regarding ambiguous peer behavior and adolescents’ relational aggression?”

A hierarchical linear regression analysis tested the effect of mothers’ relational intent attributions, consulting, and guiding and adolescents’ relational attributions on adolescents’ relational aggression, controlling for adolescent sex. The regression was run using the same procedures as in the test of adolescents’ overt aggression (see RQ6a). As shown in Table 15, adolescent sex was not related to relational aggression ($\beta = .17, B = .12, p = .179$). Mothers’ relational intent attributions were not related to adolescent relational aggression ($\beta = .09, B = .14, p = .492$). Mothers’ consulting ($\beta = -.18, B = -.18, p = .173$) and guiding ($\beta = .14, B = .14, p = .296$) were not related to adolescent relational aggression. Controlling for all other variables, adolescents’ relational attributions were not related to adolescents’ relational aggression, ($\beta = .05, B = .08, p = .689$). Overall, results from this regression suggest that the hypothesized relational model may not be viable for explaining adolescents’ relational aggression.

Table 15

Regression Testing the Contribution of Adolescent Sex, Mothers' Relational Intent Attributions, Consulting, and Guiding, and Adolescents' Relational Attributions, on Relational Aggression

Variable	Relational Aggression			
	<u>B</u>	<u>SE</u>	<u>β</u>	<u>ΔR²</u>
Step 1				.02
Adolescent sex	.07	.07	.12	
Step 2				.01
Maternal RHIA	.14	.20	.09	
Step 3				.04
Maternal consulting	-.18	.13	-.18	
Maternal guiding	.14	.13	.14	
Step 4				.00
Adolescent RHIA	.08	.21	.05	
Total R ²				.06

Notes. RHIA = Relational hostile intent attributions.

To test the relational attributions-aggression model further, PROCESS was again used, to estimate the direct effect of mothers' relational intent attributions on (a) their consulting/guiding, (b) adolescents' relational intent attributions, and (c) adolescents' relational aggression. To test for mediation, bootstrapping procedures estimated (a) the effect of mothers' intent attributions on adolescent intent attributions through consulting/guiding, (b) the

effect of mothers' intent attributions on adolescent aggression through adolescent intent attributions, and (c) the effect of mothers' intent attribution on adolescent aggression through consulting/guiding and adolescent intent attributions. Procedures used were analogous to those used to test the instrumental-overt model.

As shown in Figure 6, there was partial support for one direct relation, as specified in the relational model. More maternal relational intent attributions were related to lower levels of maternal reported consulting, although the effect differed slightly depending on whether consulting or guiding was appeared first in the serial model ($b_{consultingfirst} = -.38, p = .061$; $b_{guidingfirst} = -.41, p = .042$).

The total effect of maternal relational attributions and the mediator variables on adolescent relational aggression was .09, 95% CI (-.04, .27) (CI [-.03, .27] when guiding was entered first), and the direct effect of maternal instrumental attributions on adolescent overt aggression was $c' = .05, p = .815, 95\% \text{ CI } (-.37, .47)$. Neither effect was statistically significant, as the 95% bias-corrected bootstrapped confidence intervals contained zero (Hayes, 2013). Results of the indirect effects from each set of bootstrapping analyses in the relational attributions-aggression model are presented in Table 16. None of the indirect effects of the relation between maternal relational attributions and adolescent relational aggression were statistically significant. Because there was no evidence to suggest that consulting, guiding, or adolescent attributions, mediated the relation between maternal attributions and adolescent relational aggression, either separately or in the overall multiple serial mediated model, RQ6b was not supported

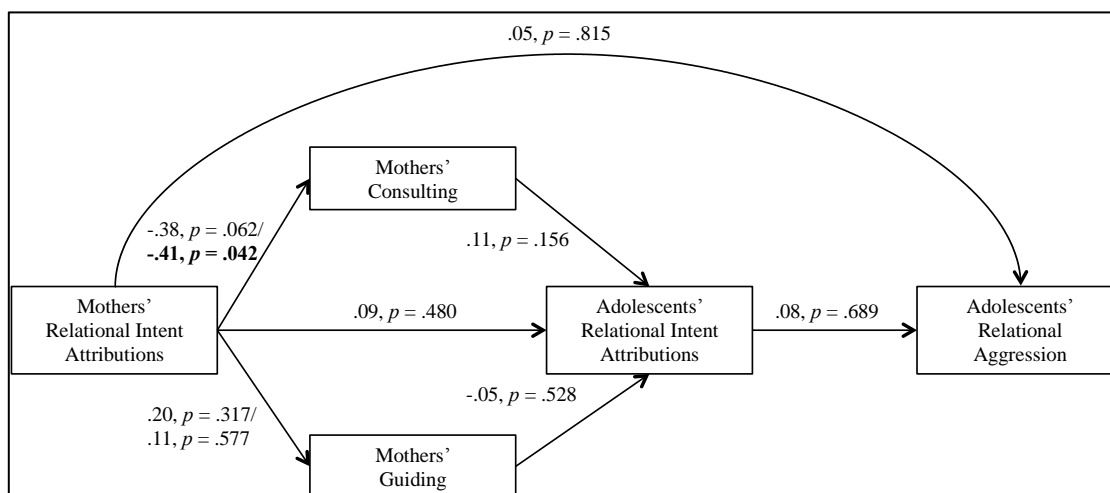


Figure 6. Results from testing the relational model with PROCESS. *Notes.* Boldface indicates a significant effect; When results differed, coefficients from running the serial model with consulting entered first are to the left of the slash, and coefficients from running the serial model with guiding entered first are to the right of the slash.

Table 16

Indirect Effects in the Relational Model, Based on 1,000 Bias-Corrected Bootstrapped Samples

Indirect effect	<u>Coefficient</u>	<u>95% CI (Lower)</u>	<u>95% CI (Upper)</u>
MRHIA -> Consulting -> Adolescent RA	.07/.08	-.04/-.01	.27/.26
MRHIA -> Consulting -> ARHIA -> Adolescent RA	-.00	-.04/-.05	.01
MRHIA -> Guiding -> Adolescent RA	.03/.02	-.03/-.02	.17/.16
MRHIA -> Guiding -> ARHIA -> Adolescent RA	-.00	-.03/-.02	.00
MRHIA -> ARHIA -> Adolescent RA	.01	-.02/-.03	.12/.10

Notes. MRHIA = Maternal relational hostile intent attributions; ARHIA = Adolescent relational hostile intent attributions; RA = relational aggression. If values differed, values left of the slash denote analyses that ran with consulting first and values right of the slash denote analyses that ran with guiding first.

CHAPTER 5

DISCUSSION

The current thesis investigation documented a concordance of hostile intent attributions among adolescents and their mothers, providing support for theories regarding social learning mechanisms and parent-child transmission of SIP (Crick & Dodge, 1994; Dodge, 2006; see MacBrayer et al., 2003, and Nelson et al., 2008, for examples of empirical evidence). These findings are important given the limited body of literature that has investigated parent-child concordance of hostile attribution biases (Bickett et al., 1996; Halligan et al., 2007; MacBrayer et al., 2003; Nelson et al., 2008; Werner, 2012), particularly among adolescents. Indeed, to my knowledge, this is the first study that has investigated hostile attributions between mothers and adolescents older than fifth grade, addressing an important gap in the literature.

Although the current investigation did not document that the hostile intent attributions of adolescents in this sample were related to their aggressive behaviors, which is a foundation of SIP theory (Crick & Dodge, 1994), there was some evidence, albeit marginally significant, suggesting that mothers' instrumental hostile intent attributions were related to boys', but not girls', level of overt aggression. Regarding the exploration of the role of parental management of peer relationships in understanding adolescents' SIP and aggressive behavior, mothers' intent attributions were not strongly related to their reported management practices. There was, however, some evidence to suggest that greater endorsement of mothers' relational hostile attributions may be related to lower levels of their consulting about peers. Maternal

peer-management behaviors were not related to adolescents' hostile intent attributions or aggressive behavior. Finally, the proposed multiple serial mediator model, which explored whether the link between maternal hostile attributions and adolescents' aggression was explained by the effect of mothers' peer-management behaviors on adolescents' hostile attributions, was not supported.

Hypothesis 1a (H1a)

The first hypothesis, that adolescents' hostile intent attributions for instrumental peer-conflict scenarios, which was intended to add to the existing literature (see de Castro et al., 2002), was not supported by the data. Although greater endorsement of adolescents' hostile attributions were related to somewhat higher levels of aggressive behavior, controlling for adolescent sex, this effect was not statistically significant. However, the study relied on a relatively small sample size, which unfortunately lacked adequate power to capture the small effect. Indeed, a post hoc power analysis determined that the current study had a power of approximately .34 to detect the relation between adolescents' instrumental hostile attributions and overt aggression (controlling for sex), suggesting that there was a 34% chance of detecting if the amount of variance explained in the regression (R^2) was statistically significant (*G*Power*; Faul, Erdfelder, Buchner, & Lang, 2009). It is important to note, however, that the size of the bivariate correlation (which was statistically significant) and the regression coefficient were consistent with effects reported in the literature (de Castro et al., 2002). In addition, although many research investigations have documented a relation between hostile attributions and aggressive behaviors, it is not necessarily uncommon for null findings, or findings in directions opposite to expectations (i.e., more hostile attributions related to lower

levels of aggression), to be reported (see meta-analytic results from de Castro et al., 2002).

De Castro and colleagues (2002) also report on various moderating influences of effect sizes, suggesting that although the relation between hostile attributions and aggression is robust in the literature, it is not perfect, and it is amenable to methodological and sample characteristics.

Research Question 1b (RQ1b)

The first research question, whether hostile attributions for relational peer-conflict scenarios would be related to relational aggression, was also not supported by the data. Although some researchers have documented links between hostile attributions regarding relational peer conflict and higher levels of relational aggression (Crick, 1995; Crick et al., 2002), a number of studies, using both categorical and, to a lesser extent, dimensional analyses, have failed to document this relation (e.g., Godleski & Ostrov, 2010). For example, Nelson et al. (2008) report a non-significant relation between children's intent attributions for ambiguous relational scenarios and peer-nominated relational aggression, and Crain et al. (2005) report mixed results regarding hostile attributions and relational aggression among girls; in one study, they report no relation, and in a second study, using modified measures of relational aggression, they report a negative relation between hostile attributions and relational aggression. Using a large sample of NICHD SECCYD data, Godleski and Ostrov (2010) found that, controlling for earlier relational aggression, physical aggression, and sex, children's relational hostile attributions did not predict teacher-reported relational aggression three years later. However, instrumental attributions predicted later relational aggression, a finding that was replicated concurrently, at the bivariate level, in the current study.

Godleski and Ostrov (2010) also found that relational aggression predicted heightened relational hostile attributions over time. This research suggests that the cross-sectional design of the current study may not fully capture the nature of the relation between relational attributions and aggression. Furthermore, as Godleski and Ostrov discuss, it could be that relational aggression is more closely related to proactive aggression and related aspects of SIP, such as aggressive goals and expectancies for using relational aggression (e.g., Crain et al., 2005), rather than reactive aggression and related hostile attributions.

Finally, the internal consistency of data reflecting relational attributions using the current measure, as assessed by Cronbach's alpha, was relatively low, suggesting that additional exploration into the particular items and their ability to explain variance in relational attributions is needed. It may be worthwhile to investigate specific responses to the relational attribution items by participant, as some items appear to be more clearly hostile rather than ambiguous on face value. If a ceiling effect is apparent for some of the items, whereby all or most of the adolescent participants in this sample find them hostile, effects could be restricted due to low variability. Additionally, as many of the items were created nearly 20 years ago (Crick, 1995), it might also be worthwhile to explore modifying the items to reflect aspects of relational aggression that may be more salient for present-day adolescents (e.g., relational aggression using technology).

