

Parental Psychological Control and Peer Victimization in Adolescence:
The Mediating Role of Internalizing and Externalizing Problems

by

Kathleen Foran
B.A., Simon Fraser University, 2004

A Thesis Submitted in Partial Fulfillment
of the Requirements for the Degree of

MASTER OF SCIENCE
in the Department of Psychology

© Kathleen Foran, 2006
University of Victoria

All rights reserved. This thesis may not be reproduced in whole or in part, by photocopy
or other means, without the permission of the author.

Parental Psychological Control and Peer Victimization in Adolescence:
The Mediating Role of Internalizing and Externalizing Problems

by

Kathleen Foran
B.A., Simon Fraser University, 2004

Supervisory Committee

Dr. Bonnie Leadbeater, Supervisor (Department of Psychology)

Dr. Ulrich Mueller, Departmental Member (Department of Psychology)

Dr. Wayne Mitic, Departmental Member (Department of Psychology)

Supervisory Committee

Dr. Bonnie Leadbeater, Supervisor (Department of Psychology)

Dr. Ulrich Mueller, Departmental Member (Department of Psychology)

Dr. Wayne Mitic, Departmental Member (Department of Psychology)

Abstract

Parental psychological control is an intrusive dimension of parenting that involves parents' manipulation of children and adolescents' thoughts, feelings, and relationship bonds. Previous research indicates that parental psychological control is linked with increased risk for peer victimization in childhood and with increased risk for internalizing and externalizing problems in both childhood and adolescence. Less is known about the association of parental psychological control with peer victimization in adolescence or about the mechanisms that underlie this association.

Participants in this study were 664 adolescents (ages 12-18) who were randomly sampled from a medium-sized Canadian city. Structural equation modeling showed that adolescents' internalizing problems mediated the link between parental psychological control and relational peer victimization whereas externalizing problems mediated the link between parental psychological control and both relational and physical peer victimization. The structural model was invariant across genders but differed between younger (ages 12-14) and older (ages 15-18) age groups.

Table of Contents

Supervisory Committee	ii
Abstract.....	iii
Table of Contents.....	iv
List of Tables	vi
List of Figures.....	vii
Acknowledgments	viii
Introduction.....	1
Parental Psychological Control and Adolescents' Adjustment Problems	4
Linking Parental Psychological Control to Peer Victimization through Adolescents Adjustment Problems	9
Adjustment Problems and Peer Victimization.....	11
Differences in Links between Relational and Physical Peer Victimization and Adolescents' Adjustment Problems.....	12
The Influence of Gender on Peer Victimization, Adjustment Problems, and Parental Psychological Control.....	17
The Influence of Age on Peer Victimization, Adjustment Problems, and Parental Psychological Control.....	18
The Current Study.....	20
Methods	21
Participants	21
Procedure	21
Measures	22
Results.....	23
Descriptive Data Analyses.....	23
Structural Equation Modeling.....	27

Measurement Models.....	29
Measurement Invariance.....	29
Correlations between the Latent Variables.....	32
Mediating Effects on the Link between Parental Psychological Control and Relational Peer Victimization.....	32
Mediating Effects on the Link between Parental Psychological Control and Physical Peer Victimization.....	34
Gender Differences in Path Coefficients of the Mediational Models.....	34
Age Differences in Path Coefficients of the Mediational Models.....	40
Discussion.....	46
The Mediating Role of Adolescents' Internalizing Problems	46
Relational peer victimization.....	46
Physical peer victimization.....	47
The Mediating Role of Adolescents' Externalizing Problems	48
Relational peer victimization.....	48
Physical peer victimization.....	48
The Effect of Gender	49
The Effect of Age	50
Relational peer victimization.....	50
Physical peer victimization.....	50
Limitations.....	51
Conclusion	53
Bibliography	54
Appendix A: Peer Victimization Self-Report Questionnaire	59
Appendix B: Internalizing Problems Self-Report Questionnaire	60
Appendix C: Externalizing Problems Self-Report Questionnaire	61
Appendix D: Parental Psychological Control – Youth Self-Report.....	62

List of Tables

<i>Table 1.</i> Zero-Order Correlations between the Variables.....	25
<i>Table 2.</i> Gender and Age Group Differences in Mean Levels (and Standard Deviations of the Predictor, Mediator, and Dependent Variables).....	26
<i>Table 3.</i> Standardized Factor Loadings, Standard Errors, and R ² for the Measurement Models	30
<i>Table 4.</i> Correlations between the Latent Variables.....	33
<i>Table 5.</i> Fit Statistics for the Full Mediational Models.....	33
<i>Table 6.</i> Comparison of Gender Invariance and Gender Difference Models Predicting Relational Peer Victimization	38
<i>Table 7.</i> Comparison of Gender Invariance and Gender Difference Models Predicting Physical Peer Victimization	39
<i>Table 8.</i> Comparison of Age Invariance and Age Difference Models Predicting Relational Peer Victimization.....	42
<i>Table 9.</i> Comparison of Age Invariance and Age Difference Models Predicting Physical Peer Victimization.....	44

List of Figures

- Figure 1.* The mediating effect of internalizing problems on the relation between parental psychological control and relational and physical peer victimization15
- Figure 2.* The mediating effect of externalizing problems on the relation between parental psychological control and physical peer victimization16
- Figure 3.* Standardized path coefficients between latent variables for the model predicting relational peer victimization.....35
- Figure 4.* Standardized path coefficients between latent variables for the model predicting physical peer victimization.....36
- Figure 5.* Standardized path coefficients between latent variables in models predicting relational peer victimization for younger and older adolescents.....43
- Figure 6.* Standardized path coefficients between latent variables in models predicting physical peer victimization for younger and older adolescents.....45

Acknowledgments

This research was supported by a Canada Graduate Master's Scholarship from the Social Sciences and Humanities Research Council of Canada and funding from the Canadian Institute for Health Research Girls and Aggression Net Grant. I also was fortunate to have the support of my supervisor, Dr. Bonnie Leadbeater, whose mentorship was invaluable to my graduate training. In addition, I would like to thank Dr. Ulrich Mueller and Dr. Wayne Mitic for their advice and assistance throughout the process of completing my thesis. I also am grateful to Dr. Michael Hunter for his advice on the analyses in this study. Finally, I would like to thank the Centre for Youth & Society's Community Alliance for Health Research Project for access to the Healthy Youth Survey data.

Introduction

Models of developmental contextualism draw attention to the need for understanding how individuals' social, emotional, and behavioral adjustment transacts with different environmental conditions (Lerner & Kauffman, 1985, Ollendick & Vasey, 1999). In particular, family environments have a sustained influence on youth during development and negative interactions within families can have a detrimental effect on the adjustment of youth. Ample research on families indicates that the adjustment of children and adolescents is negatively affected by parenting behaviors that are characteristic of parental psychological control (Barber, Olsen, & Shagle, 1994; Ladd & Kochenderfer-Ladd, 1998; Perry, Hodges, & Egan, 2001; Stone, Buehler, & Barber, 2002).

Parental psychological control is defined as parents' attempts to control their adolescent through intrusion into the youth's psychological world, constraint of the youth's psychological autonomy, and manipulation of the youth's thoughts and feelings. Psychologically controlling parents use strategies such as guilt induction, love withdrawal, ignoring, or shaming (Barber, 1996; Barber & Harmon, 2002). Instead of fostering self-competence in their adolescents, psychologically controlling parents defend their dominant, possessive, or enmeshed relationships with youth by invalidating or attacking their adolescents' attempts at independent expression and autonomous activity (Barber & Harmon, 2002). Such attempts by parents to achieve control may not be ill-intentioned; for example, psychologically controlling parents may be trying to protect their adolescent or maintain a position of importance in their adolescent's life. However,

their methods of psychological control can damage youth's adjustment and social relations nonetheless.

Numerous studies indicate that parental psychological control is associated with internalizing problems and externalizing problems in children and adolescents (see Barber & Harmon, 2002 for a review). Internalizing problems are characterized by depression and anxiety whereas externalizing problems involve aggression, delinquent behavior, and inattention (Bongers, Koot, van der Ende, & Verhulst, 2003). In addition, parental psychological control has been linked with peer victimization in young children (Ladd & Kochenderfer-Ladd, 1998). Peer victimization is defined as intentional and repetitive discrimination, intimidation, or harm targeted at an individual by one or more of his or her peers (Olweus, 1991; Roland & Idsøe, 2001). Research findings also show that although some forms of parental control, such as behavioral control (e.g. monitoring where, how, and with whom youth are spending their time), are beneficial, psychological control has a consistently negative impact on psychological and social functioning across different ages and social contexts (Barber, 1996; Barber, Stolz, & Olsen, 2005).

Evidence that parental psychological control may affect young children's social adjustment, particularly their risk for being victimized by peers, is reported in a study by Ladd and Kochenderfer-Ladd (1998). These researchers collected videotape footage of semi-structured interactions between parents and their children when they were starting kindergarten. The children reported their experience of peer victimization on a brief self-report measure during class time. The researchers examined whether aspects of parenting related to parental psychological control (intrusive demandingness, responsiveness, and mutually intense closeness) observed on the videotapes were associated with children's

experience of being victimized by peers in their kindergarten classes. They found that children whose parents were high in intrusive demandingness (e.g. overriding the child's initiatives) tended to experience more peer victimization relative to children whose parents were high in responsiveness (e.g. reacting quickly to the child's comments). Intense closeness (e.g. fervent expressions of affect during interactions) between a parent and a child also was associated with higher levels of peer victimization in boys but not in girls.

Other research findings indicate that negative parent-adolescent interactions also influence victimization experiences in adult romantic relationships. Linder and Collins (2005) investigated interactions between parents and 13-year-olds that were characterized by problems such as anxiety, hostility, and intrusive behaviors (e.g. parents relying overly much on adolescents for satisfaction of parents' emotional needs), which also arise in parent-adolescent relationships when parents exercise psychological control (Barber & Harmon, 2002). They found that negative interactions and boundary violations between adolescents and their parents were associated with victimization by romantic partners when the youth reached young adulthood.

It is not known, however, whether parental psychological control is associated significantly with victimization by peers in adolescence. Moreover, the mechanisms by which these parenting behaviors influence victimization by peers have not yet been identified. In this study, I hypothesized that adolescents' internalizing and externalizing problems mediate the link between parent psychological control and peer victimization. Theoretical and empirical support for this hypothesis is presented in five sections. First, research evidence suggesting direct links between parental psychological control and

adolescents' adjustment problems is reviewed. Second, a theoretical perspective that describes how negative parent-child relations may give rise to adjustment problems for adolescents that, in turn, influence their relationships with peers is detailed. Third, research evidence showing direct links between adolescents' adjustment problems and relational and physical peer victimization is reviewed. Fourth, mediational models are presented that show links 1) between parental psychological control and relational peer victimization through adolescents' internalizing problems and 2) between parental psychological control and physical peer victimization through adolescents' internalizing and externalizing problems. Finally, research evidence suggesting that gender and age influence the mediating effect of adolescents' adjustment problems on the link between parental psychological control and peer victimization is reviewed.