Research Question 2a (RQ2a)

The second research question, whether mothers' hostile intent attributions regarding instrumental adolescent peer-conflict scenarios would be related to adolescent overt aggression, was partially supported by the data. Mothers' attributions were expected to relate to

adolescents' aggression through direct modeling of hostile attributions (Dodge, 2006), for example, through direct conversation about peers. Mothers' attributions were also expected to relate to adolescents' aggression indirectly, when discussing their own peers', partners', or children's behavior (MacBrayer et al., 2003; Nelson et al., 2008; Werner, 2012). The current study suggests a possible interactive effect whereby the relation between mothers' hostile attributions and adolescents' aggression is dependent on adolescents' sex. For boys, but not girls, greater endorsement of instrumental hostile attributions by mothers was related to higher levels of overt aggression at a trend level.

Explanations for this effect are not clear and could be elucidated by examining potential mechanisms. Although the first explanation could be that mothers' hostile attributions differentially affect boys' and girls' hostile attributions, the current study did not find an interaction between maternal attributions and sex for predicting adolescent attributions (see RQ4a following). Moreover, adolescents' attributions were not related to aggression, and adolescents' attributions did not mediate the effect of mothers' attributions on aggression (addressed following), providing no support for this explanation. The current study may have lacked sufficient power to reveal these complex relations.

However, an additional explanation for this interactive effect could stem from sex differences in aggressive behaviors and the peer context. Boys exhibit higher levels of overtly aggressive behavior than did girls (e.g., see meta-analysis by Card et al., 2008), as well as more rough and tumble play, goals regarding status and dominance, and experiences of overt or physical peer victimization (see Rose & Rudolph, 2006, for a review). Thus, one might argue that boys' peer context is more aggressive than girls', and it could be that boys are exposed to more aggression in their peer group, permitting more opportunities for aggressive behavior to

arise. This relatively more aggressive peer environment, combined with a home environment characterized by mothers' hostile attribution biases, may contribute to boys being especially more prone to environmental influences on their aggression, as compared with girls.

Additionally, girls may be less susceptible to the influence of mothers' hostile attribution biases by benefitting from features of their peer group. Within peer relationships, girls, relative to boys, are characterized more by wanting to maintain peer relationships and dissolve conflict, and they exhibit more empathy (see Rose & Rudolph, 2006, for a discussion and review). Future research could examine whether adolescents' peers' aggressive or prosocial behaviors affect the relation between maternal hostile attributions and boys' and girls' aggressive behaviors. Indeed, Rose and Rudolph (2006) emphasized the importance of peer relationship processes, and characteristics of peers, for understanding the differential adjustment of boys and girls regarding certain behavioral and adjustment outcomes, such as aggression.

Research Question 2b (RQ2b)

The third research question, whether mothers' hostile intent attributions for relational peer-conflict scenarios are related to adolescents' relational aggression, was not supported by the data. Only two existing studies were identified in the literature that examined relations between parental relational hostile intent attributions and child relational aggression (Nelson et al., 2008; Werner, 2012). Nelson et al. (2008) report that fathers', but not mothers', combined relational and instrumental intent attributions regarding children's peers were related to higher levels of children's relational aggression, and similarly, Werner (2012) reports that mothers' combined relational and instrumental intent attributions regarding children's peers were related

to higher levels of children's relational aggression. Both samples included children in late elementary school, and it is possible that the age difference between these studies and the current investigation, which included early adolescents up to 15 years of age, influenced differential results. Replication of the relation between maternal relational attributions and relational aggression between both developmental samples is warranted.

Additionally, mothers' relational hostile attribution responses suffered from relatively low reliability in the current study (i.e., $\alpha = .62$), which likely introduced unwanted error. It would be worthwhile to investigate mothers' individual responses to the relational attribution items, similar to investigating adolescents' responses to the relational attribution items above more fully. It is possible that there was low variability regarding some of the items, due to the majority of mothers viewing them as hostile. Alternatively, there may have been some items that did not assess mothers' attributions in the same manner as other items. A thorough investigation of the correlations between relational items, and mothers' responses to each item, would help to identify problematic scenarios.

There may also be moderators of the relation between mothers' hostile relational attributions and adolescents' relational aggression that were not tested in the current investigation. For example, considering the extent to which adolescents experience peer difficulties, such as peer victimization, might be revealing; adolescents whose mothers exhibit relational hostile attributions, and are also victimized in a relational nature by their peers, might be more likely to exhibit higher levels of relational aggression due to the combined, additive nature of relationally aggressive parental and peer contexts. Another possible moderator of this relation is the emotional parenting climate (i.e., parenting style); it might be more likely that mothers' relational attributions are related to adolescents' relational aggression in the context of

low levels of maternal warmth, or high levels of hostility, than in the context of a supportive parenting environment. Additional analyses could be employed to explore these possibilities.

It is also possible that, especially among adolescents, relational aggression may not be heavily influenced by mothers' relational hostile attribution biases but instead influenced by other parenting practices such as psychological control (see Kawabata et al., 2011, for a meta analysis), lack of monitoring (e.g., Pepler et al., 2008) or parental socialization of later aspects of SIP, such as aggressive responding (see Crain et al., 2005, for some evidence of the relation between girls' aggressive response endorsement and relational aggression). Nevertheless, as the current finding stands in contrast to existing research (Nelson et al., 2008; Werner, 2012), and there are slight methodological differences between existing research and the current thesis investigation, there is an important opportunity for future research and replication.

Research Question 3a (RQ3a)

The fourth research question, whether mothers' hostile intent attributions for instrumental peer-conflict scenarios are positively related to adolescents' hostile intent attributions, was supported by the data. Results suggest that parent-child transmission, or at least concordance, of instrumental hostile intent attributions, is evident, supporting research from MacBrayer and colleagues (2003) and Nelson and colleagues (2008). In addition, this finding expands the current literature to mothers and adolescents older than fifth grade.

Although not tested in the current study, the evocative effect of adolescents' characteristics for influencing mothers' hostile attributions is also a viable explanation for this finding. Mothers whose adolescents experience victimization from peers, who associate with

aggressive peers, who have a history of aggressive behavior, or, possibly, who are currently experiencing difficulties with friends might assume that others will act in a hostile manner toward their children. Therefore, longitudinal studies are needed in order to examine whether mothers' attributions contribute to increases in hostile attributions over time, whether adolescents' social-environmental factors influence this relation, and whether adolescents' attributions also influence mothers' attributions in a child effects-driven fashion.

Research Question 3b (RQ3b)

The fifth research question, whether mothers' hostile intent attributions for relational peer-conflict scenarios would be related to adolescents' hostile intent attributions for relational peer-conflict scenarios, was not supported by the data. The current finding stands in contrast to existing research on mothers' and children's relational attributions (Nelson et al., 2008; Werner, 2012). However, this existing research is based on just two studies, for which the construct of maternal attributions differed slightly from the current study. Namely, Nelson et al. (2008) report that mothers' combined relational and instrumental attributions were positively related to children's relational attributions, and Werner (2012) found a bivariate relation between mothers' combined relational and instrumental attributions regarding parent-child interactions and adolescents' relational peer attributions for girls only.

Additionally, these studies used several of the original Crick (1995) relational conflict scenarios but added additional novel relational conflict scenarios not used in the current study. In comparison, the current study examined mothers' and adolescents' instrumental and relational attributions separately, using only the Crick (1995) scenarios. No other research, to my knowledge, has examined correspondence between mothers' and children's relational

attributions using the exact measure in this study, and no study has examined this relation among adolescents older than fifth grade. Therefore, additional research is needed, particularly among late-elementary children, as in the existing literature, as well as among adolescents between the ages of 10 and 15, in the current study. Therefore, the discrepancy in findings between Nelson et al. and the current thesis study might be partially due to the different ages of the participants (as mentioned previously) and methodological differences in assessing parents' and adolescents' attributions.

Moreover, what the current relational attribution items essentially assess is mothers' perceptions of their children's experiences with peers in ambiguous peer-conflict situations. This construct is slightly different than having children imagine their own experiences with peers. Mothers' perceptions of how others might act toward their adolescents and why is likely to be influenced by a number of factors, including perceptions of their adolescents' social competencies (in general and with peers), perceptions of their adolescents' experiences and reputation in the peer environment, and the behaviors or reputation of the peer who is committing the hypothetical action in the scenario. Therefore, the way in which mothers interpret the peer-conflict scenarios are likely more complex than are allowed, given the existing methodology. Future research could be more explicit in addressing whether the peer in the scenarios is a known friend or enemy or has a reputation for aggression (see Peets, Hodges, Kikas, & Salmivalli, 2007, for an assessment of child SIP as a function of peer relationships) and whether the mother thought that her child or the other child was at fault for the altercation. Similarly, in addition to evaluating mothers' relational attributions regarding her child and her child's peers, evaluating attributions regarding her own peers or her partner might reveal

associations with adolescents' relational attributions that speak to social learning processes (Halligan et al., 2007; MacBrayer et al., 2003; Werner, 2012).

Research Question 4a (RQ4a)

The next research question explored whether mothers' instrumental intent attributions would be related to their consulting and guiding, which the data did not support. It is possible that mothers' attributions regarding instrumental peer conflict assessed in the current study reflect a general hostile attribution bias that actually stems from experiences independent of their adolescents and their adolescents' peers (i.e., a general hostile attribution bias). As such, future research could investigate whether management is related to mothers' attributions regarding their own peers, in addition to their attributions regarding their adolescents and their adolescents' peers, to rule out the possibility that management behaviors are not at all determined by instrumental hostile attribution beliefs.

However, it could be that mothers' intent attribution beliefs are not as proximally related to their management behaviors as other cognitive factors. Mounts (2008) theorizes that parents' beliefs and goals regarding their adolescents' peers and friendships (e.g., regarding authority over friendships, efficacy for affecting peer relationship, avoiding being hurt by peers, and associating with peers who do not have problem behaviors) and their management of peers are determined from their perceptions, and the actual nature, of adolescents' and adolescents' peers' characteristics. Examples of these characteristics are delinquent behaviors and social skills, which could arguably include aggressive behaviors and social information-processing skills. Although additional research could be conducted to investigate whether mothers' attributions of intent predict their peer-management practices in other samples, it

might be more plausible to assume that beliefs about their adolescents', or adolescents' peers', aggressive characteristics, would be more directly related to peer-management practices than intent attributions.

Additionally, perhaps discussing the intentions of others' physically aggressive actions is evoked less in mothers' conversations with adolescents compared to children, as physical aggression typically decreases across adolescence (Bongers et al., 2004; Underwood et al., 2009). Therefore, instrumental intent attributions might not be as relevant to the peer management behaviors of adolescents' mothers as they are of children's mothers. Assessing these relations among a younger sample of children and their mothers might be revealing in this regard. Adolescents' needs for autonomy (e.g., Allen et al., 2002) could also deter parents from wanting to solve peer problems for their children.