Parental Psychological Control and Adolescents' Adjustment Problems

A developmental task central to adolescence is the renegotiation of authority between adolescents and their parents (Erikson, 1968). The challenge for parents during this period of transition is to balance retaining parental control with granting autonomy in order to simultaneously protect adolescents and allow them the independence and support necessary to develop an individuated sense of themselves in relationships with others (Allen, Hauser, Bell, & O'Conner, 1994a; Allen, Hauser, Eickholt, Bell, & O'Conner, 1994b; Costigan, Cauce, & Etchison, 2006).

For example, the shift from unilateral parental authority towards more mutual decision-making between parents and adolescents was examined in a two-year longitudinal study of African-American mothers and daughters that began when the daughters were in grades seven and eight (Costigan et al., 2006). Findings from this study

show that more decision-making by the girls at the beginning of the study predicted increased self-esteem after two years. Moreover, initially high numbers of disagreements between the girls and their mothers predicted increased adolescent autonomy two years later. These findings suggest that disagreement serves an adaptive function in the process of realigning authority between parents and adolescents. However, the study also showed that intense conflict between mothers and daughters was associated with decreasing warmth in the mother-daughter relationships and in adolescents' self-esteem. The researchers who conducted this study caution that warmth in parent-adolescent relationships may be critical to counter-balance against the damaging aspects of conflict while adolescents negotiate with parents for more autonomy.

The importance of granting autonomy to adolescents in the context of strong parent-adolescents relationships is further supported by a two-year longitudinal study on adolescents from both the community and a clinical sample (Allen et al., 1994a). Specifically, the participants included adolescents in the ninth grade and 14-year-olds who were hospitalized for problems related to conduct or depression. Allen and colleagues (1994a) found that observable markers of autonomy (e.g. displaying independence of thought) and relatedness (e.g. showing interest in another person's thoughts and feelings) in adolescent-parent interactions were critical to adolescents' psychosocial development. In particular, when the young adolescents and their parents demonstrated autonomy and relatedness towards each other during disagreements about moral issues, the researchers found more advanced ego-development and higher self-esteem among adolescents the adolescents two years later. Furthermore, autonomy and relatedness in the parent-adolescent interactions were associated with ego development,

though not with self-esteem, even after accounting for adolescents' history of psychiatric hospitalization.

In a three-year longitudinal study using data from a similar sample of adolescents from both communities and clinics, Allen and colleagues (1994b) found that problems with autonomy and relatedness in parent-adolescent interactions also are linked to adolescents' development of internalizing and externalizing problems. Specifically, they found that lack of autonomy within parent-adolescent interactions when the adolescents were 14-years-old predicted the expression of depressive symptoms in interviews when the adolescents reached 16 years of age. In addition, adolescents' display of autonomy-inhibiting behaviors (e.g. ending a discussion by recanting one's position without appearing to have been persuaded that the position was wrong) in interactions with their mothers predicted depressive symptoms even after controlling for the adolescents' history of psychiatric hospitalization. On the other hand, externalizing problems in the adolescents at age 17 were predicted by lack of autonomy and relatedness in fathers' behaviors towards the adolescents at age 14 and by 16-year-old adolescents' autonomy-inhibiting behaviors towards their mothers.

Research shows that parents who use psychological control to achieve and maintain their position of power over adolescents fail to balance maintaining their authority and encouraging adolescents' autonomy at the expense of adolescents' adjustment. In a study of students in grades five, eight, and ten, Barber and colleagues (1994) found that youth self-reports of parental psychological control were associated with internalizing problems (measured on a three items scale of depression). The

researchers also found, however, that parental psychological control was not related to externalizing problems (measured on a three-item scale of delinquent acts).

These findings were replicated by Barber (1996) in a study of preadolescents recruited from an intervention program for families with parents who were considered high-risk for problems such as substance abuse and poor emotional adjustment. Barber (1996) videotaped the families during a problem-solving task in which they negotiated an emotionally-charged conflict topic. The videotaped interactions were coded for characteristics of parental psychological control including constraining adolescents' verbal expression, invalidating their feelings, personal attacks on the adolescents, guilt induction, love withdrawal, and erratic emotional behavior by parents. Youth depression and delinquency were measured using questionnaires filled out by parents one year after the videotaped interaction. Barber (1996) again found that parental psychological control predicted higher depression, but not higher delinquency, in the children.

On the basis of these results, Barber (1996) suggested that parental psychological control is linked more strongly with adolescent internalizing problems than with adolescent externalizing problems. However, in other research where assessments of externalizing problems were not limited to delinquency, a relationship between parental psychological control and adolescent externalizing problems has been found. For example, in a one-year longitudinal study beginning with preadolescents in grades six and seven, Rogers, Buchanan, and Winchell (2003) found that initial adolescent reports of father psychological control predicted later externalizing problems, such as talking back to teachers and disobeying parents, for both boys and girls. In addition, father psychological control was associated with concurrent externalizing problems among the

youth, but only when mother psychological control also was high. Moreover, father psychological control was associated with concurrent youth internalizing problems when mother psychological control also was high, but neither initial father nor initial mother psychological control predicted later internalizing problems in the youth. The researchers suggested, however, that the absence of a longitudinal effect for parental psychological control on youth internalizing problems may have been due to the high stability in internalizing problems in their sample over the one-year period.

Evidence that parental psychological control predicts both internalizing and externalizing problems in children and adolescents comes from a study of youth, 10 to 15 years of age, by Stone, Buehler, and Barber (2002). They found that youth reports of parental psychological control were associated with youth self-reports of internalizing problems and externalizing problems such as aggression, disobedience at school, and lying.

Additional evidence that parental psychological control elevates adolescents' risk for both externalizing and internalizing problems comes from a series of studies reported by Barber and colleagues (2005). These researchers examined the validity of a model that specified specialized effects of three dimensions of parenting (i.e. psychological control, behavioral control, and support) on three domains of adolescent psychosocial functioning (i.e. depressive symptoms, antisocial behavior, and social initiative). They hypothesized that parental psychological control was linked exclusively with depressive symptoms and not with anti-social behavior, such as lying and stealing. This specialized effects model was tested across time and culture using multiple analytic techniques. First, the model was examined using structural equation analysis on a two-cohort, cross-sequential sample

of American youth between the ages of 11 and 17. Second, the model was assessed using longitudinal data spanning a three-year period within each cohort. Third, the same measures of parental psychological control, adolescent depression, and adolescent anti-social behavior were used to collect data from the youth and test the model in 10 different countries. Finally, dominance analysis was used on the data from all 11 countries to examine the relative importance of each parenting dimension to the prediction of adolescent depression and anti-social behavior. Based on results from the culmination of these studies, Barber and colleagues (2005) concluded that parental psychological control is linked primarily with depression and secondarily with anti-social behavior in adolescents. Moreover, these studies provide comprehensive evidence of the link between parental psychological control and both depression and anti-social behavior across collectivistic cultures (e.g. China), individualistic cultures (e.g. Germany), and methodologies.

Overall, the evidence of associations between parental psychological control and adjustment problems in adolescents is mixed. The present study examined whether or not internalizing and externalizing problems mediate the relationship between parental psychological control and peer victimization.

Linking Parental Psychological Control to Peer Victimization through Adolescents' Adjustment Problems

There are numerous theories that describe the ways in which experiences in one context can affect subsequent experiences in a different context. The social-cognitive model of family influence on victimization by peers is particularly salient to this study

because it proposes psychological mechanisms that link family experiences with adolescents' victimization by peers (Perry, Hodges, & Egan, 2001).

Perry and colleagues (2001) suggest that elements of parental psychological control, including overprotectiveness, coercion, and conditional love, threaten children's sense of self and impede children's development of the agentic behaviors (e.g. introducing oneself into a peer group and defending oneself from aggressive peers) that are important in the peer context. Instead of developing behaviors that contribute to skill in social situations, Perry and colleagues (2001) theorize that negative parent-child interactions lead children to construct maladaptive cognitive schemas that they use to interpret and guide their behavior in interpersonal situations. One type of schema that adolescents could construct in interactions with psychologically controlling parents is the "victim schema". Adolescents who use these schemas perceive themselves as weak, vulnerable, or incompetent and they perceive their parents as threatening or anxiety-provoking. The other type of schema that adolescents could co-construct with psychologically controlling parents is the "aggression schema", which involves perceiving the parent as a threat and the self as defiant or avoidant.

According Perry and colleagues' (2001) social-cognitive model, youth who construct a victim schema in interactions with parents display a cluster of attributes (e.g. anxiety, depression, social withdrawal) that are consonant with internalizing problems. In turn, Perry and colleagues (2001) suggest that internalizing problems may signal vulnerability to bullies in the peer context. Similarly, the model states that youth who construct an aggression schema in interactions with parents exhibit disruptive and anti-social behaviors (e.g. interrupting, lying, stealing, and ineffectual aggression) that are

identified as externalizing problems (Perry et al., 2001). Perry and colleagues suggest that these problems may provoke their peers and thereby elicit victimization.

Adjustment Problems and Peer Victimization

The negative ramifications of constructing maladaptive schemas in interpersonal experiences with parents for adolescents' social interactions with peers, as proposed in Perry and colleagues' (2001) social-cognitive model, are consistent with evidence from research on preadolescent group dynamics. Bukowski and Sippola (2001) suggest that children's peer groups perceive any externalizing and internalizing problems exhibited by group members as threats to group homogeneity and maintenance. They hypothesized that children's peer groups would instrumentally victimize individuals whose adjustment problems pose such a threat in order to expel them from the group. Corroborating this hypothesis, the researchers found that children in grades three, four, and five who were identified by peers as either aggressive or passively withdrawn were more likely to be victimized by peers.

This link between internalizing problems and risk for peer victimization is consistent with the results of a longitudinal study by Hodges and Perry (1999) on antecedents of peer victimization in children in grades three through seven. These researchers examined whether children's internalizing and externalizing problems contributed to increases in peer victimization over one year and they found that earlier internalizing problems led to increases in peer victimization. They suggest that internalizing problems impede children's ability to defend themselves and may reinforce bullies because children with internalizing problems may submit to demands or display distress. In a study of youth aged 10 to 14 years, those who reported running away from

bullying situations also reported more frequent peer victimization than youth who responded more assertively (Smith, Shu, & Madsen, 2001). Furthermore, youth who reported crying in bullying situations were bullied more frequently and for longer periods of time than those who responded more assertively.