Research Question 4b (RQ4b)

The next research question explored whether mothers' relational attributions would be related to their consulting and guiding. There was some evidence to suggest that greater endorsement of relational hostile intent attributions by mothers was related to lower levels of their consulting about peers at a trend level. It is noteworthy that the nature of the relational peer-conflict scenarios might be more relevant to parental consulting than the instrumental peer-conflict scenarios (which were not related to management behaviors) as relational conflict might be more common among adolescents. That is, adolescents might have more experiences with peer conflict similar to the relational attribution items (e.g., not being invited to a party, being unsure whether peers were laughing at them) and fewer experiences with instrumental peer conflict (e.g., having milk spilled on them, being tripped). Research by Underwood and

colleagues (2009) supports this notion, as nearly half of their adolescent sample was rated as high (but decreasing) for relational aggression, although only approximately 19% of their sample was similarly rated as high for physical aggression. Due to the arguably greater incidence of relational, relative to instrumental, peer conflict, relational peer conflict might arise more often as a topic of conversation between adolescents and mothers. Additionally, regardless of the extent to which adolescents and mothers discuss instances of relational peer conflict, it may be more likely that mothers are aware of these altercations (e.g., by overhearing the adolescent talk with a friend, by hearing about the situation from another parent).

However, explanations for the relation between mothers' endorsement of relational hostile attribution biases and lower levels of consulting are not readily apparent. It may be possible that the mothers who exhibited a relational hostile attribution bias in the current sample also hold a generalized and widespread hostile attribution bias, characteristic of their own dispositions. If that is the case, such mothers who endorsed hostile attributions might also exhibit maladaptive parenting characteristics, such as low levels of parental warmth, high levels of hostility, or the potential for child abuse. Indeed, a recent study using the current sample showed that mothers who endorsed a hostile attribution bias (for relational and instrumental scenarios) were rated higher on risk for child physical abuse (Gerardy, Mounts, & Crouch, 2014). Other research has supported linkages between mothers' hostile attributions regarding their children and maladaptive parenting practices (e.g., Haskett & Willoughby, 2007). Research has not yet documented relations between mothers' relational attributions and negative parenting, presenting an opportunity for future research.

Moreover, if mothers in the current sample who endorsed relational hostile attribution biases also exhibited hostile attribution biases regarding their adolescents' behaviors, it seems

possible that they might not engage in peer-related parenting, particularly the arguably positive form of peer-related parenting, consulting. For example, some of the consulting items in the PMPI concern mothers' willingness to talk with their adolescents about peer issues, which seems to be a positive aspect of parenting. Because consulting may thus be an arguably adaptive type of parenting behavior, it might not be characteristic of mothers who exhibit maladaptive or negative parenting practices, especially if they view their adolescents at fault for peer-conflict transgressions. However, these ideas are purely speculation, and future research is needed on the topic. For example, additional analyses examining the extent to which mothers' consulting, hostile attributions, and parental warmth are related might provide insight into patterns of parenting. Other studies could investigate whether mothers' relational hostile attributions regarding their adolescents, or relational hostile attributions regarding their own peers (i.e., reflective of a general hostile attribution bias independent of the child) are similarly related to lower levels of consulting.

Of note, maternal attributions were not related to guiding in any analysis. Guiding may be more closely tied to parents' goals about peers (e.g., Mounts, 2011), beliefs about their adolescents' behaviors, and concern regarding adolescents' peers (Tilton-Weaver & Galambos, 2003) than to hostile intent attributions. Nonetheless, it is no doubt likely that parents discuss intentionality with their children and adolescents, including during discussions about peers, and especially regarding adolescents' peers' relational behaviors, as opposed to physical behaviors. Although the PMPI assesses the extent to which parents talk about their adolescents' peers, specifically regarding using problem-solving (i.e., consulting) and communicating disapproval or concern about peers (i.e., guiding), this measure might not be optimal for assessing parents' actual use of discussing intentionality. Examining qualitative or observational data might be

helpful in this regard. It may also be beneficial to modify the maternal attribution scenarios used in the current study to assess parents' particular attributions regarding adolescents' known peers, such as friends or enemies, or to evaluate statements of intentionality after interviewing parents and adolescents regarding adolescents' actual peer-conflict experiences, in order to provide a more specific examination of parents' discussion of peer intent in conversations about peers.

Research Questions 5a and 5b (RQ5a/b)

The next set of research questions explored whether mothers' consulting and guiding are related to adolescents' hostile intent attributions, and there was no support for these relations. Parents' management of peer relationships is arguably unique to, or perhaps more prevalent during, late childhood and adolescence (due to the changing social context), although hostile attribution biases are believed to be relatively stable earlier in development, and become increasingly ingrained across development without intervention (see Dodge, 2006, for a discussion). Therefore, parental management might not influence the hostile attributions of adolescents in a predictive fashion. Rather, negative parenting processes, such as abuse, harsh parenting, and lack of a nurturing parent-child relationships, may have a stronger influence on the development or maintenance of hostile attributions, particularly during childhood (Dodge, 2006). Consulting and guiding are thus likely better retained as moderators of the link between adolescents' attributions and aggression, rather than predictors of their attributions. However, future research could explore whether management practices earlier in development influence across time changes in children's or adolescents' attributions.

Research Questions 6a and 6b (RQ6a/b)

The final set of research questions tested whether parents' management of peers mediated the relation between mothers' hostile attributions and adolescents' aggression. Results from the serial multiple mediator analyses provided no support for these models. As discussed above, consulting and guiding are likely best retained as moderator variables, not mediator variables, for explaining linkages between mothers' hostile intent attributions and adolescents' aggressive behavior. Additionally, as there was support for the concordance of maternal and adolescent instrumental hostile attributions, there was support for social learning processes (Dodge, 2006), rather than the effect of peer-specific parenting practices, for understanding parental influences on adolescent hostile attributions. Although there was not evidence for a direct effect of management behaviors on adolescents' attributions, or a mediating effect of management behaviors on the link between maternal and adolescent attributions, there was no support for these parenting practices as influencing these relations. Thus, overall, results support a social learning or direct transmission hypothesis of maternal and adolescent hostile attributions rather than a parenting practices model of the influence of maternal hostile attributions on adolescent hostile attributions and aggression.

Limitations and Future directions

There are a number of limitations to the current investigation. First, the study relied on a small sample size relative to the comparative literature. Several effects with significance just above conventional alpha levels standards may have otherwise been significant given sufficient power. Indeed, a post hoc power analysis revealed that the current study had enough power to

detect medium and large effects, but was underpowered to detect small effects (Faul et al., 2009). Using a larger sample would also permit the use of more complex statistical analyses, such as a structural equation modeling, in the examination of mothers' and adolescents' hostile attributions, including a robust examination of attribution responses to the peer-conflict scenarios through CFA.

The current findings were also limited by the cross-sectional nature of data collection. At present, although it is assumed that social learning processes, such as modeling, are implicated in understanding the concordance of mothers' and adolescents' instrumental hostile attributions, the direction of this effect in the current sample, as well as among the literature, is unclear, providing an important opportunity for future research (but see Healy, Murray, Cooper, Hughes, & Halligan, 2013, for longitudinal evidence that earlier maternal hostile attributions predict five-year-old children's hostile attributions). A longitudinal design would permit a greater understanding of whether maternal hostile attributions predict changes over time in adolescents' attributions and aggression, and whether parental management or adolescents' hostile attributions act as mediating variables in the relation between maternal attributions and adolescent aggression. Indeed, longitudinal research is encouraged for examining mediation and is argued as being most appropriate in this regard (Little, Card, Preacher, & McConnell, 2009). Longitudinal analyses would also allow for investigating potential child-driven effects, such as whether adolescents' aggressive behaviors (e.g., Glatz et al., 2011) and experiences with peers predict mothers' intent attributions and peer-management.

Although the possibility of obtaining significant effects due to shared method variance was avoided by using information from both mothers and adolescents, there is still a possibility that relying on adolescents' and mothers' own reports of aggression and peer management,

respectively, biased findings. Future research could utilize a combination of observational methodologies of aggression and parental management and teacher-reports or peer-reports of aggressive behavior to avoid this issue.

There were also measurement issues regarding the assessment of adolescents' intent attributions. The relational attribution scale exhibited low internal consistency, which may have improved in a larger sample. However, post hoc exploratory factor analyses revealed several issues with the attribution scale in the current sample. The attribution responses derived from the scale do not load onto the hypothesized two factors (i.e., instrumental and relational attributions). Removal of items that do not load together, cross-load onto the other factor, or do not explain sufficient variance would have resulted in only two items each for the instrumental and relational scales. A better option may be to combine the instrumental and relational attributions into one general attribution scale. Cronbach's alpha for this composite scale was .73, which is acceptable. The use of instrumental and relational attributions as one construct has been reported in the literature as well (e.g., Healy et al., 2013). There were also significant bivariate relations between instrumental and relational attributions with overt aggression, lending additional support for using a composite attribution variable.

Similarly, whether overt/instrumental aggression or relational aggression should truly be treated as two distinct constructs is also questionable. In the current sample and consistent with other literature (e.g., Card et al., 2008), overt aggression and relational aggression were moderately and positively correlated. Moreover, researchers have used a composite physical and relational aggression score rather than examining these behaviors separately (e.g., Healy et al., 2013). Therefore, there is support for conducting analyses on adolescents' combined instrumental/overt and relational attributions and aggression. As was previously discussed, as

research has typically measured parents' combined instrumental and relational attributions as one construct (Nelson et al., 2008; Werner, 2012), examining relations between mothers' and adolescents' combined attributions and aggression might be more appropriate than examining them separately.

A final note regarding adolescents' attributions of intent concerns the nature of the assessment. Although the current study relied on procedures that are widely used in the literature (de Castro et al., 2002), the extent to which findings regarding adolescents' intent attributions are externally valid and generalizable to actual instances of peer conflict and the processing that ensues during real-time, real-life situations is debatable. Some researchers have addressed this issue and have attempted to tap adolescents' attributions in a more realistic fashion. For example, Kupersmidt et al. (2011) developed the SIP Application, which assesses SIP by having children watch and respond to video-recorded peer interactions. Lansford et al. (2011) also used video vignettes in the assessment of SIP. Another approach has been to add information regarding contextual cues to ambiguous peer conflict vignettes (Smith-Schrandt, Ojanen, Gesten, Feldman, & Calhoun, 2011), and other researchers have assessed social-cognitive responses in response to online peer ostracism via Cyberball (Yeager, Trzesniewski, Tirri, Nokelainen, & Dweck, 2011). Using Cyberball could be one way to prime the negative affect and arousal that is likely experienced during actual peer-conflict situations. The current study, however, arguably assessed intent attributions in a contrived environment that was largely free from emotion. In addition, encoding and interpretation of cues happens in a more automatic fashion in real life, whereas reading the peer-conflict vignettes is effortful and allows for conscious deliberation.

Because of these features of the assessment, floor effects were likely present. Given more realistic circumstances, it is possible that more adolescents would endorse hostile responses for peer intent. Additionally, the sample of adolescents was a relatively normative sample in regard to aggressive behaviors, and those with clinical diagnoses were excluded from analyses. Relations between hostile intent attributions and aggressive or externalizing behaviors have been found to be larger among samples of children diagnosed for clinical behavioral disorders (e.g., MacBrayer et al., 2003), among children rejected by peers, and when making comparisons between non-aggressive and aggressive children based on their extreme scores (e.g., Crick et al., 2002). The examination of more normative fluctuations in endorsing hostile intent attributions in the current sample likely contributed to small and nonsignificant effects.