Contrary to the finding reported by Bukowski and Sippola (2001), Hodges and Perry (1999) did not find that externalizing problems were a significant predictor of peer victimization. This result, however, could be due to the researchers' use of a measure for victimization that contained more items about covert, relational forms of victimization (e.g. "Kids try to hurt his feelings") than overt, physical forms of victimization (e.g. "He gets beat up").

Further research is necessary to clarify the relationship between externalizing and internalizing problems and peer victimization in adolescence. In this study, I examined the role of externalizing and internalizing problems in mediating the link between parent psychological control and adolescents' experience of physical peer victimization as well as relational peer victimization.

Differences in Links between Relational and Physical Peer Victimization and Adolescents' Adjustment Problems

Research on peer victimization distinguishes between two primary forms of victimization (Crick & Bigbee, 1998). Relational victimization describes actions that damage the victim's social status and relationships with peers whereas physical victimization is characterized by actions that cause or threaten bodily harm. In a study of relational and physical victimization among fourth and fifth grade children, Crick and Bigbee (1998) found that both forms of victimization were associated with internalizing

problems. However, they did not assess whether physical and relational forms of aggression were both associated with externalizing problems.

Physical and relational forms of peer victimization may be differentially linked with internalizing and externalizing adjustment because of distinctions in the vulnerabilities that are associated with these adjustment problems. Due to their lack of confidence, tendency to withdraw, and propensity for crying, individuals with internalizing problems appear submissive in social situations, making them targets for either relational or physical peer victimization (Hodges & Perry, 1999; Hodges, Malone, & Perry, 1997). Studies also show that children who have internalizing problems tend to have few friends who are capable of defending them in conflict situations, again placing them at greater risk for relational and physical peer victimization (Hodges et al, 1997; Kochenderfer & Ladd, 1997).

In contrast, individuals with externalizing problems may be primarily vulnerable to physical victimization by peers. Research evidence indicates that individuals with externalizing problems tend to be preoccupied with self-preservation and asserting their social dominance rather than focusing on the quality of their relationships (Crick & Dodge, 1996; Crick & Grotpeter, 1996). This is consistent with evidence, reported by Hawley, Little, and Pasupathi (2002), that aggressive children value the status and extrinsic rewards more than the enjoyment they derive from relationships with peers. For youth in grades four through eight, this drive for power appears to be rewarded; physically and relationally aggressive children and preadolescents tend to have high social status among their peers (LaFontana & Cillessen, 2002). This status may protect youth with externalizing problems from relational peer victimization because their peers

may hesitate to enter into conflict with those who have high levels of social power. However, youth with externalizing problems may be sensitive to physical peer victimization because it threatens their basis of power in the peer group. Accordingly, in a study of third grade children (Crick, Grotpeter, & Bigbee, 2002), those who were high in aggression responded on questionnaires that they would be more angry and upset if they were instrumentally provoked (e.g. a peer breaks the participant's new radio) than if they were relationally provoked (e.g. the participant overhears other children talking about a party to which he or she is not invited). Moreover, aggressive children's vulnerability to physical peer victimization is demonstrated by research findings showing that aggressive children are often physically victimized by their peers (Snyder et al., 2003). This link between aggressive behavior and subsequent peer victimization also appears to hold in adolescence; findings from a study of aggression in high school students indicate that youth who are physically aggressive tend to experience higher levels of physical victimization (Leadbeater et al., in press).

Based on these reports, it was expected that adolescents' internalizing problems would mediate the link between parental psychological control and adolescents' risk for relational and physical peer victimization. This model is shown in Figure 1. It also was expected that adolescents' externalizing problems would mediate this link for physical, but not relational, peer victimization. This model is shown in Figure 2. In addition, gender and age-related variations in the models were considered.

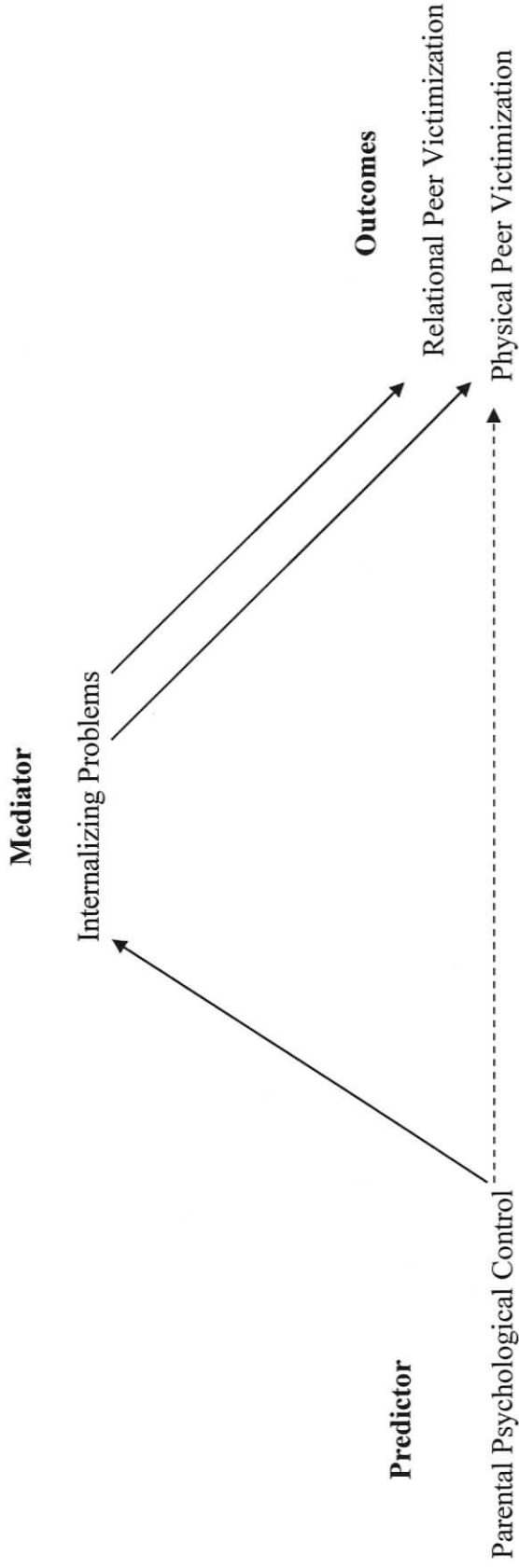


Figure 1. The mediating effect of internalizing problems on the relation between parental psychological control and relational and physical peer victimization.

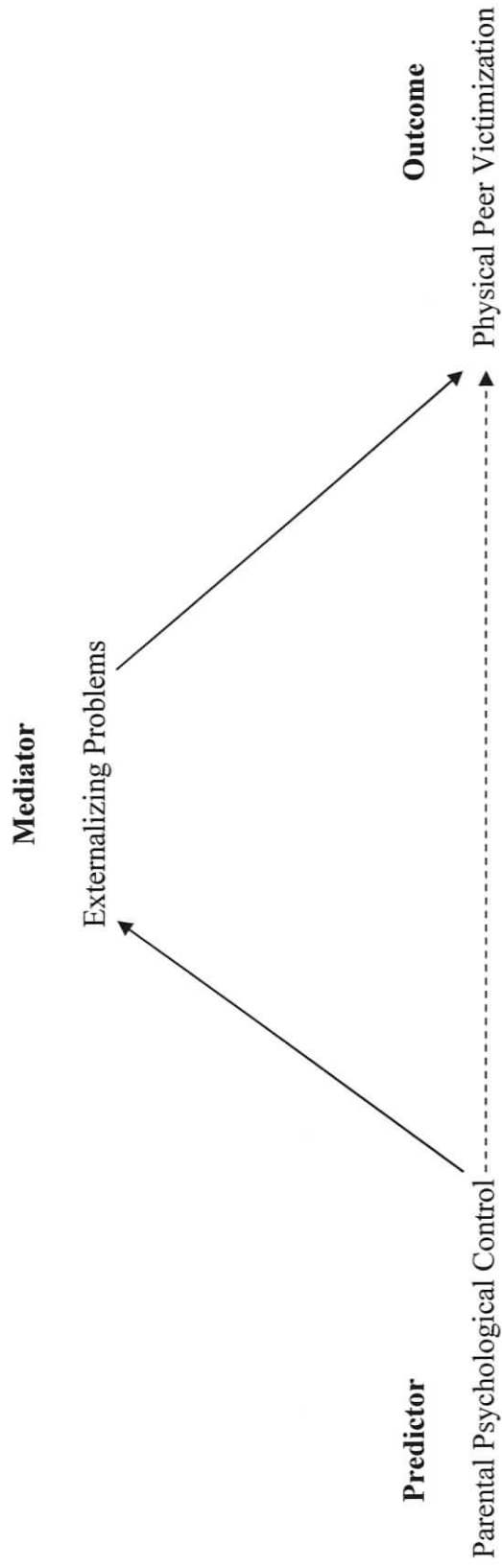


Figure 2. The mediating effect of externalizing problems on the relation between parental psychological control and physical peer victimization.

The Influence of Gender on Peer Victimization, Adjustment Problems, and Parental Psychological Control

Relational and physical forms of peer victimization have been linked differentially with gender (Crick & Bigbee, 1998). According to self-reports and peer-reports collected in studies on peer victimization in late childhood, girls tend to be more relationally victimized by peers whereas boys tend to be recipients of more physical peer victimization (Crick & Bigbee, 1998; Crick & Grotpeter, 1996). In a more recent study of young adolescents in grades seven and eight, boys reported higher levels of peer victimization on three items that assessed overt and physical victimization (i.e. "Does anyone in your class ever say mean things to you?", "Does anyone in your class ever hit you at school?", and "Does anyone in your class ever pick on you?") but not on an item that assessed covert relational victimization (i.e. "Does anyone in your class ever say bad things about you to other kids at school?") (Coleman & Byrd, 2003). On this last item, boys and girls reported the same level of victimization. This finding of similarity in adolescents' relational peer victimization experiences across gender was corroborated by a study of adolescents who were 13 to 17 years of age (Storch, Crisp, Roberti, Bagner, & Masia-Warner, 2005). In this study, boys reported more physical peer victimization than girls but there were no gender differences in levels of relational peer victimization reported by the adolescents. In addition, although internalizing problems and externalizing problems are associated with relational and physical peer victimization among boys, only externalizing problems are associated with relational and physical peer victimization among girls (Nelson & Crick, 2002).

Gender differences in adolescents' internalizing and externalizing problems also have been well documented (Leadbeater, Blatt, & Quinlan, 1995; Leadbeater, Kuperminc, Blatt, & Herzog, 1999). Consistently, girls tend to report higher levels of internalizing problems and lower levels of externalizing problems relative to boys.