Another issue regarding measurement was that mothers' attributions of adolescents' peers, and not their own peers, or their children's behaviors (Macbrayer et al., 2003) were assessed. Although the current study found that mothers' and adolescents' hostile attributions were related, the mechanism of this relation is unclear. Investigating mothers' own hostile attributions about their peers, independent of their beliefs about their children and their children's peers, would provide evidence for the effect of more general hostile attribution biases characteristic of mothers, such as through modeling. Additional analyses could be employed to examine the extent to which mothers' hostile attributions were the result of mothers' beliefs about adolescents' characteristics, for example, by conducting the analyses again, controlling for adolescents' level of aggression and victimization. If the relation between mothers' and adolescents' instrumental hostile attributions is tempered, for instance, this evidence may suggest that the effect is due to adolescents' characteristics and mothers' beliefs

about how others will treat them based on their characteristics rather than a general hostile attributions bias.

Similarly, it is unclear whether mothers who endorse hostile attributions for their adolescents' peers behaviors are doing so because they anticipate others to act in a hostile manner toward their children, due to their children's behavioral patterns. In other words, some parents might hold negative beliefs about their adolescents, which leads them to believe that others would also act in a hostile manner toward them. In the current study, several mothers responded regarding ambiguous peer-conflict scenarios by providing open-ended explanations of their children's negative behaviors or dispositions as influencing the peer's behavior. These responses were not coded as they did not fit within the coding guidelines. Future research should clearly differentiate between mothers' attributions regarding their own peers, their children, and their children's peers to further disentangle the effects of general hostile attribution biases characteristic of mothers and hostile attribution biases evoked from the child's behaviors and experiences with peers (Bickett et al., 1996; MacBrayer et al., 2003; Werner, 2012).

In sum, the current thesis investigation added to the small literature that has considered parental influences on child hostile attribution biases. Of note, to my knowledge, this study is the first to document a positive relation between the hostile attributions of mothers and children older than fifth grade, and is the first to explore whether parental management of peers is related to adolescents' or mothers' hostile attributions. Although the hypothesized mediating models theorizing that the link between adolescents' intent attributions and aggressive behaviors can be explained by mothers' hostile attributions, and their effect on parental management, was not supported, several effects are noteworthy. As aforementioned, a direct

relation between mothers' and adolescents' hostile attributions was documented, and there was some evidence that mothers' hostile attributions are related to higher levels of boys' aggressive behaviors. These findings are consistent with social learning theories of hostile attribution biases and aggression (Crick & Dodge, 1994; Dodge, 2006). Finally, there was some evidence to suggest that mothers' hostile attributions might be related to lower levels of consulting about peers. Findings from this thesis investigation add to the existing literature, and present several opportunities for future research.

REFERENCES

- Allen, J. P., Hauser, S. T., O'Connor, T. G., & Bell, K. L. (2002). Prediction of peer-rated adult hostility from autonomy struggles in adolescent-family interactions. *Developmental Psychopathology, 14*, 123-137.
- Arbuckle, J. L. (2012). *IBM SPSS Amos 21 user's guide*. (Version 21). Armonk, NY: IBM Corp.
- Arsenio, W. F., Adams, E., & Gold, J. (2009). Social information processing, moral reasoning, and emotion attributions: Relations with adolescents' reactive and proactive aggression. *Child Development, 80*, 1739-1755.
- Bailey, C. A., & Ostrov, J. M. (2008). Differentiating forms and functions of aggression in emerging adults: Associations with hostile attribution biases and normative beliefs. *Journal of Youth and Adolescence, 37*, 713-722.
- Bandura, A. (1978). Social learning theory of aggression. *Journal of Communication, 28*, 12-29.
- Bandura, A., Ross, D., & Ross, S. A. (1961). Transmission of aggression through imitation of aggressive models. *Journal of Abnormal and Social Psychology, 63*, 575-582.
- Bandura, A., Ross, D., & Ross, S. A. (1963). Vicarious reinforcement and imitative learning. *Journal of Abnormal and Social Psychology, 67*, 601-607.
- Barnette, J. J. (2005). ScoreRel CI: Software for computation of commonly used score reliability coefficients. *Educational and Psychological Measurement, 65*, 980-983.
- Baumrind, D. (1991). The influence of parenting style on adolescent competence and substance use. *Journal of Early Adolescence, 11*, 56-95. doi: 10.1177/02724316911111004
- Baumrind, D. (2005). Patterns of parental authority and adolescent autonomy. *New Directions for Child and Adolescent Development, 108*, 61-69.
- Berndt, T. J. (1979). Developmental changes in conformity to peers and parents. *Developmental Psychology, 15*, 608-616.
- Bickett, L. R., Milich, R., & Brown, R. T. (1996). Attributional styles of aggressive boys and their mothers. *Journal of Abnormal Child Psychology, 24*, 457-472.

- Bongers, I. L., Koot, H. M., van der Ende, J., & Verhulst, F. C. (2004). Developmental trajectories of externalizing behaviors in childhood and adolescence. *Child Development, 75*, 1523-1537. doi: 10.1111/j.1467-8624.2004.00755.x
- Brechwald, W. A., & Prinstein, M. J. (2011). Beyond homophily: A decade of advances in understanding peer influence processes. *Journal of Research on Adolescence, 21*, 166-179. doi: 10.1111/j.1532-7795.2010.00721.x
- Brown, B. B., & Bakken, J. P. (2011). Parenting and peer relationship: Reinvigorating research on family-peer linkages in adolescence. *Journal of Research on Adolescence, 21*, 153-165. doi: 10.1111/j.1532-7795.2010.00720.x
- Bugental, D. B., & Johnston, C. (2000). Parental and child cognitions in the context of the family. *Annual Reviews of Psychology, 51*, 315-344.
- Buhrmester, D. (1990). Intimacy of friendship, interpersonal competence, and adjustment during preadolescence and adolescence. *Child Development, 61*, 1101-1111.
- Card, N. A., & Little, T. D. (2006). Proactive and reactive aggression in childhood and adolescence: A meta-analysis of differential relations with psychosocial adjustment. *International Journal of Behavioral Development, 30*, 466-480. doi: 10.1177/0165025406071904
- Card, N. A., Stucky, B. D., Sawalani, G. M., & Little, T. D. (2008). Direct and indirect aggression during childhood and adolescence: A meta-analytic review of gender differences, intercorrelations, and relations to maladjustment. *Child Development, 79*, 1185-1229. doi:10.1111/j.1467-8624.2008.01184.x
- Casas, J. F., Weigel, S. M., Crick, N. R., Ostrov, J. M., Woods, K. E., Yeh, E. A. J., & Huddleston-Casas, C. A. (2006). Early parenting and children's relational and physical aggression in the preschool and home contexts. *Applied Developmental Psychology, 27*, 209-227. doi:10.1016/j.appdev.2006.02.003
- Cillessen, A. H. N., & Borch, C. (2006). Developmental trajectories of adolescent popularity: A growth curve modeling approach. *Journal of Adolescence, 29*, 935-959. doi: 10.1016/j.adolescence.2006.05.005
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression and correlation analysis for the behavioral sciences*. London: Lawrence Erlbaum Associates.
- Coie, J. D., & Dodge, K. A. (1998). Aggression and antisocial behavior. In W. Damon and N. Eisenberg (Eds.), *Handbook of child psychology* (5th ed., Vol. 3), *Social, emotional, and personality development* (pp. 779-862). Hoboken, NJ: John Wiley & Sons.

- Collins, W. A., Maccoby, E. E., Steinberg, L., Hetherington, E. M., & Bornstein, M. H. (2000). Contemporary research on parenting: The case for nature and nurture. *American Psychologist, 55*, 218-232. doi: 10.1037//0003-066X.55.2.218
- Crain, M. M., Finch, C. L., & Foster, S. L. (2005). The relevance of the social information processing model for understanding relational aggression in girls. *Merrill-Palmer Quarterly, 51*, 213-249.
- Crick, N. R. (1995). Relational aggression: The role of intent attributions, feelings of distress, and provocation type. *Development and Psychopathology, 7*, 313-322.
- Crick, N. R., & Dodge, K. A. (1994). A review and reformulation of social information-processing mechanisms in children's social adjustment. *Psychological Bulletin, 115*, 74-101.
- Crick, N. R., & Grotpeter, J. K. (1995). Relational aggression, gender, and social-psychological adjustment. *Child Development, 66*, 710-722. doi:10.2307/1131945
- Crick, N. R., Grotpeter, J. K., & Bigbee, M. A. (2002). Relationally and physically aggressive children's intent attributions and feelings of distress for social and instrumental peer provocations. *Child Development, 73*, 1134-1142. doi:10.1111/1467-8624.00462
- Darling, N., & Steinberg, L. (1993). Parenting style as context: An integrative model. *Psychological Bulletin, 113*, 487-496.
- de Castro, B. O., Veerman, J. W., Koops, W., Bosch, J. D., & Monshouwer, H. J. (2002). Hostile attribution intent and aggressive behavior: A meta-analysis. *Child Development, 73*, 916-934. doi: <http://www.jstor.org/stable/3696259>
- De Goede, I. H. A., Branje, S. J. T., & Meeus, W. H. J. (2009). Developmental changes in adolescents' perceptions of relationships with their parents. *Journal of Youth and Adolescence, 38*, 75-88. doi: 10.1007/s10964-008-9286-7
- Dodge, K. A. (1980). Social cognition and children's aggressive behavior. *Child Development, 54*, 162-170.
- Dodge, K. A. (2006). Translational science in action: Hostile attributional style and the development of aggressive behavioral problems. *Developmental Psychopathology, 18*, 791-814.
- Duman, S., & Margolin, G. (2007). Parents' aggressive influences and children's aggressive problem solutions with peers. *Journal of Clinical Child and Adolescent Psychology, 36*, 42-55.

- Dyches, K. D., & Mayeux, L. (2012). Functions, targets, and outcomes of specific forms of social aggression: A daily diary study. *Journal of Genetic Psychology: Research and Theory on Human Development, 17*, 63-89. doi: 10.1080/00221325.2011.573026
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods, 41*, 1149-1160.
- Ferguson, C. J. (2013). Spanking, corporal punishment and negative long-term outcomes: A meta-analytic review of longitudinal studies. *Clinical Psychology Review, 33*, 196-208. doi: <http://dx.doi.org/10.1016/j.cpr.2012.11.002>
- Fletcher, A. C., Walls, J. K., Cook, E. C., Madison, K. J., & Bridges, T. H. (2008). Parenting style as a moderator of associations between maternal disciplinary strategies and child well-being. *Journal of Family Issues, 29*, 1724-1744. doi: 10.1177/0192513X08322933
- Fontaine, R. G., Tanha, M., Yang, C., Dodge, K. A., Bates, J. E., & Pettit, G. S. (2010). Does response evaluation and decision (RED) mediate the relation between hostile attribution style and antisocial behavior in adolescence? *Journal of Abnormal Child Psychology, 38*, 615-626. doi:10.1007/s10802-010-9397-y
- Furman, W., & Buhrmester, D. (1992). Age and sex differences in perceptions of networks of personal relationships. *Child Development, 63*, 103-115.
- Gerardy, H., Mounts, N. S., & Crouch, J. (2014). Unpublished raw data.
- Gerardy, H., Mounts, N. S., Luckner, A., & Valentiner, D. (2014). *Parental management of peers and adolescents' aggressive, prosocial, and playful behavior*. Manuscript submitted for publication.
- Gershoff, E. T. (2002). Corporal punishment by parents and associated child behaviors and experiences: A meta-analytic and theoretical review. *Psychological Bulletin, 126*, 539-579. doi: 10.1037//0033-2909.128.4.539
- Glatz, T., Stattin, H., & Kerr, M. (2011). Parents' reactions to youths' hyperactivity, impulsivity, and attention problems. *Journal of Abnormal Child Psychology, 39*, 1125-1135. doi: 10.1007/s10802-011-9541-3
- Godleski, S. A., & Ostrov, J. M. (2010). Relational aggression and hostile attribution biases: Testing multiple statistical methods and models. *Journal of Abnormal Child Psychology, 38*, 447-458. doi: 10.1007/s10802-010-9391-4
- Halligan, S. L., Cooper, P. J., Healy, S. J., & Murray, L. (2007). The attribution of hostile intent in mothers, fathers, and their children. *Journal of Abnormal Child Psychology, 35*, 594-604. doi: 10.1007/s10802-007-9115-6