Findings of gender differences in parental psychological control are mixed and this topic warrants further investigation. Although Barber and colleagues (2005) reported that the effects of parental psychological control do not differ between adolescents boys and girls, some studies show that adolescent boys report experiencing slightly higher levels of parental psychological control than adolescent girls (Barber, 1996; Barber, Bean, & Erikson, 2002).

The Influence of Age on Peer Victimization, Adjustment Problems, and Parental Psychological Control

Age-related changes in levels of peer victimization have been documented in cross-sectional and longitudinal studies (Björkqvist, Lagerspetz, & Kaukiainen, 1992; Pellegrini & Long, 2002). Overall, both physical and relational forms of peer victimization tend to decline from childhood through adolescence.

In addition, research evidence shows that the developmental trajectories of internalizing and externalizing problems are influenced by age as well as by gender (Bongers et al., 2003). Although levels of internalizing problems tend not to differ between girls and boys in childhood, girls show greater increases in internalizing problems across adolescence relative to boys. In addition, although both girls and boys show declines in externalizing problems across childhood and adolescence, boys display higher levels of externalizing problems throughout development.

Similarly, patterns of gender differences in youths' experience of parental psychological control vary across development. In a prospective, three-year study of youth beginning when they were in grade seven, Conger, Conger, and Scaramella (1997) examined the effect of parental psychological control at year one and year three on concurrent levels of youths' internalizing and externalizing problems. They also examined the lagged effect of parental psychological control at year one on youths' internalizing and externalizing problems at year three. These examinations showed that the effects of parental psychological control on adolescents' adjustment problems depended on both gender and age. For boys, earlier parental psychological control measured in grade seven was more predictive of increased internalizing and externalizing problems in grade nine than were current levels of parental psychological control. For girls, concurrent parental psychological control was associated with risk for internalizing and externalizing problems. However, girls' adjustment problems in grade nine were not significantly predicted by parental psychological control in grade seven after controlling for girls' initial levels of adjustment problems. Based on this evidence, Conger and colleagues (1997) suggest that the effects of early parental psychological control on adjustment may be more persistent for boys than for girls whereas girls may be more sensitive than boys to current levels of parental psychological control.

In consideration of the potential influence of gender and age on the variables in the mediational models of this study, examination of gender and age differences in the effect of the mediators on the link between parental psychological control and both forms of peer victimization was warranted.

The Current Study

Previous research shows that parental psychological control is associated with risk for peer victimization in young children (Ladd & Kochenderfer-Ladd, 1998). The present study extends this line of research by investigating whether or not parental psychological control is linked to peer victimization in adolescence and examining possible mediators of this relation. The research reviewed here indicates that parental psychological control increases risk for adjustment problems in children as well as adolescents and that both parental psychological control and children's adjustment problems are associated with increased risk of peer victimization. Based on these findings, it was expected that, firstly, parental psychological control would be associated with risk for peer victimization in adolescence and, secondly, the link between parental psychological control and peer victimization would be mediated by adolescents' internalizing and externalizing problems. In line with previously mentioned research, it was further proposed that the mediational links between parental psychological control and adolescent peer victimization through adolescents' adjustment problems would vary across the two primary forms of peer victimization. Specifically, it was hypothesized that adolescents' internalizing problems would mediate the link between parental psychological control and adolescents' risk for relational and physical peer victimization whereas adolescents' externalizing problems would mediate the link between parental psychological control and adolescents' risk for physical peer victimization only. Thirdly, it was expected that the mediating effects of adolescents' internalizing and externalizing problems would vary depending on adolescents' gender and age.

Methods

Participants

A total of 664 adolescents (48.5% male, 51.5% female) in a medium-sized Canadian city participated in this study. They were recruited from a random sample of 9500 private telephone listings through which adolescents, between the ages of 12 and 19 years (mean age 15.5 years), were screened and contacted. Out of the 1036 households in which eligible adolescents were identified, 82% of parents consented to let their child be interviewed and, of those, 78% of the adolescents agreed to participate. There were 275 adolescents in the 12-14 year old age group and 389 adolescents in the 15-19 year old age group. The ethnic backgrounds of the participants were as follows: 85% European-Canadian, 4% Asian, and 11% other ethnicities. The participants reported that large percentages of fathers (92.1%) and mothers (82.9%) were employed at the time of the survey.

Procedure

Data for this study were collected in the spring of 2003 as part of the "Greater Victoria Healthy Youth Survey" (Liu, Leadbeater, Youngblade, Foran, & Jansson, 2006). The survey was administered by trained interviewers who met with adolescents individually either in their home or in a safe, quiet location of their choice. The survey took approximately one hour to complete and the adolescents received a \$25.00 gift certificate for their participation. The measures of peer victimization and parental psychological control used in the current study come from the part one of the survey for which the trained interviewers read the questions aloud and recorded the adolescents' responses. The measure of adolescents' internalizing and externalizing problems come

from part two of the survey for which the interviewers read the questions aloud and the adolescents recorded their own answers. Copies of each measure used in this study are given in the appendices.

Measures

Peer victimization. Adolescents' experience of peer victimization was measured using two subscales of the Social Experiences Questionnaire (SEQ; Crick & Grotpeter, 1996). Each contains five items that assess relational victimization (e.g. "How often do your peers tell lies about you to make others not like you anymore?") or physical victimization (e.g. "How often do your peers kick you or pull your hair?"). Adolescents rated on a 3-point Likert-type scale (adapted from the original 5-point scale) how often these events occurred (1 = never, 2 = sometimes, 3 = almost all the time). Internal consistencies (Cronbach's alphas) for the relational and physical victimization subscales were .73 and .67 respectively.

Adjustment problems. Adolescents' internalizing and externalizing problems were assessed using the adolescent self-report form of the Brief Child and Family Phone Interview (BCFPI; Cunningham, Pettingill, & Boyle, 2001). Internalizing problems were compiled from three six-item subscales that tapped (1) separation from adults (e.g. "Do you notice that you feel sick before being separated from those you are close to?"), (2) managing anxiety (e.g. "Do you notice that you worry about doing better at things?"), and (3) managing mood (e.g. "Do you notice that you have trouble enjoying yourself?"). The internal consistency of the internalizing scale was .85. Externalizing problems were compiled from three different six-item subscales that tapped (1) regulating attention, impulsivity, and activity level (e.g. "Do you notice that you have difficulty following

directions or instructions?”), (2) cooperation with others (e.g. “Do you notice that you are easily annoyed with others?”), and (3) conduct (e.g. “How often do you destroy things that belong to others?”). The internal consistency of the externalizing scale was .79. Adolescents rated how often the experiences described in these 36 items occurred on a 3-point Likert-type scale (1 = never, 2 = sometimes, 3 = often).

Parental Psychological Control. Parents’ behaviors that constrain, invalidate, or manipulate the thoughts and feelings of their children were measured with the Psychological Control Scale – Youth Self-Report (PCS-YSR; Barber, 1996). Adolescents rated on a three-point Likert-type scale (1 = not like him/her, 2 = somewhat like him/her, 3 = like him/her) how much the behaviors described in the eight items of the scale resemble the ways in which their mothers and fathers behave (e.g. “My mother/father is a person who is always trying to change how I feel or think about things.”). The internal consistency of this scale was .65. On the basis of research evidence that the effects of parental psychological control are consistent across parent gender, maternal and paternal psychological control were combined to produce the latent parental psychological control variable (Barber et al, 2005).

Results

Descriptive Data Analyses

Zero-order correlations between parental psychological control, peer victimization, adjustment problems, gender, and age group are presented in Table 1. Significant correlations were found between parent psychological control and peer victimization, parent psychological control and adolescents’ adjustment problems, as well as adolescents’ adjustment problems and peer victimization. Correlations between

gender, age group, and all of the variables except for externalizing problems also were significant.

A multivariate analysis of variance (MANOVA) was conducted to examine differences between girls and boys as well as between 12 to 14-year-olds and 15 to 19-year-olds in mean levels of adolescent-reported parental psychological control, adjustment problems, and peer victimization. Means and standard deviations for the within-subjects variables are reported for each gender and age group in Table 2.

As expected, the MANOVA revealed main effects for gender ($F[5, 634] = 13.69, p < .00$) and age group ($F[5, 634] = 10.15, p < .00$). The multivariate test of the interaction between gender and age group was not significant.

Girls showed higher levels of internalizing problems ($F[1, 638] = 12.97, p < .00$) than boys. Boys reported higher levels of externalizing problems ($F[1, 638] = 4.35, p = .04$) and physical peer victimization ($F[1, 638] = 20.20, p < .00$) than girls. There were no gender differences in adolescents' reports of parental psychological control or relational peer victimization.

Younger adolescents reported lower levels of parental psychological control ($F[1, 638] = 13.51, p < .00$) and internalizing problems ($F[1, 638] = 4.76, p < .03$) than older adolescents. Younger adolescents also reported higher levels of relational peer victimization ($F[1, 638] = 14.19, p < .00$) and physical peer victimization ($F[1, 638] = 14.77, p < .00$) than older adolescents. There was no significant difference in the levels of externalizing problems reported by younger and older adolescents.

Table 1

Zero-Order Correlations between the Variables

<i>Variables</i>	1	1(a)	1(b)	2	3	4	5	6
1. Parental Psychological Control (Combined)								
1(a). Maternal Psychological Control	.82**							
1(b). Paternal Psychological Control	.87**	.43**						
2. Relational Peer Victimization	.18**	.14**	.16**					
3. Physical Peer Victimization	.15**	.11**	.14**	.48**				
4. Internalizing Problems	.41**	.35**	.35**	.34**	.18**			
5. Externalizing Problems	.39**	.35**	.31**	.29**	.32**	.48**		
6. Gender (boys = 0; girls = 1)	.09*	.04	.11**	.08*	-.18**	.15**	-.07	
7. Age Group (age 12-14 = 1; age 15-19 = 2)	.15**	.14**	.11**	-.13**	-.16**	.09*	.07	.02

Note. * $p < .05$ (2-tailed), ** $p < .01$ (2-tailed).

Table 2

Gender and Age Group Differences in Mean Levels (and Standard Deviations of the Predictor, Mediator, and Dependent Variables)

	Gender		Age Group		Range
	Girls	Boys	12-14 Years	15-19 Years	
Parental	21.39 (5.29)	20.53 (4.45)	20.11 (4.93)^d	21.57 (4.81)^d	8-24
Psychological					
Control					
Internalizing	1.73 (.35)^a	1.63 (.31)^a	1.64 (.33)^c	1.70 (.33)^c	1-3
Problems					
Externalizing	1.51 (.26)^b	1.54 (.24)^b	1.50 (.26)	1.54 (.25)	1-3
Problems					
Relational	1.22 (.32)	1.17 (.28)	1.25 (.35)^f	1.17 (.26)^f	1-3
Victimization					
Physical	1.10 (.22)^c	1.19 (.25)^c	1.19 (.28)^g	1.11 (.20)^g	1-3
Victimization					

Note. Mean levels differ significantly ($p < .05$) between columns with the same superscript.