- Haskett, M. E., & Willoughby, M. (2007). Paths to child social adjustment: Parenting quality and children's processing of social information. *Child: Care, Health, and Development*, 33, 67-77. doi:10.1111/j.1365-2214.2006.00627.x
- Hayes, A. (2013) *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: Guilford Press.
- Hayes, A. F., & Matthes, J. (2009). Computational procedures for probing interactions in OLS and logistic regression: SPSS and SAS implementations. *Behavior Research Methods*, 41, 924-936. doi: 10.3758/BRM.41.3.924
- Healy, S. J., Murray, L., Cooper, P. J., Hughes, C., & Halligan, S. L. (2013). A longitudinal investigation of maternal influences on the development of child hostile attributions and aggression. *Journal of Clinical Child & Adolescent Psychology*. Advance online publication. doi: 10.1080/15374416.2013.850698
- Huebner, A. J., & Mancini, J. A. (2003). Shaping structured out-of-school time use among youth: The effects of self, family, and friend systems. *Journal of Youth and Adolescence*, 32, 453-463.
- Idsoe, T., Solli, E., & Cosmovici, E. M. (2008). Social psychological processes in family and school: More evidence on their relative etiological significance for bullying behavior. *Aggressive Behavior*, 34, 460-474. doi: 10.1002/ab.20259
- Jennings, W. G., Maldonado-Molina, M. M., Reingle, J. M., & Komro, K. A. (2011). A multi-level approach to investigating neighborhood effects on physical aggression among urban Chicago youth. *American Journal of Criminal Justice*, 36, 392-407. doi: 10.1007/s12103-011-9118-2
- Kawabata, Y., Alink, L. R. A., Tseng, W., van IJzendoorn, M. H., & Crick, N. R. (2011). Maternal and paternal parenting styles associated with relational aggression in children and adolescents: A conceptual analysis and meta-analytic review. *Developmental Review*, 31, 240-287. doi:10.1016/j.dr.2011.08.001
- Kerr, M., & Stattin, H. (2000). What parents know, how they know it, and several forms of adolescent adjustment: Further support for a reinterpretation of monitoring. *Developmental Psychology*, 36, 366-380. doi: 10.1037/0012-1649.36.3.366
- Kerr, M., Stattin, H., & Burk, W. J. (2010). A reinterpretation of parental monitoring in longitudinal perspective. *Journal of Research on Adolescence*, 20, 39-64. doi: 10.1111/j.1532-7795.2009.00623.x

- Kerr, M., Stattin, H., & Ozdemir, M. (2012, March 26). Perceived parenting style and adolescent adjustment: Revisiting directions of effects and the role of parental knowledge. *Developmental Psychology*. Advance online publication. doi: 10.1037/a0027720
- Kline, R. B. (2011). *Principles and practice of structural equation modeling*. (3rd ed.). New York: Guilford Press.
- Kupersmidt, J. B., Stelter, R., & Dodge, K. A. (2011). Development and validation of the social information processing application: A web-based measure of social information processing patterns in elementary school-age boys. *Psychological Assessment*, 23, 834-847. doi: 10.1037/a0023621
- Ladd, G. W., & Le Sieur, K. D. (1995). Parents' and children's peer relationships. In M. Bornstein (Ed.), *Handbook of parenting: Applied and practical parenting*, Vol. 4, (pp. 377-409). Hillsdale, NJ: Lawrence Erlbaum.
- Ladd, G. W., & Pettit, G. S. (2002). Parenting and the development of children's peer relationships. In M. Bornstein (Ed.), *Handbook of parenting, Volume 5: Practical issues in parenting* (pp. 269-209). Mahwah, NJ: Erlbaum.
- LaFontana, K. M., & Cillessen, A. H. N. (2002). Children's perceptions of popular and unpopular peers: A multimethod assessment. *Developmental Psychology*, 38, 635-647. doi: 10.1037//0012-1649.38.5.635
- Lagerspetz, K. M., Bjorkqvist, K., & Peltonen, T. (1988). Is indirect aggression typical of females? Gender differences in aggressiveness in 11- to 12-year old children. *Aggressive Behavior*, 14, 403-414.
- Lansford, J. E., Malone, P. S., Dodge, K. A., Crozier, J. C., Pettit, G. S., & Bates, J. E. (2006). A 12-year prospective study of patterns of social information processing problems and externalizing problems. *Journal of Abnormal Child Psychology*, 34, 715-724. doi:10.1007/s10802-006-9057-4
- Larson, R., & Richards, M. H. (1991). Daily companionship in late childhood and early adolescence: Changing developmental contexts. *Child Development*, 62, 284-300.
- Larson, R. W., Richards, M. H., Moneta, G., Holmbeck, G., & Duckett, E. (1996). Changes in adolescents' daily interactions with their families from ages 10 to 18: Disengagement and transformation. *Developmental Psychology*, 32, 744-754.
- Laursen, B., Coy, K. C., & Collins, W. A. (1998). Reconsidering changes in parent-child conflict across adolescence: A meta-analysis. *Child Development*, 69, 817-832.

- Li, Y., & Wright, M. F. (2013). Adolescents' social status goals: Relationships to social status, insecurity, aggression, and prosocial behavior. *Journal of Youth and Adolescence*, Advance online publication. doi: 10.1007/s10964-013-9939-z
- Little, T. D., Card, N. A., Preacher, K. J., & McConnell, E. (2009). Modeling longitudinal data from research on adolescence. In R. Lerner & L. Steinberg (Eds). *Handbook of adolescent psychology: Vol. 1. Individual bases of adolescent development* (3rd ed., pp. 15-54). New York: Wiley.
- Little, T. D., Henrich, C. C., Jones, S. M., & Hawley, P. H. (2003). Disentangling the "whys" from the "whats" of aggressive behaviour. *International Journal of Behavioral Development*, 27, 122-123. doi: 10.1080/01650250244000128
- Luckner, A. (2012). *Children's social behavior scale-revised*. Personal communication.
- MacBrayer, E. K., Milich, R., & Hundley, M. (2003). Attributional biases in aggressive children and their mothers. *Journal of Abnormal Psychology*, 112, 698-708. doi: 10.1037/0021-843X.112.4.698
- Maccoby, E. E., & Martin, J. A. (1983). Socialization in the context of the family: Parent-child interaction. In P. H. Mussen (Series Ed.) & E. M. Hetherington (Vol. Ed.), *Handbook of child psychology: Vol. 4. Socialization, personality, and social development* (pp. 1-101). New York: Wiley.
- MacKinnon-Lewis, C., Rabiner, D., & Starnes, R. (1999). Predicting boys' social acceptance and aggression: The role of mother-child interactions and boys' beliefs about peers. *Developmental Psychology*, 35, 632-639.
- McDowell, D. J., Parke, R. D., & Spitzer, S. (2002). Parent and child cognitive representations of social situations and children's social competence. *Social Development*, 11, 469-486.
- Mounts, N. S. (2004). Adolescents' perceptions of parental management of peer relationships in an ethnically diverse sample. *Journal of Research on Adolescence*, 17, 169-178.
- Mounts, N. S. (2008). Linkages between parenting and peer relationships: A model for parental management of adolescents' peer relationships. In M. Kerr, H. Stattin, & R. Engels (Eds.), *What can parents do: New insights into the role of parents in adolescent problem behavior* (pp. 163-189). West Sussex, UK: Wiley.
- Mounts, N. S. (2011). Parental management of peer relationships and early adolescents' social skills. *Journal of Youth and Adolescence*, 40, 416-427. doi: 10.1007/s10964-010-9547-0
- Nelson, D. A., & Coyne, S. M. (2009). Children's intent attributions and feelings of distress: Associations with maternal and paternal parenting practices. *Journal of Abnormal Child Psychology*, 37, 223-237. doi: 10.1007/s10802-008-9271-3

- Nelson, D. A., Mitchell, C., & Yang, C. (2008). Intent attributions and aggression: A study of children and their parents. *Journal of Abnormal Child Psychology*, *35*, 793-806. doi: 10.1007/s10802-007-9211-7
- Ostrov, J. M., & Godleski, S. A. (2010). Toward an integrated gender-linked model of aggression subtypes in early and middle childhood. *Psychological Review*, *117*, 233-242. doi: 10.1037/a0018070
- Patterson, G. R., DeBaryshe, B., & Ramsey, E. (1990). A developmental perspective on antisocial behavior. *American Psychologist*, *44*, 329-335.
- Patterson, G. R., Dishion, T. J., & Bank, L. (1984). Family interaction: A process model of deviancy training. *Aggressive Behavior*, *10*, 253-267.
- Peets., K., Hodges, E. V. E., Kikas, E., & Salmivalli, E. (2007). Hostile attributions and behavioral strategies in children: Does relationship type matter? *Developmental Psychology*, *43*, 889-900. doi: 10.1037/0012-1649.43.4.889
- Pepler, D., Jiang, D., Craig, W., & Connolly, J. (2008). Developmental trajectories of bullying and associated factors. *Child Development*, *79*, 325-338. doi: <http://www.jstor.org/stable/27563486>
- Persson, A., Kerr, M., & Stattin, H. (2007). Moving away from structured activities: Explanations involving parents and peers. *Developmental Psychology*, *43*, 197-207. doi: 10.1037/0012-1649.43.1.197
- Poulin, F., Nadeau, K., & Scaramella, L. V. (2012). The role of parents in young adolescents' competence with peers: An observational study of advice giving and intrusiveness. *Merrill-Palmer Quarterly*, *58*, 437-462.
- Rah, Y., & Parke, R. D. (2008). Pathways between parent-child interactions and peer acceptance: The role of children's social information processing. *Social Development*, *17*, 342-357. doi: 10.1111/j.1467-9507.2007.00428.x
- Raikes, H. A., & Thompson, R. A. (2008). Attachment security and parenting quality predict children's problem-solving, attributions, and loneliness with peers. *Attachment & Human Development*, *10*, 319-344. doi: 10.1080/14616730802113620
- Rose, A. J., & Rudolph, K. D. (2006). A review of sex differences in peer relationship processes: Potential trade-offs for the emotional and behavioral development of girls and boys. *Psychological Bulletin*, *132*, 98-131. doi: 10.1037/0033-2909.132.1.98
- Runions, K. C., & Keating, D. P. (2007). Young children's social information processing: Family antecedents and behavioral correlates. *Developmental Psychology*, *43*, 838-849. doi: 10.1037/0012-1649.43.4.838