Structural Equation Modeling

Structural equation modeling with AMOS 5.0 software by Arbuckle (2003) was used to examine the mediating effects of adolescents' internalizing problems and externalizing problems on the link between parental psychological control and adolescents' experience of peer victimization. An advantage of using structural equation modeling over multiple regression techniques is that measurement error is estimated and removed from the latent variables in the models (Ullman, 2001).

Separate models were tested for relational and physical peer victimization. Gender and age-group differences were examined by comparing the models across boys and girls and across young adolescents (ages 12-14), and older adolescents (ages 15-19). Indices selected for evaluating the fit of the structural equation models in this study were the chi-square statistic and associated level of significance, the relative chi-square statistic, the comparative fit index (CFI), and the root mean square error of approximation (RMSEA).

The chi-square statistic assesses how well the proposed model fits the data; a small, non-significant chi-square statistic represents good fit (Kline, 2005). However, the chi-square statistic has a well-known bias towards significance with large sample sizes and non-normal data. The correction for this bias involves dividing the value of the chi-square statistic by its associated degrees of freedom to produce the relative chi-square statistic. Relative chi-square values of less than five have been recommended as indicative of reasonable fit.

The CFI assesses the relative improvement in fit between the proposed model and the baseline independence model, in which all relationships between observed variables are restricted to zero (Kline, 2005). CFI values greater than .9 are considered acceptable.

The RMSEA estimates the degree to which the null hypothesis that the proposed model fits the data is false (Kline, 2005). By convention, RMSEA values between .05 and .08 are indicative of reasonable fit whereas values equal to or greater than .10 indicate poor fit.

Assessment of the mediation hypotheses in this study was accomplished in two steps. In the first step, correlations between the latent variables were examined. In order to establish the presence of a mediation effect, there must be a relationship between the independent variable (parental psychological control) and the dependent variable (relational or physical peer victimization), relationships between the independent variable and the mediators (internalizing and externalizing problems), and relationships between the mediators and the dependent variable (Baron & Kenny, 1986). In the second step, the direct path between the independent variable and the dependent variable in the full mediational model was examined. The full mediational model specifies the direct path between the independent variable and the dependent variable as well as the indirect paths from the independent variable to the dependent variable through the mediators. If the direct path between the independent variable and the dependent variable is non-significant in the full mediational model, mediation is supported.

Measurement Models

The first step of the structural equation modeling analyses involved constructing measurement models to check the assumed relations between the observed factors and

their latent variable. The measurement model examining the relationships between parental psychological control, relational peer victimization, internalizing problems, and externalizing problems fit the data adequately, $\chi^2(59) = 197.27$, $p < .001$, $\chi^2/df = 3.34$, CFI = .93, RMSEA = .06. All factor loadings were significant ($p < .001$) and ranged between .38 and .84. The standardized factor loadings for each latent variable are reported in Table 3.

The measurement model examining the relationships between parental psychological control, physical peer victimization, internalizing problems, and externalizing problems also fit the data adequately, $\chi^2(59) = 179.01$, $p < .001$, $\chi^2/df = 3.03$, CFI = .93, RMSEA = .06. All factor loadings were significant ($p < .001$) and ranged between .41 and .76. The standardized factor loadings for each latent variable are reported in Table 3.

Measurement Invariance

Before testing the hypothesis that the mediating effect of adolescents' internalizing and externalizing problems varies depending on their gender and age, it was necessary to ascertain whether or not such differences stem from gender and age group differences in the measurement models. Measurement invariance across gender was examined first and measurement invariance across age group was examined next.

Table 3

Standardized Factor Loadings, Standard Errors, and R² for the Measurement Models

<i>Latent constructs and measured indicators</i>	β	SE	R ²
Parental psychological control			
Mother psychological control ^a	.68	^b —	.46
Father psychological control	.63	.11	.40
Internalizing problems			
Depression ^a	.72	^b —	.52
Anxiety	.55	.07	.30
Separation Anxiety	.54	.07	.29
Externalizing problems			
Cooperation ^a	.77	^b —	.59
Inattention	.64	.07	.41
Conduct	.39	.03	.15
Relational peer victimization			
Peers tell lies about me ^a	.84	^b —	.71
Peers say mean things	.83	.05	.68
Peers exclude me	.53	.05	.28
Peers say they won't like me	.42	.02	.17
Peers leave me out	.38	.05	.15
Physical peer victimization			
Peers hit me ^a	.71	^b —	.50
Peers push and shove me	.70	.08	.49
Peers yell and call names at me	.51	.09	.26
Peers say they will beat me up	.49	.03	.24
Peers kick and pull my hair	.44	.03	.19

Note. All β are significantly different from zero ($p < .001$).

^a Factor loadings fixed at 1.0 in the unstandardized solution.

^b Standard error not estimated.

For the model including relational peer victimization, constraining the factor loadings and covariances among latent variables to be equal across gender resulted in a significant worsening of overall model fit $\Delta\chi^2(15) = 34.05, p=.003$. However, the pattern of loadings was consistent across the models and the fit of the constrained model, $\chi^2(133) = 299.16, p<.001, \chi^2/df = 2.25, CFI = .92, RMSEA = .04$, was very similar to that of the unconstrained model, $\chi^2(118) = 265.11, p<.001, \chi^2/df = 2.25, CFI = .93, RMSEA = .04$.

For the model including physical peer victimization, constraining the factor loadings and covariances among latent variables to be equal across gender resulted in a significant worsening of overall model fit $\Delta\chi^2(15) = 77.50, p<.000$. However, the pattern of loadings was consistent across the models and both the constrained, $\chi^2(133) = 303.04, p<.001, \chi^2/df = 2.28, CFI = .90, RMSEA = .04$, and unconstrained models, $\chi^2(118) = 225.54, p<.001, \chi^2/df = 1.91, CFI = .94, RMSEA = .04$, fit the data reasonably well.

For the model including relational peer victimization, constraining the factor loadings and covariances among latent variables to be equal across age group resulted in a significant worsening of overall model fit $\Delta\chi^2(15) = 35.08, p=.002$. However, the pattern of loadings was consistent across the models and the fit of constrained, $\chi^2(133) = 311.42, p<.001, \chi^2/df = 2.34, CFI = .87, RMSEA = .05$, and unconstrained models, $\chi^2(118) = 276.35, p<.001, \chi^2/df = 2.34, CFI = .89, RMSEA = .05$, was very similar.

For the model including physical peer victimization, constraining the factor loadings and covariances among latent variables to be equal across age group did not result in a significant worsening of overall model fit $\Delta\chi^2(15) = 23.53, p=.074$.

Furthermore, the pattern of loadings was consistent across the models and the fit of constrained, $\chi^2(133) = 241.48, p<.001, \chi^2/df = 1.82, CFI = .90, RMSEA = .04$, and

unconstrained models, $\chi^2(118) = 217.95$, $p < .001$, $\chi^2/df = 1.85$, CFI = .91, RMSEA = .04, was close to identical.

Overall, examination of the measurement models indicated that assumptions about the relations between the observed factors and the latent variables held. Tests of measurement invariance across gender and age group revealed that, although adding constraints worsened the fit of several models, the fit of the constrained models was nonetheless fair and the pattern of relations between the variables held. It was, therefore, deemed reasonable to examine gender and age group differences in the mediational models.

Correlations between the Latent Variables

Correlations between the latent variables are reported in Table 4. The correlations satisfied the prerequisites for testing mediation (Baron & Kenny, 1986). Specifically, parental psychological control was significantly correlated with relational peer victimization ($r = .20$, $p < .001$) and with physical peer victimization ($r = .20$, $p < .001$). In addition, parental psychological control was correlated with internalizing problems ($r = .69$, $p < .001$) and externalizing problems ($r = .61$, $p < .001$). Internalizing problems was correlated with relational peer victimization ($r = .45$, $p < .001$) and physical peer victimization ($r = .28$, $p < .001$). Externalizing problems also was correlated with relational peer victimization ($r = .35$, $p < .001$) and physical peer victimization ($r = .43$, $p < .001$).

Mediating Effects on the Link between Parental Psychological Control and Relational Peer Victimization

The full mediational model was a reasonable fit to the data, $\chi^2(60) = 229.98$, $p < .001$, $\chi^2/df = 3.83$, CFI = .92, RMSEA = .07 (see Table 5). In addition, the direct path

Table 4

Correlations between the Latent Variables

<i>Variables</i>	1	2	3	4	5	6
1. Parental Psychological Control						
2. Physical Peer Victimization	.20***					
3. Relational Peer Victimization	.20***	.51***				
4. Internalizing Problems	.69***	.28***	.45***			
5. Externalizing Problems	.61***	.43***	.34***	.78***		

Note. *** $p < .001$ (2-tailed).

Table 5

Fit Statistics for the Full Mediation Models

Models	χ^2	df	χ^2/df	CFI	RMSEA	$\Delta\chi^2$	<i>p</i>
1: Model Predicting Relational Peer Victimization	229.98	60	3.83	.92	.07	165.00	<.01
2: Model Predicting Physical Peer Victimization	211.45	60	3.52	.91	.06	164.75	<.01

between parental psychological control and relational peer victimization was non-significant (see Figure 3). All other coefficients in the model were significant, indicating that both internalizing problems and externalizing problems fully mediated the link between parental psychological control and relational peer victimization. Overall, this model accounted for 28% of the variance in adolescents' experience of relational peer victimization.

Mediating Effects on the Link between Parental Psychological Control and Physical Peer Victimization

The full mediational model was a reasonable fit to the data, $\chi^2(60) = 211.45$, $p < .001$, $\chi^2/df = 3.52$, CFI = .91, RMSEA = .06 (see Table 5). In addition, the direct path between parental psychological control and relational peer victimization was non-significant (see Figure 4). All other path coefficients in the model were significant except the path coefficient for the link between internalizing problems and physical peer victimization, indicating that externalizing problems, but not internalizing problems, fully mediates the link between parental psychological control and physical peer victimization. Overall, this model accounted for 22% of the variance in adolescents' experience of physical peer victimization.

Gender Differences in Path Coefficients of the Mediational Models

To examine whether or not the mediational models are the same for boys and girls, gender invariance models in which the path coefficients between the variables were constrained to be equal for boys and girls were compared to gender difference models in which the path coefficients were not constrained.

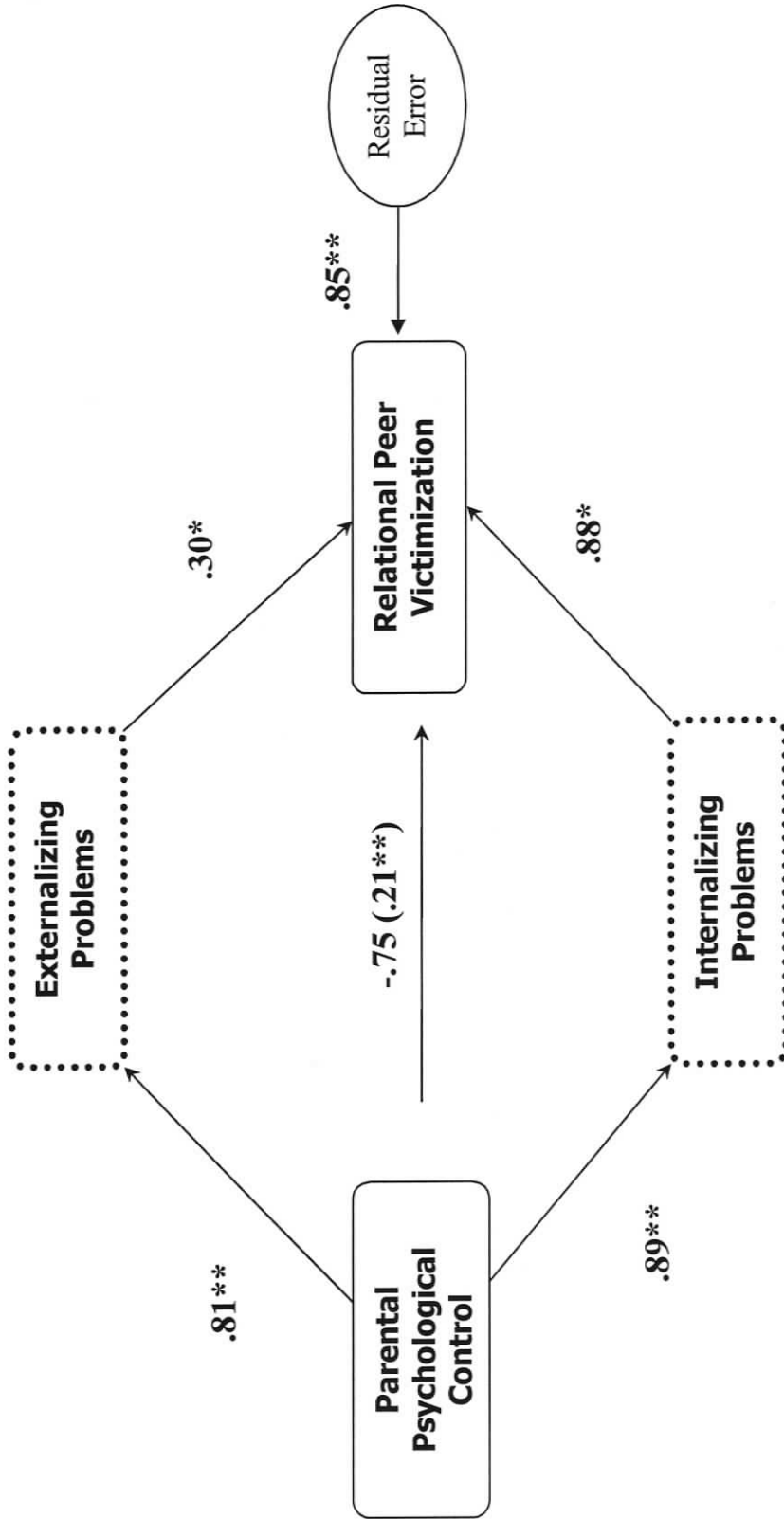


Figure 3. Standardized path coefficients between latent variables for the model predicting relational peer victimization.

Note. Value in parentheses is the coefficient for the association between parental psychological control and relational peer victimization prior to the entry of the mediating variables into the model. * < .05, ** < .01

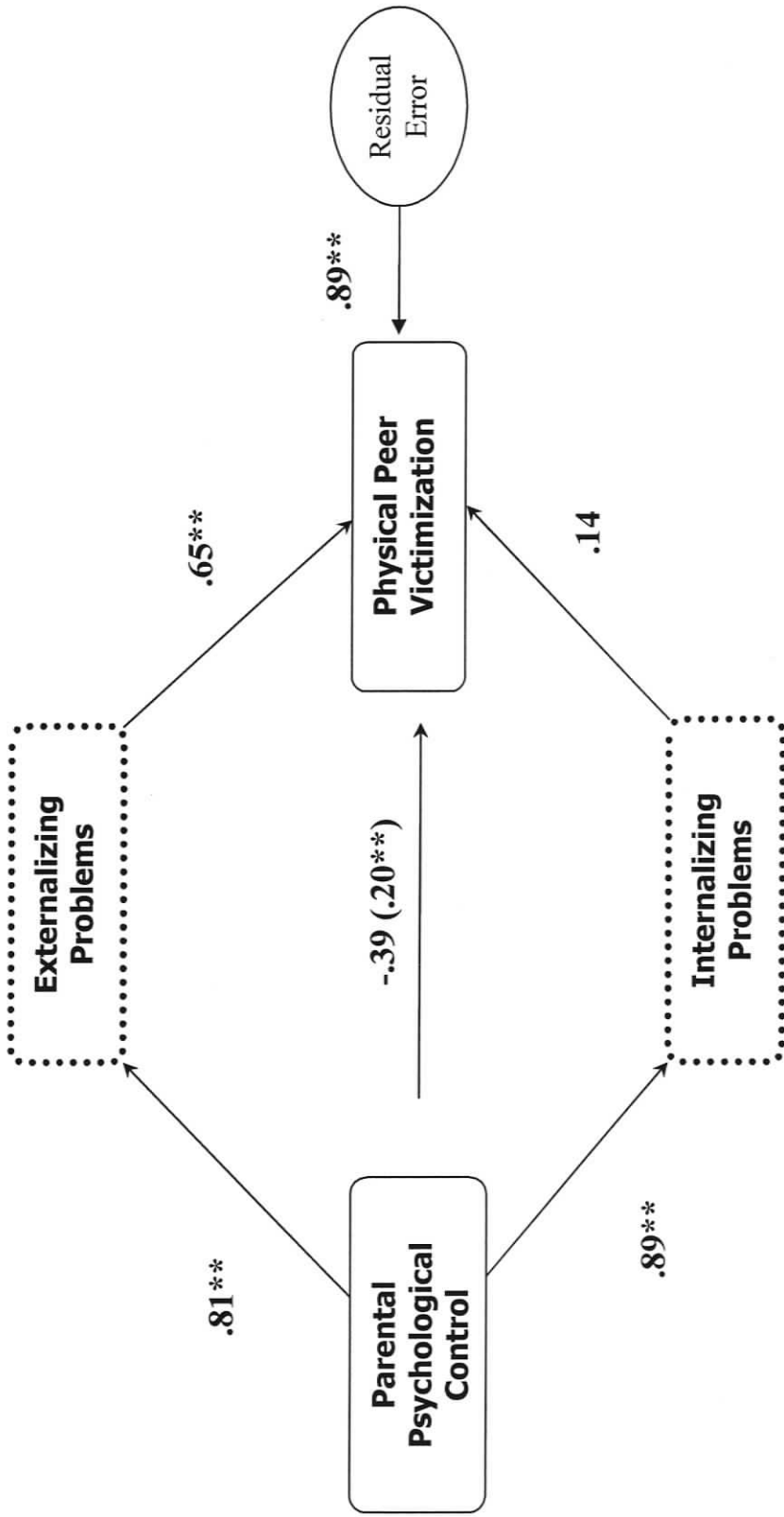


Figure 4. Standardized path coefficients between latent variables for the model predicting physical peer victimization.

Note. Value in parentheses is the coefficient for the association between parental psychological control and physical peer victimization prior to the entry of the mediating variables into the model. * $<.05$, ** $<.01$

For the model describing the mediation of relational peer victimization, the gender invariance model was a reasonable fit to the data, $\chi^2(125) = 312.67, p < .001, \chi^2/df = 2.50, CFI = .91, RMSEA = .05$, as was the gender difference model, $\chi^2(120) = 302.42, p < .001, \chi^2/df = 2.52, CFI = .90, RMSEA = .05$. However, the results of the model comparison indicated that there was no significant difference between the constrained and unconstrained model, $\Delta\chi^2(5) = 10.25, p = .07$, indicating that the structural model is invariant across gender (see Table 5). Overall, the gender invariance model accounted for 49% of the variance in relational peer victimization among boys and 45% of the relational peer victimization among girls.

For the model describing the mediation of physical peer victimization, the gender invariance model was a good fit to the data, $\chi^2(125) = 268.94, p < .001, \chi^2/df = 2.15, CFI = .92, RMSEA = .04$, as was the gender difference model, $\chi^2(120) = 262.36, p < .001, \chi^2/df = 2.19, CFI = .92, RMSEA = .04$. Once again, the results of the model comparison showed that constraining the fit of the gender difference model was not significantly better than the more parsimonious gender invariance model, $\Delta\chi^2(5) = 6.60, p = .25$ (see Table 6). Overall, the gender invariance model accounted for 17% of the variance in physical peer victimization among boys and 27% of the variance in physical peer victimization among girls.

Table 6

Comparison of Gender Invariance and Gender Difference Models Predicting Relational Peer Victimization

Models	χ^2	df	χ^2/df	CFI	RMSEA	$\Delta\chi^2$	<i>p</i>
Gender invariance							
1: parental psychological control → relational peer victimization + parental psychological control → internalizing problems → relational peer victimization + parental psychological control → externalizing problems → relational peer victimization	312.67	125	2.50	.91	.04	10.27	.07
Gender difference							
2: parental psychological control → relational peer victimization + parental psychological control → internalizing problems → relational peer victimization + parental psychological control → externalizing problems → relational peer victimization	302.42	120	2.52	.91	.05		

Table 7

Comparison of Gender Invariance and Gender Difference Models Predicting Physical Peer Victimization.

Models	χ^2	df	χ^2/df	CFI	RMSEA	$\Delta\chi^2$	<i>p</i>
Gender invariance							
1: parental psychological control → physical peer victimization + parental psychological control → internalizing problems → physical peer victimization + parental psychological control → externalizing problems → physical peer victimization	268.96	125	2.15	.92	.04	6.60	.25
Gender difference							
2: parental psychological control → physical peer victimization + parental psychological control → internalizing problems → physical peer victimization + parental psychological control → externalizing problems → physical peer victimization	262.36	120	2.19	.92	.04		

Age Differences in Path Coefficients of the Mediation Models

To examine whether or not the mediational models are the same for younger and older adolescents, age invariance models in which the path coefficients between the variables were constrained to be equal for younger and older adolescents were compared to age difference models in which the path coefficients were not constrained.