- Shernoff, D. J. (2010). Engagement in after-school programs as a predictor of social competence and academic performance. *American Journal of Community Psychology, 45*, 325-337. doi 10.1007/s10464-010-9314-0
- Sijtsema, J. J., Ojanen, T., Veenstra, R., Lindenberg, S., Hawley, P. H., & Little, T. D. (2010). Forms and functions of aggression in adolescent friendship selection and influence; A longitudinal social network analysis. *Social Development, 19*, 515-534. doi: 10.1111/j.1467-9507.2009.00566.x
- Smetana, J. G., Campione-Barr, N., & Metzger, A. (2006). Adolescent development in interpersonal and societal contexts. *Annual Review of Psychology, 57*, 255-284. doi: 10.1146/annurev.psych.57.102904.190124
- Smith-Schrandt, H. L., Ojanen, T., Gesten, E., Feldman, M. A., & Calhoun, C. D. (2011). Beyond situational ambiguity in peer conflict: Unique and combined effects of cues from an antagonist and a best friend. *Child Development, 82*, 1921-1937. doi: 10.1111/j.1467-8624.2011.01664.x
- Soenens, B., Vansteenkiste, M., Smits, I., Lowet, K., & Goossens, L. (2007). The role of intrusive parenting in the relationship between peer management strategies and peer affiliation. *Journal of Applied Developmental Psychology, 28*, 239-249. doi: 10.1016/j.appdev.2007.02.003
- Stattin, H., & Kerr, M. (2000). Parental monitoring: A reinterpretation. *Child Development, 71*, 1072-1085.
- Steinberg, L., Lamborn, S. D., Darling, N., Mounts, N. S., & Dornbusch, S. M. (1994). Over-time changes in adjustment and competence among adolescents from authoritative, authoritarian, indulgent, and neglectful families. *Child Development, 65*, 754-770.
- Steinberg, L., & Silverberg, S. B. (1986). The vicissitudes of autonomy in early adolescence. *Child Development, 57*, 841-851.
- Stoltz, S., van Londen, M., Dekovic, M., Prinzie, P., de Castro, B. O., & Lochman, J. E. (2013). Simultaneously testing parenting and social cognitions in children at-risk for aggressive behavior problems: Sex differences and ethnic similarities. *Journal of Child and Family Studies, 22*, 922-931. doi: 10.1007/s10826-012-9651-8
- Tilton-Weaver, L. C., Burk, W. J., Kerr, M., & Stattin, H. (2013). Can parental monitoring and peer management reduce the selection or influence of delinquent peers? Testing the question using a dynamic social network approach. *Developmental Psychology, 49*, 2057-2070. doi: 0.1037/a0031854

- Tilton-Weaver, L. C., & Galambos, N. L. (2003). Adolescents' characteristics and parents' beliefs as predictors of parents' peer management behaviors. *Journal of Research on Adolescence, 13*, 269-300.
- Underwood, M. K., Beron, K. J., & Rosen, L. H. (2009). Continuity and change in social and physical aggression from middle childhood through early adolescence. *Aggressive Behavior, 35*, 357-375. doi: 10.1002/ab.20313
- Underwood, M. K., Galen, B. R., & Paquette, J. A. (2001). Top ten challenges for understanding gender and aggression in children: Why can't we all just get along? *Social Development, 10*, 248-266.
- Werner, N. E. (2012). Do hostile attribution biases in children and parents predict relationally aggressive behavior? *Journal of Genetic Psychology, 173*, 221-245.
- Williams, K. D., Cheung, C. K. T., & Choi, W. (2000). Cyberostracism: Effects of being ignored over the Internet. *Journal of Personality and Social Psychology, 79*, 748-762.
- Xie, H., Swift, D. J., Cairns, B. D., & Cairns, R. B. (2002). Aggressive behaviors in social interaction and developmental adaptation: A narrative analysis of interpersonal conflicts during early adolescence. *Social Development, 11*, 205-224. doi:10.1111/1467-9507.00195
- Yeager, D. S., Trzesniewski, K. H., Tirri, K., Nokelainen, P., & Dweck, C. S. (2011). Adolescents' implicit theories predict desire for vengeance after peer conflicts: Correlational and experimental evidence. *Developmental Psychology, 47*, 1090-1107. doi: 10.1037/a0023769
- Zimmer-Gembeck, M. J., Geiger, T. C., & Crick, N. R. (2005). Relational and physical aggression, prosocial behavior, and peer relations: Gender moderation and bidirectional associations. *Journal of Early Adolescence, 25*, 421-452. doi: 10.1177/027243160527984

APPENDIX A

PARTICIPANT RECRUITMENT FLYER



Families with teenagers!



We need *your* help!!
Contribute to cutting-edge
research on teens!

Dr. Nina Mounts and her research team in the NIU Psychology Department are looking for mothers and their young teens (ages 10-15) to participate in a 2.5 hour study about parenting and peer-relationships.



Families will earn **\$50** for participating in the study, which includes:

- Tape recorded interview
- Questionnaire completion
- Video recorded mother-child interactions

If you are interested in participating or want more information please contact Haeli Gerardy:
hgerardy1@niu.edu
(815) 753-6619



We look forward to meeting you!

APPENDIX B

RECRUITMENT LETTER FOR TEACHERS



**Northern Illinois
University**

Department of Psychology

Psychology/Computer Science 400
DeKalb, Illinois 60115-2828
815-753-0372
Fax: 815-753-8088

March 14, 2013

Dear Sycamore Middle School Teacher:

I am a professor of developmental psychology at Northern Illinois University. I have been studying adolescent social relationships for about 25 years. I would like to ask for your assistance with recruiting participants to a research project that I am conducting.

There is a growing body of research documenting the importance of parental involvement in peer relationships during the adolescence period. The early adolescent period is of particular interest given the increase in the importance of peer relationships for children during this developmental period and the correlation between positive peer relationships and academic achievement and other aspects of psychological adjustment. Most of what is known about parental involvement in peer relationships is based on adolescents' self-reports or maternal reports of parental involvement. I am conducting a research study that uses an observational methodology to examine parental involvement in the peer relationships of early adolescents. I am hoping to better understand the types of interactions that parents and young adolescents have in regard to peer relationships. This information will be useful in identifying the types of parenting practices that lead to healthy peer relationships and support adolescents who experience problems with their peers, such as bullying.

I am asking for your help in distributing the enclosed recruitment flyers to the students in your classroom. No curricular time is needed for the investigation. All of the data collection will occur during non-school hours in my lab at Northern Illinois University. This study has been approved by the Institutional Review Board at Northern Illinois University.

I appreciate any assistance that you can provide in recruiting families to the study. As the director of the Collaborative on Early Adolescence (CEA) at Northern Illinois University, I am aware of the importance of the early adolescence period. The CEA has many resources regarding early adolescents available on our website (<http://www.niu.edu/cea/index.shtml>). You might be especially interested in using materials from our free newsletter series in your work with parents (<http://www.niu.edu/cea/Publications/newsletters/index.shtml>).

Please feel free to contact me if you have any questions regarding the study (Phone: 815-753-6968; Email: nmounts@niu.edu).

Sincerely,

Nina S. Mounts

APPENDIX C

PARENTAL CONSENT

APPROVED

OCT 10 2012

By NIU I.R.B.
VOID ONE YEAR
FROM ABOVE DATE

**Parental Management of Peer Relationships:
An Observational Study
Parent Consent Form**

Dr. Nina Mounts and her research team from the Department of Psychology at Northern Illinois University are interested in learning more about the ways in which parents and adolescents talk about adolescents' peer relationships. We are conducting a research study on this issue and are inviting you to participate.

What are we asking you to do? As a participant in the research study, you will be asked to complete some questionnaires about your parenting and your adolescents' peer relationships. In addition, you and your adolescent will be asked to discuss issues related to adolescents' peer relationships. Your discussion will be videotaped. Additionally, you and your child will be interviewed separately by the research staff and this interview will be audiorecorded. We will also ask your adolescent to play a computerized game with a peer. We will be using the information you provide to help us understand how parents are involved with their adolescents' social lives and how parents and adolescents discuss issues related to peers.

How long will it take? The study will last about two hours.

Is the information confidential? All information collected will be kept confidential. No information collected on individuals participating in this research study, including questionnaire data and videotaped observations, will be released to anyone outside the research project staff. There is a slight risk to confidentiality if data are lost. However, procedures are in place to ensure that data remain confidential. Your family will be assigned an identification number at the beginning of the study and this number will be used to identify the materials that you complete during the research project. Participation in the study is voluntary, and you may decide to stop participation at any time for any reason. You may also choose to skip individual questionnaire items or tasks. Withdrawal from the study does not forfeit compensation.

What do I get for my participation? Families who participate in the research investigation will receive \$50 to thank them for their assistance. We will also provide you with research-based materials on adolescent development.

Are there any risks associated with participating? There is a slight risk that when discussing issues about peers with one another or filling out questionnaires, conflict or unpleasant feelings or thoughts may arise, as we may ask about issues that are sources of conflict in your home. However, it is important for us to understand how parents and their teenagers handle these situations, as they are issues that most families with teenagers face. Most parent and adolescents enjoy participating in these types of activities.

Who do I contact if I have questions? If you have questions or concerns at any time during the study, please inform the researcher. After the study, if you wish to speak to someone regarding your participation, please contact Dr. Nina Mounts (815-753-6968; nmounts@niu.edu). Any

questions about your rights as a participant can be addressed to the NIU Office of Research Compliance (815-753-8588).

I agree to participate in the research study "*Parental Management of Peer Relationships: An Observational Study*". I have read and understand the materials given to me by Dr. Mounts or her research associates, and I understand the purpose of the study, how I will be involved in the study, and how long it will take to complete the materials. I understand that I agree to have my participation videotaped and audiotaped, and in doing so I consent to the future use of these videotapes and audiotapes for the purposes of the research study.

I have had an opportunity to ask questions about the study and any questions that I have asked have been answered for me. I understand that my participation is voluntary and I am free to quit the study at any time and that my decision will not be questioned or will not harm me in any way. No information collected on individuals participating in this research study will be released to anyone outside the research project staff, except in the event of suspected child maltreatment.

Date: _____

Initial all statement(s) that apply to you:

_____ Yes, I agree to participate in this research study.

_____ Yes, I agree to allow my child, _____, to participate in this research study.

_____ Yes, I agree that my interactions with my child can be videotaped and audiotaped.

_____ No, I do not want my child or me to participate in this research study.

Signed: _____ (Parent)

Print Name: _____ (Parent)

Address: _____ (Street)

_____ (City, State, Zip)

Phone Number: _____



APPENDIX D
ADOLESCENT ASSENT

**Parental Management of Peer Relationships:
An Observational Study
Adolescent Assent Form**

Dr. Nina Mounts and her research team from the Department of Psychology at Northern Illinois University are interested in learning more about the ways in which parents and adolescents talk about adolescents' peer relationships. We are conducting a research study on this issue and are inviting you to participate

What are we asking you to do? As a participant in the research study, you will be asked to complete some questionnaires about your parents and your peer relationships. In addition, you and your parent will be asked to discuss issues related to your peer relationships. Your discussion will be videotaped. We will also ask you to play a computerized game with a peer. We will be using the information you provide to help us understand how parents are involved with their adolescents' social lives and how parents and adolescents discuss issues related to peers.

How long will it take? The study will last about two hours.

Is the information private? All information collected will be kept private or confidential. That means that no information collected on individuals participating in this research study, including questionnaire data, audio recordings, and videotaped observations, will be released to anyone outside the research project staff. Your participation in the study is voluntary, and you can stop participating, at any time, for any reason.

I agree to participate in the research study "*Parental Management of Peer Relationships: An Observational Study*". I have read and understand the materials given to me by Dr. Mounts or her research associate, and I understand the purpose of the study, how I will be involved in the study, and how long it will take to complete the materials.

I have had an opportunity to ask questions about the study and any questions that I have asked have been answered for me. I understand that my participation is voluntary and I am free to quit the study at any time and that my decision will not be questioned or will not harm me in any way. No information collected on individuals participating in this research study will be released to anyone outside the research project staff.