For the model describing the mediation of relational peer victimization, the age invariance model was a reasonable fit to the data, $\chi^2(125) = 319.46, p < .001, \chi^2/df = 2.56, CFI = .87, RMSEA = .05$, as was the age difference model, $\chi^2(120) = 300.66, p < .001, \chi^2/df = 2.51, CFI = .87, RMSEA = .05$. The results of the model comparison showed the path coefficients varied significantly across the age groups, $\Delta\chi^2(5) = 18.80, p = .002$ (see Table 7). As shown in Figure 5, the parameter estimates revealed that, for younger adolescents, the path coefficient between parental psychological control was negatively associated with relational peer victimization ($\beta = -.86, p = .03$) when the mediators were in the model. In addition, although the path coefficient from internalizing problems to relational peer victimization was significant ($\beta = .58, p < .01$), the path coefficient from externalizing problems to relational peer victimization was not significant. For older adolescents, neither the path coefficients between the mediators and relational peer victimization nor that between parental psychological control and relational peer victimization were significant. Overall, the age difference model accounted for 40% of the variance in relational peer victimization among younger adolescents.

For the model describing the mediation of physical peer victimization, the age invariance model was a reasonable fit to the data, $\chi^2(125) = 258.63, p < .001, \chi^2/df = 2.10, CFI = .88, RMSEA = .05$, as was the age difference model, $\chi^2(120) = 240.69, p < .001,$

$\chi^2/df = 2.01$, CFI = .89, RMSEA = .04. Once again, the results of the model comparison indicated that the path coefficients varied significantly across age, $\Delta\chi^2(5) = 17.94$, $p = .003$ (see Table 7). The path coefficients in this mediational model for younger and older adolescents are reported in Figure 6. In this model, externalizing problems still mediated the relationship between parental psychological control and physical peer victimization. However, the path coefficient between externalizing problems and physical peer victimization was smaller for older adolescents ($\beta = .37$, $p = .04$) than for younger adolescents ($\beta = .79$, $p = .05$). Overall, the age difference model accounted for 40% of the variance in physical peer victimization among younger adolescents and 14% of the variance in physical peer victimization among older adolescents.

Table 8
Comparison of Age Invariance and Age Difference Models Predicting Relational Peer Victimization.

Models	χ^2	df	χ^2/df	CFI	RMSEA	$\Delta\chi^2$	<i>p</i>
Age invariance							
1: parental psychological control → relational peer victimization + parental psychological control → internalizing problems → relational peer victimization + parental psychological control → externalizing problems → relational peer victimization	319.46	125	2.56	.86	.05	18.80	<.01
Age difference							
2: parental psychological control → relational peer victimization + parental psychological control → internalizing problems → relational peer victimization + parental psychological control → externalizing problems → relational peer victimization	300.66	120	2.50	.87	.05		

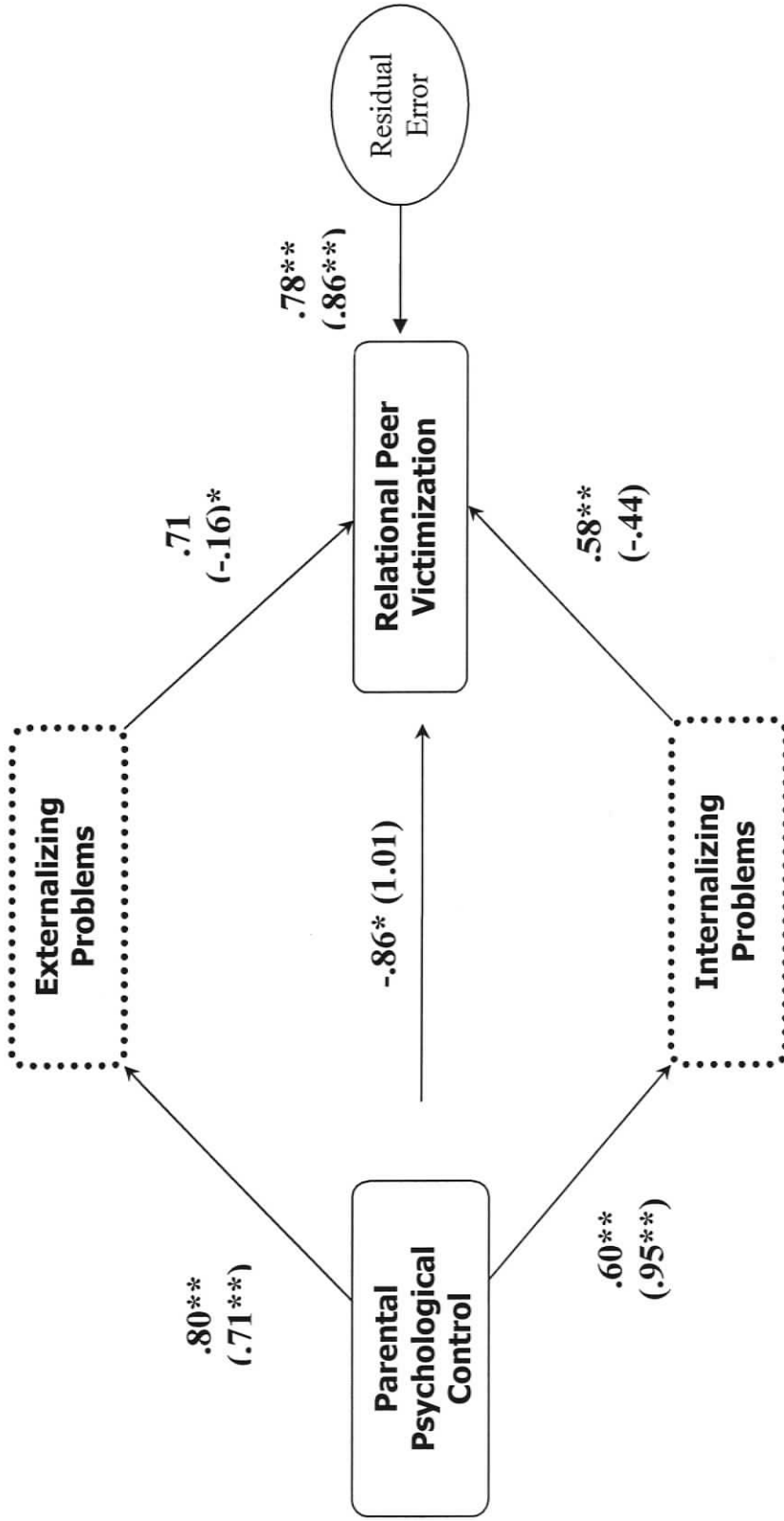


Figure 5. Standardized path coefficients between latent variables for the models predicting relational peer victimization for younger and older adolescents.

Note. Value outside parentheses are the standardized path coefficients for the younger adolescents; values in parentheses are the standardized path coefficients for the older adolescents. * $<.05$, ** $<.01$

Table 9

Comparison of Age Invariance and Age Difference Models Predicting Physical Peer Victimization..

Models	χ^2	df	χ^2/df	CFI	RMSEA	$\Delta\chi^2$	<i>p</i>
Age invariance							
1: parental psychological control → physical peer victimization + parental psychological control → internalizing problems → physical peer victimization + parental psychological control → externalizing problems → physical peer victimization	258.63	125	2.07	.88	.05	17.94	<.01
Age difference							
2: parental psychological control → physical peer victimization + parental psychological control → internalizing problems → physical peer victimization + parental psychological control → externalizing problems → physical peer victimization	240.69	120	2.01	.89	.04		

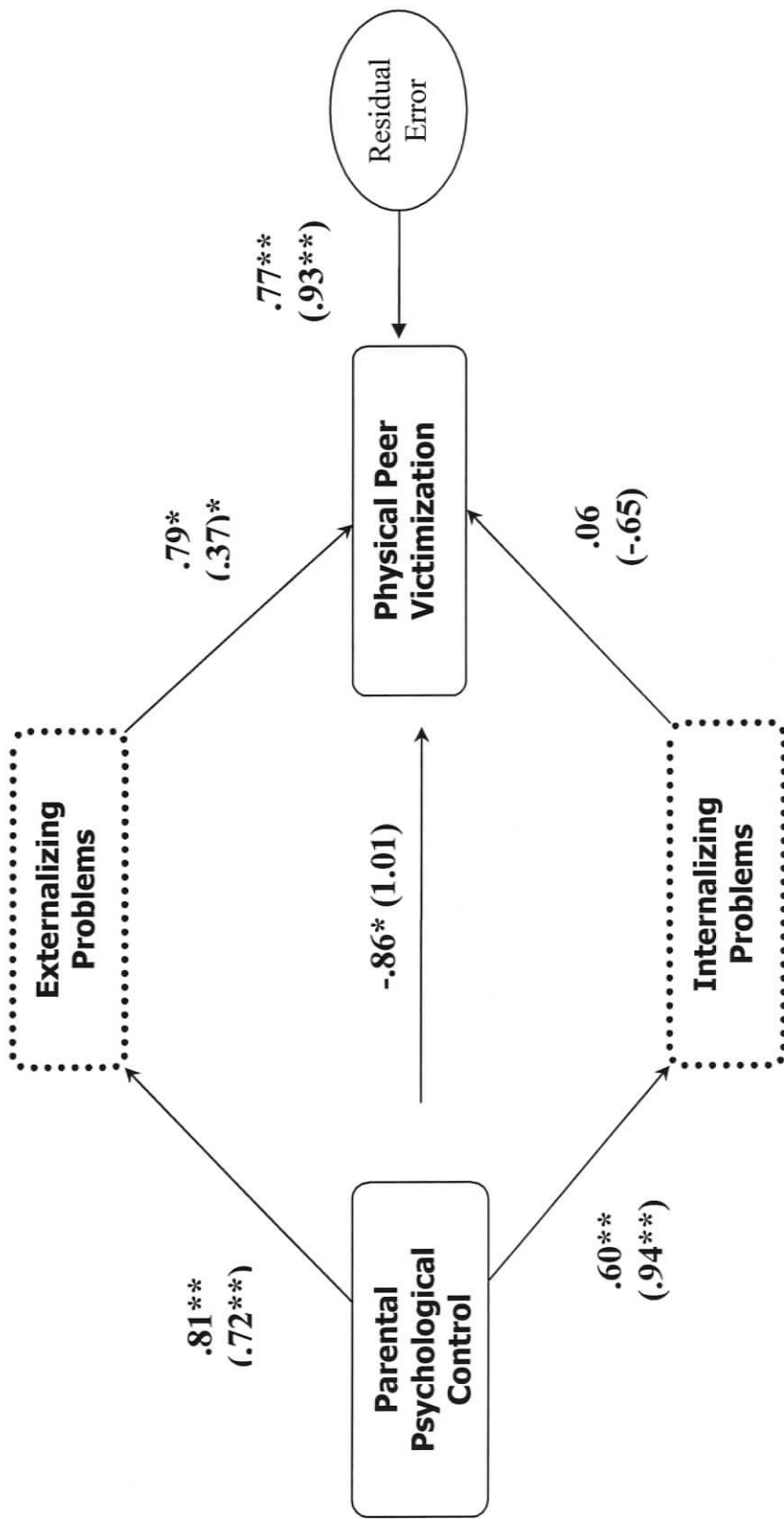


Figure 6. Standardized path coefficients between latent variables for the models predicting physical peer victimization for younger and older adolescents.