Date: _____

Initial the statement that applies to you:

_____ Yes, I want to participate in this research study.

_____ No, I do not want to participate in this research study.

Signed: _____ (Adolescent)

Print Name: _____ (Adolescent)



APPENDIX E
DEMOGRAPHIC QUESTIONNAIRE

Today's date: _____

Child's age: _____

Child's birth date (e.g. 11/14/1999) _____

What is your child's sex? (Circle) **Boy** **Girl**

What is your child's race/ethnicity? (Check all that apply)

African-American, African, Black

Native American

Asian, Asian American

Pacific Islander

Hispanic/Latino/a

White, Caucasian, European

Middle Eastern

Other _____ (write in)

Which parents or guardians does your child live with? (Circle)

Both of parents live in the same home

Lives some of the time with each parent

Mother

Father

Mother and stepfather

Father and stepmother

Other relatives

Guardian or foster parent (not related)

What is your relationship to this child (e.g. mother, father, stepfather, etc.)?

Circle the **HIGHEST** level of education completed by each person.

	Child's Mother	Child's Father	Child's Stepmother	Child's Stepfather
Some grade school	M	F	SM	SF
Finished grade school	M	F	SM	SF
Some high school	M	F	SM	SF
Finished high school	M	F	SM	SF
Some college or 2-year degree	M	F	SM	SF
4-year college degree	M	F	SM	SF
Some school beyond college	M	F	SM	SF
Professional or graduate degree	M	F	SM	SF
Don't know	M	F	SM	SF
Does not apply	M	F	SM	SF

What is your yearly family income? (Check one) less than \$20,000 \$20,000-\$30,000 \$30,001-\$40,000 \$40,001-\$50,000 \$50,001-\$60,000 \$60,001-\$70,000 \$70,001-\$80,000 \$80,001-\$90,000 \$90,001-\$100,000 greater than \$100,00

APPENDIX F

PARENTAL MANAGEMENT OF PEERS INVENTORY – PARENT VERSION

Parental Management of Peers Inventory (PMPI)-Parent version

The following questions are asking you to tell us what your views on your child's friendships are. Please indicate how much you agree with each of the statements by writing the corresponding number in the blank.

1=Strongly disagree

2=Disagree

3=Agree

4=Strongly agree

Consulting about peer relationships

- _____ When my child is having a problem with a friend, he/she can ask me for help in solving it.
- _____ I give my child good advice about solving problems with friends.
- _____ My child can ask me for help when he/she is having trouble with a friend.
- _____ My child and I talk about ways of making new friends.
- _____ I encourage my child to think of his/her friend's viewpoint when he/she has had a disagreement with a friend.
- _____ When my child has a disagreement with a friend he/she usually talks with me about it.
- _____ My child spends a lot of time talking with me about his/her friendships.
- _____ I think that having friends is important for adolescents.
- _____ I listen to my child when he/she tells me about problems with friends.
- _____ I encourage my child to think of several ways to solve a problem with a friend.

Guiding peer relationships

- _____ My child is only friends with kids who are good students because that is what I want.
- _____ I help my child think of ways to meet new kids.
- _____ I want my child in certain activities at school because of the kinds of kids he/she will meet in them.
- _____ I encourage my child to do activities with kids I like.
- _____ I let my child know who I want to be their friends.
- _____ If my child's friends do things that I don't approve of my child stops being friends with them.
- _____ I encourage my child to invite kids I like over to the house.
- _____ I don't talk to my child about his/her friends. (reverse coded)
- _____ I want my child to be friends with kids who don't drink alcohol or do drugs.
- _____ I only want my child hanging around with kids who are like our family.
- _____ I tell my child if I don't want him/her to hang around with certain kids.
- _____ I talk to my child about the pro and cons of hanging around with certain people.
- _____ I want my child to be friends with kids who are good students.
- _____ I think that if my child's friends are doing bad things, he/she must be doing them too.
- _____ I support my child in his/her activities because I like the friends he/she meets in them.
- _____ I tell my child that I don't like his/her friends.
- _____ I tell my child that who he/she has for friends will affect his/her future.
- _____ I influence my child's selection of friends.

APPENDIX G

INTENT ATTRIBUTIONS AND FEELINGS OF DISTRESS –
ADOLESCENT VERSION

DIRECTIONS: You will be reading several stories. Pretend that the things that are happening in each story are happening to you. Then answer the questions after each story. Put a circle around your answer.

#1 iPod Story

Imagine that you brought your new iPod to school today. You saved up your allowance to buy the iPod and you want to show it to the others at school. You let another kid play with it for a few minutes while you go get a drink of water. When you get back you realize that the kid has broken your brand new iPod.

1. Why did the kid break your iPod?
 - a. The iPod wasn't made well.
 - b. It was an accident.
 - c. The kid was mad at me.
 - d. The kid was jealous of me.

2. In this story, do you think the kid was
 - a. Trying to be mean?
 - b. Not trying to be mean?

3. How upset or mad would you be if the things in this story really happened to you?
 - a. Not upset or mad at all.
 - b. A little upset or mad.
 - c. Very upset or mad.

#2 After School Story

Imagine that you are looking for your friend outside after school. You can't wait to find your friend because you have an important secret to share. By the time you find your friend, your friend is already talking to someone else— a kid that you don't like very much.

1. Why did your friend talk to someone else instead of you?
 - a. My friend was mad at me.
 - b. My friend didn't know that I wanted to play with them.
 - c. My friend wanted to get back at me for something.
 - d. My friend didn't see me on the playground.

2. In this story, do you think your friend was
 - a. Trying to be mean?
 - b. Not trying to be mean?

3. How upset or mad would you be if the things in this story really happened to you?
 - a. Not upset or mad at all.
 - b. A little upset or mad.
 - c. Very upset or mad.

#3 Milk Story

Imagine that you are sitting at the lunch table at school, eating lunch. You look up and see another kid coming over to your table with a carton of milk. You turn around to eat your lunch, and the next thing that happens is that the kid spills the milk all over your back. The milk gets your shirt all wet.

1. Why did the kid get milk all over your back?
 - a. The kid slipped on something.
 - b. The kid just does stupid things like that to me.
 - c. The kid wanted to make fun of me.
 - d. The kid wasn't looking where they were going.

2. In this story, do you think that the kid was
 - a. Trying to be mean?
 - b. Not trying to be mean?

3. How upset or mad would you be if the things in this story really happened to you?
 - a. Not upset or mad at all.
 - b. A little upset or mad.
 - c. Very upset or mad.

#4 Hallway Story

Imagine that you are standing in the hallway one morning at school. As you are standing there, two kids from your class walk by. As they walk by you, the two kids look at you, whisper something to each other and then they laugh.

1. Why did the two kids laugh when they walked by you?
 - a. The kids were making fun of me.
 - b. The kids were laughing at a joke one of them told.
 - c. The kids were just having fun.
 - d. The kids were trying to make me mad.

2. In this story, do you think that the two kids were
 - a. Trying to be mean?
 - b. Not trying to be mean?

3. How upset or mad would you be if the things in this story really happened to you?
 - a. Not upset or mad at all.
 - b. A little upset or mad.
 - c. Very upset or mad.

#5 Shoes Story

Imagine that you are walking to school and you're wearing new shoes. You really like your new shoes and this is the first day you have worn them. Suddenly, you are bumped from behind by another kid. You stumble and fall into a mud puddle and your new shoes get muddy.

1. Why did the kid bump you from behind?
 - a. The kid was being mean.
 - b. The kid was fooling around and pushed too hard by accident.
 - c. The kid was running down the street and didn't see me.
 - d. The kid was trying to push me down.

2. In this story do you think that the kid was
 - a. Trying to be mean?
 - b. Not trying to be mean?

3. How upset or mad would you be if the things in this story really happened to you?
 - a. Not upset or mad at all.
 - b. A little upset or mad.
 - c. Very upset or mad.

#6 Party Story

Imagine that you are in the bathroom one day after recess. While you are in there, two other kids from your class come in and start talking to each other. You hear one of the kids invite the other one to a birthday party. The kid says that there are going to be a lot of people at the party. You have not been invited to this party.

1. Why hasn't the kid invited you to the birthday party?
 - a. The kid doesn't want me to come to the party.
 - b. The kid hasn't had a chance to invite me yet.
 - c. The kid is trying to get back at me for something.
 - d. The kid was planning to invite me later.

2. In this story, do you think that the kid was
 - a. Trying to be mean?
 - b. Not trying to be mean?

3. How upset or mad would you be if the things in this story really happened to you?
 - a. Not upset or mad at all.
 - b. A little upset or mad.
 - c. Very upset or mad.

#7 Project Story

Imagine that you have just finished an art project for school. You've worked on it a long time and you're really proud of it. Another kid comes over to look at your project. The kid is holding a jar of paint. You turn away for a minute and when you look back the kid has spilled paint on your art project. You worked on the project for a long time and now it's ruined.

1. Why did the kid spill paint on your project?
 - a. The kid is mean.
 - b. The kid bumped into the paint by accident.
 - c. The kid is kind of clumsy.
 - d. The kid wanted to ruin my project.

1. In this story, do you think that the kid was
 - a. Trying to be mean?
 - b. Not trying to be mean?

3. How upset or mad would you be if the things in this story really happened to you?
 - a. Not upset or mad at all.
 - b. A little upset or mad.
 - c. Very upset or mad.

#8 Lunch Story

Imagine that you are at lunch one day and looking for a place to sit. You see some kids you know at a table across the room. The kids are laughing and talking to each other and they look like they are having a good time. You walk over to their table. As soon as you sit down, the kids stop talking and no one says anything to you.

1. Why did the kids stop talking when you sat down?
 - a. They were waiting for me to say something first.
 - b. They didn't want to talk to me.
 - c. They were saying mean things about me before I got there.
 - d. They were finished talking.

2. In this story, do you think that the kids were
 - a. Trying to be mean?
 - b. Not trying to be mean?

3. How upset or mad would you be if the things in this story really happened to you?
 - a. Not upset or mad at all.
 - b. A little upset or mad.
 - c. Very upset or mad.

#9 Race Story

Imagine that you are in gym class. You and some other kids are having a race. Another kid is standing on the side, bouncing a basketball. The next thing you realize is that the kid has bounced the ball and it rolls under your feet, making you fall. You skin your knee and someone else wins the race.

1. Why did the kid bounce the ball under your feet?
 - a. The kid wanted to get back at me for something.
 - b. The kid didn't see me coming.
 - c. The ball accidentally got away from the kid.
 - d. The kid wanted me to lose the race.

2. In this story, do you think that the kid was
 - a. Trying to be mean?
 - b. Not trying to be mean?

3. How upset or mad would you be if the things in this story really happened to you?
 - a. Not upset or mad at all.
 - b. A little upset or mad.
 - c. Very upset or mad.

#10 Walk Story

Imagine that you are taking a walk in your neighborhood one day. After you walk a block or two, you see two kids that you know from school. You walk over to the kids and say “hi”. The two kids act as if you are not there--- they don’t say anything to you. Then they say something to each other that you can’t hear and they walk the other way.

1. Why didn’t the two kids say hello to you?
 - a. They didn’t see me standing there.
 - b. They didn’t hear me say hi first.
 - c. They were mad at me about something.
 - d. They don’t like me.

2. In this story, do you think that the kids were
 - a. Trying to be mean?
 - b. Not trying to be mean?

3. How upset or mad would you be if the things in this story really happened to you?
 - a. Not upset or mad at all.
 - b. A little upset or mad.
 - c. Very upset or mad.

APPENDIX H

INTENT ATTRIBUTIONS AND FEELINGS OF DISTRESS –
PARENT VERSION

DIRECTIONS: You will be reading several stories describing hypothetical scenarios involving your child and your child's peers. Please read each story and answer each question by putting a circle around your answers. Only select one response for each question.

#1 iPod Story

Imagine that your child brought a new iPod to school today. S/he saved up an allowance to buy the iPod and wanted to show it to the other kids at school. Your child let another kid play with it for a few minutes while your child got a drink of water. When your child gets back s/he realizes that the kid has broken the brand new iPod.

1. Why did the kid break your child's iPod?

2. In this story, do you think the kid was
 - a. Trying to be mean?
 - b. Not trying to be mean?

3. How upset or mad would your child be if the things in this story really happened to him/her?
 - a. Not upset or mad at all.
 - b. A little upset or mad.
 - c. Very upset or mad.

#2 After School Story

Imagine that your child is looking for his/her friend outside after school. Your child can't wait to find his/her friend because your child has an important secret to share. By the time your child finds his/her friend, the friend is already talking to someone else— a kid that your child doesn't like very much.

1. Why did your child's friend talk to someone else instead of your child?

2. In this story, do you think your child's friend was
 - a. Trying to be mean?
 - b. Not trying to be mean?

3. How upset or mad would your child be if the things in this story really happened to him/her?
 - a. Not upset or mad at all.
 - b. A little upset or mad.
 - c. Very upset or mad.

#3 Milk Story

Imagine that your child is sitting at the lunch table at school, eating lunch. Your child looks up and sees another kid coming over to the table with a carton of milk. Your child turns around to eat his/her lunch, and the next thing that happens is that the kid spills the milk all over your child's back. The milk gets your child's shirt all wet.

1. Why did the kid get milk all over your child's back?

2. In this story, do you think that the kid was
 - a. Trying to be mean?
 - b. Not trying to be mean?

3. How upset or mad would your child be if the things in this story really happened to him/her?
 - a. Not upset or mad at all.
 - b. A little upset or mad.
 - c. Very upset or mad.

#4 Hallway Story

Imagine that your child is standing in the hallway one morning at school. As your child is standing there, two kids from his/her class walk by. As they walk by, the two kids look at your child, whisper something to each other, and then they laugh.

1. Why did the two kids laugh when they walked by your child?

2. In this story, do you think that the two kids were
 - a. Trying to be mean?
 - b. Not trying to be mean?

3. How upset or mad would your child be if the things in this story really happened to him/her?
 - a. Not upset or mad at all.
 - b. A little upset or mad.
 - c. Very upset or mad.

#5 Shoes Story

Imagine that your child is walking to school wearing new shoes. Your child really likes his/her new shoes and this is the first day wearing them. Suddenly, your child is bumped from behind by another kid. Your child stumbles and falls into a mud puddle and his/her new shoes get muddy.

1. Why did the kid bump your child from behind?

2. In this story do you think that the kid was
 - a. Trying to be mean?
 - b. Not trying to be mean?

3. How upset or mad would your child be if the things in this story really happened to him/her?
 - a. Not upset or mad at all.
 - b. A little upset or mad.
 - c. Very upset or mad.

#6 Party Story

Imagine that your child is in the bathroom one day after class. While your child is in there, two other kids from class come in and start talking to each other. Your child hears one of the kids invite the other one to a birthday party. The kid says that there are going to be a lot of people at the party. Your child has not been invited to this party.

1. Why hasn't the kid invited your child to the birthday party?

2. In this story, do you think that the kid was
 - a. Trying to be mean?
 - b. Not trying to be mean?

3. How upset or mad would your child be if the things in this story really happened to him/her?
 - a. Not upset or mad at all.
 - b. A little upset or mad.
 - c. Very upset or mad.

#7 Project Story

Imagine that your child has just finished an art project for school. Your child has worked on it a long time and is really proud of it. Another kid comes over to look at your child's project. The kid is holding a jar of paint. Your child turns away for a minute and when s/he looks back the kid has spilled paint on the art project. Your child worked on the project for a long time and now it's ruined.

1. Why did the kid spill paint on your child's project?

2. In this story, do you think that the kid was
 - a. Trying to be mean?
 - b. Not trying to be mean?

3. How upset or mad would your child be if the things in this story really happened to him/her?
 - a. Not upset or mad at all.
 - b. A little upset or mad.
 - c. Very upset or mad.

#8 Lunch Story

Imagine that your child is at lunch one day and looking for a place to sit. Your child sees some kids s/he knows at a table across the room. The kids are laughing and talking to each other and they look like they are having a good time. Your child walks over to their table. As soon as your child sits down, the kids stop talking and no one says anything to him/her.

1. Why did the kids stop talking when your child sat down?

2. In this story, do you think that the kids were
 - a. Trying to be mean?
 - b. Not trying to be mean?

3. How upset or mad would your child be if the things in this story really happened to him/her?
 - a. Not upset or mad at all.
 - b. A little upset or mad.
 - c. Very upset or mad.

#9 Race Story

Imagine that your child is in gym class. Your child and some other kids are having a race. Another kid is standing on the side, bouncing a basketball. The next thing your child realizes is that the kid has bounced the ball and it rolls under your child's feet, making him/her fall. Your child skins his/her knee and someone else wins the race.

1. Why did the kid bounce the ball under your child's feet?

2. In this story, do you think that the kid was
 - a. Trying to be mean?
 - b. Not trying to be mean?

3. How upset or mad would your child be if the things in this story really happened to him/her?
 - a. Not upset or mad at all.
 - b. A little upset or mad.
 - c. Very upset or mad.

#10 Walk Story

Imagine that your child is taking a walk in your neighborhood one day. After your child walks a block or two, your child sees two kids that s/he knows from school. Your child walks over to the kids and says “hi”. The two kids act as if your child is not there--- they don’t say anything to him/her. Then they say something to each other that your child can’t hear and they walk the other way.

1. Why didn’t the two kids say hello to your child?

2. In this story, do you think that the kids were
 - a. Trying to be mean?
 - b. Not trying to be mean?

3. How upset or mad would your child be if the things in this story really happened to him/her?
 - a. Not upset or mad at all.
 - b. A little upset or mad.
 - c. Very upset or mad.

APPENDIX I

CODING GUIDE FOR PARENTAL INTENT ATTRIBUTIONS
("WHY" QUESTIONS)

Benign Attributions—if at least one is given, code the whole answer non-hostile

An exception to this is if they are not given as separate answers. For example, “He is rude and drunk” would be hostile, “He is rude or he is drunk” is non-hostile.

1. The negative event is described as being due to an **accident, misunderstanding, temporary state, third party or circumstance**.

OR

2. The negative event was described as being due to some **neutral state or characteristic of the subject** (“I shouldn’t have lent him my CD player” or “I wasn’t paying close enough attention.”)

OR

3. The negative event was attributed to something about the other person **but** the other person was described as having acted in order to **help or benefit** the subject (“she was trying to give me good advice” or “he was trying to throw the ball to me”).

Hostile Attributions

1. The negative event as attributed to **something about the other person**, not the subject him or herself.

AND

2. The other person acted **intentionally**, or to **achieve some effect** (“She is trying to make a joke of me”).

OR

3. The personality trait ascribed to the other person to explain the action suggests that **the person acted with hostility, indifference, lack of sensitivity or lack of concern**. This includes accusations about a significant lack of empathic response, or statements that the other person is acting out of anger or callousness.

APPENDIX J

SAMPLE CODING RESPONSES FOR TRAINING

Sample Parent ResponsesStory 9

1. He was careless and lost control of the ball.
2. Jealous.
3. The child didn't mean to.
4. It's a gym. There are always balls flying everywhere and kids running around.

Story 10

1. The child didn't know my child.
2. They were in the middle of a conversation that didn't involve my child.
3. They are rude.
4. My child isn't popular.

APPENDIX K

CSBS-S

How I Get Along With Other People

We are interested in how people get along with one another. Please think about your relationships with other people and **how often** you do these things while you're with them.

1. Some people tell lies about another person so that others won't like that person anymore.

How often do you do this?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5
------------	-------------------	----------------	-----------------------------	-------------------

2. Some people try to keep certain people from being in their group when it is time to hang out or do an activity. How often do you do this?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5
------------	-------------------	----------------	-----------------------------	-------------------

3. Some people try to cheer up others who feel upset or sad. How often do you do this?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5
------------	-------------------	----------------	-----------------------------	-------------------

4. Some people pretend to leave out others from an activity in a playful way, but don't actually leave them out. How often do you do this?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5
------------	-------------------	----------------	-----------------------------	-------------------

5. Some people hit other people. How often do you do this?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5
------------	-------------------	----------------	-----------------------------	-------------------

6. Some people jokingly tell another person that they will hurt them when they are playing around. How often do you do this?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5
------------	-------------------	----------------	-----------------------------	-------------------

7. Some people help out other people when they need it. How often do you do this?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5
------------	-------------------	----------------	-----------------------------	-------------------

8. Some people call other people mean names. How often do you do this?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5
------------	-------------------	----------------	-----------------------------	-------------------

9. Some people push and shove others. How often do you do this?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5
------------	-------------------	----------------	-----------------------------	-------------------

10. Some people jokingly make fun of other people in front of a group. How often do you do this?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5
------------	-------------------	----------------	-----------------------------	-------------------

11. Some people have a lot of friends. How often do you have a lot of friends?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5
------------	-------------------	----------------	-----------------------------	-------------------

12. Some people try to keep others from liking another person by saying mean things about them. How often do you do this?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5
------------	-------------------	----------------	-----------------------------	-------------------

13. Some people wish that they had more friends. How often do you feel this way?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5
------------	-------------------	----------------	-----------------------------	-------------------

14. Some people say or do nice things for other people. How often do you do this?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5
------------	-------------------	----------------	-----------------------------	-------------------

15. Some people make fun of others to embarrass them in front of their friends. How often do you do this?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5
------------	-------------------	----------------	-----------------------------	-------------------

16. Some people call another person names like "loser" or "idiot" as a way of showing friendliness or approval. How often do you do this?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5
------------	-------------------	----------------	-----------------------------	-------------------

17. Some people push and shove others in fun. How often do you do this?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5
------------	-------------------	----------------	-----------------------------	-------------------

18. Some people ignore other people or will stop talking to them. How often do you do this?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5
------------	-------------------	----------------	-----------------------------	-------------------

19. Some people playfully hit other people when they are joking around. How often do you do this?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5
------------	-------------------	----------------	-----------------------------	-------------------

20. Some people tell another person that they will stop being their friend. How often do you do this?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5
------------	-------------------	----------------	-----------------------------	-------------------

21. Some people pretend to ignore another person as a joke. How often do you do this?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5
------------	-------------------	----------------	-----------------------------	-------------------

22. Some people let others know that they care about them. How often do you do this?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5
------------	-------------------	----------------	-----------------------------	-------------------

23. Some people yell at other people. How often do you do this?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5
------------	-------------------	----------------	-----------------------------	-------------------

24. Some people push and shove others. How often do you do this?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5
------------	-------------------	----------------	-----------------------------	-------------------

25. Some people pretend to talk about someone behind their back as a joke. How often do you do this?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5
------------	-------------------	----------------	-----------------------------	-------------------

26. Some people say mean things to others to insult them or put them down. How often do you do this?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5
------------	-------------------	----------------	-----------------------------	-------------------

27. Some people have a lot of other people who like to hang out with them. How often do other people like to hang out with you?

Never 1	Almost Never 2	Sometimes 3	Almost All The Time 4	All The Time 5
------------	-------------------	----------------	-----------------------------	-------------------