Note. Value outside parentheses are the standardized path coefficients for the younger adolescents; values in parentheses are the standardized path coefficients for the older adolescents. * $<.05$, ** $<.01$

Discussion

The negative impact of parental psychological control on the social and emotional development of children and adolescents has been well-documented in previous research. However, the present study is among the first to examine the effect of parental psychological control on relational and physical victimization by peers in adolescence. In addition, although the links between parental psychological control and adolescents' adjustment problems have been investigated by others, the present study adds to this evidentiary base by examining the function of internalizing and externalizing problems as mediators of the link between parental psychological control and adolescents' experience of peer victimization. Furthermore, few previous investigations have examined how the effects of parental psychological control vary depending on the gender and age of adolescents. The role of these demographic variables is clarified in this study.

The Mediating Role of Adolescents' Internalizing Problems

Unexpectedly, the mediating role of adolescents' internalizing problems in the link between parental psychological control and adolescents' experience of peer victimization differed for relational and physical peer victimization. These differences are discussed below.

Relational peer victimization. Consistent with the hypotheses of this study, adolescents' internalizing problems mediated the link between parental psychological control and relational victimization of adolescents by their peers. This result is congruent with previous findings that identify parental psychological control as a particularly salient predictor of internalizing problems among adolescents (Barber, 1996; Barber & Harmon, 2002; Barber et al., 2005). It also is congruent with previous evidence that internalizing

problems are antecedents of peer victimization among children (Bukowski & Sippola, 2001; Hodges & Perry, 1999). As suggested by Perry and colleagues' (2001) social-cognitive model, it seems that experiences with psychologically controlling parents may inadvertently undermine adolescents' ability to deter peers from victimizing them. Specifically, through interactions with psychologically controlling parents, adolescents may develop feelings of depression, anxiety, and insecurity when they are away from their parents and these feelings may lead adolescents to submit to victimization rather than defend themselves.

Physical peer victimization. Contrary to the hypotheses of this study, adolescents' internalizing problems did not mediate the link between parental psychological control and adolescents' experience of physical peer victimization. This finding is not consistent with the results of studies on children in which internalizing problems predicted both relational and physical peer victimization (Bukowski & Sippola, 2001; Hodges & Perry, 1999). However, it is possible that in adolescence the link between internalizing problems and physical peer victimization dissipates because adolescents with internalizing problems withdraw from threatening social interactions before anyone has the opportunity to hurt them physically or because it is less acceptable at this age to physically attack vulnerable peers. In a study of college students, aged 18 to 23 years, violence against peers was deemed unacceptable unless it was justifiable as a defense or as a response to provocation (Cauffman, Feldman, Jensen, & Arnett, 2000). Given the tendency of individuals with internalizing problems to back away from conflict, it is unlikely that they would attack or provoke others in ways that would make violence against them justifiable in the eyes of their social group.

The Mediating Role of Adolescents' Externalizing Problems

As anticipated, adolescents' externalizing problems played a mediating role in the link between parental psychological control and physical peer victimization.

Unexpectedly, however, adolescents' externalizing problems also mediated the link between parental psychological control and relational peer victimization. Explanations for these results are explored below.

Relational peer victimization. The finding that adolescents' externalizing problems mediated the link between parental psychological control and relational peer victimization was unexpected because previous research evidence indicated that aggression is associated with high social status among children and young adolescents (LaFontana & Cillessen, 2002; Prinstein & Cillessen, 2003). It was, therefore, hypothesized that adolescents with externalizing problems would not be vulnerable to relational peer victimization, which involves harm to individuals' social relationships. One reason that this expectation did not hold up in the present study may be that as externalizing behaviors become increasingly non-normative during adolescence (Bongers, Koot, van der Ende, & Verhulst, 2004), adolescents may find it necessary to protect the homogeneity and maintenance of the group by cutting off social ties with peers who have externalizing problems. Supporting this possibility is evidence that as children get older they believe it is increasingly acceptable to exclude individuals from peer groups when their inclusion threatens group functioning (Killen & Stangor, 2001).

Physical peer victimization. In keeping with the hypotheses of this study, adolescents' externalizing problems mediated the link between parental psychological control and adolescents' experience of physical peer victimization. This finding is

consistent with some evidence from previous studies that implicates parental psychological control as a predictor of externalizing problems for adolescents (Barber et al., 2005; Conger et al., 1997). The present study adds to the evidence that when measures of externalizing problems are based on more than delinquent conduct, links between parental psychological control and adolescents' externalizing problems are uncovered. The findings of the present study also are consistent with evidence that, although physically aggressive children are popular with their peers (LaFontana & Cillessen, 2002; Prinstein & Cillessen, 2003), physically aggressive adolescents are at increased risk for physical peer victimization (Leadbeater et al., in press).

As suggested by Perry and colleagues' (2001) social-cognitive model, it is possible that adolescents develop externalizing problems as they try to protect themselves or retaliate against the intrusion of parental psychological control. In the peer context, however, externalizing problems may provoke adolescents' peers to acts of physical victimization.

The Effect of Gender

Despite gender differences in mean-levels of internalizing problems, externalizing problems, and physical peer victimization, the results of the present study indicate that adolescents' adjustment problems operate similarly for girls and boys in the mediational models. This is consistent with findings that the effects of parental psychological control on adolescents' levels of internalizing and externalizing problems are not differentiated by gender even though vulnerability for these adjustment problems tends to be gender-linked (Barber et al., 2005). The present study contributes to the mounting evidence that

parental psychological control is detrimental to the well-being of adolescents regardless of their gender status.

The Effect of Age

Consistent with the previously reviewed research showing age effects on each of the variables in this study, significant age differences were found in the mean-levels of each variable, except for externalizing problems. The effect of age also was observed on the structure of the mediational models.

Relational peer victimization. For the younger age group, the link between parental psychological control and relational peer victimization was only partially mediated by internalizing problems. In addition, the association between parental psychological control and relational peer victimization was negative with the mediators in the model. One possible explanation for this surprising result is that, after adolescents with internalizing problems were accounted for, the remaining younger adolescents represented a group that was unusually resilient against the negative repercussions of parental psychological control, including relational peer victimization.

For the older group, parental psychological control did not predict relational peer victimization. Although parental psychological control may be linked with other problems among older adolescents, this finding suggests that it does not contribute to relational peer victimization in this age group.

Physical peer victimization. The effect of age differences in models for which physical peer victimization was the outcome did not alter the pattern of findings from models based on the whole sample of adolescents in the study. Externalizing problems fully mediated the link between parental psychological control and physical peer

victimization for younger and older adolescents. However, the association between externalizing problems was lower among the older adolescents than among the younger adolescents. Like the previous result, this finding suggests that the salience of parental psychological control declines across adolescence with regard to its influence on physical peer victimization.

Limitations

The results of this cross-sectional study show that parental psychological control is linked with adolescents' experience of peer victimization, adolescents' adjustment problems contribute to this link as mediators, and the structure of relationships between these variables differs between younger and older adolescents. Longitudinal data is needed, however, to assess the stability and change in the structure of the models over time and to examine the directionality of the relations specified in the models. It may be that reciprocal relations between parental psychological control, adolescents' adjustment problems, and adolescents' experience of peer victimization are part of the mechanism through which parental psychological control exerts a negative influence over adolescents' well-being. Research evidence indicates, for example, that genes shared by parents and their children underpin reciprocal relations between parental behaviors (including negativity, support, and monitoring), parent-child conflict, and adjustment problems (including depression and anti-social behavior) in children and adolescents (Burt, McGue, Krueger, & Iacono, 2005; Loehlin, Neiderhiser, & Reiss, 2005). Shared genes may be part of the mechanism linking parental psychological control and adolescents' internalizing and externalizing problems.

This study relied exclusively on self-report data, which may have inflated the relationships between the variables because of shared method variance. It seems unlikely that this bias affected the findings substantially, however, because different relations between the variables were observed across the different models. Nevertheless, future studies should consider using parent and peer reports in order to verify the findings reported here. The results of study on cross-informant measures of peer victimization in children from kindergarten to grade four indicate that composite scores based on self, peer, parent, and teacher reports provide more reliable and representative data on peer victimization relative to single informant measures (Ladd & Kochenderfer-Ladd, 2002). Data from observational measures of parental psychological control and peer victimization also would add depth to the evidence. In addition, although previous research by Barber and colleagues (2005) indicates that the effects of parental psychological control are consistent across parent gender and, in this study, maternal and paternal psychological control were moderately correlated, future studies should confirm that the models function similarly in adolescents' relationships with mother and fathers.

Finally, this model should be tested with other, more culturally and economically diverse populations. Although the effects of parental psychological control on children and adolescents' internalizing and externalizing problems have been documented as similar across a wide range of cultural and economic contexts (Barber et al., 2005), it is possible that differences arise in the mechanisms through which parental psychological control affects adolescents' experience of peer victimization.

Conclusion

This study contributes to understanding how the quality of adolescents' relationships with their parents can influence their experiences in interactions with their peers. Specifically, the results of this study implicate both adolescents' internalizing problems and externalizing problems in the chain of intervening factors that link parental psychological control to adolescents' experience of peer victimization. Moreover, the results indicate that these links operate the same for both girls and boys, which suggests that attempts to intervene in this negative process could generalize across gender. Findings from this study also advance knowledge about changes in parental influence over adolescents across age. It appears that parental psychological control is most closely linked with peer victimization among younger adolescents, suggesting that it is imperative to target interventions towards this age group because they are most vulnerable to the damaging effects of parental psychological control on their interactions with peers.

Bibliography

- Allen, J. P., Hauser, S. T., Eickholt, Bell, K. L., & O'Connor, T. G. (1994a). Autonomy and relatedness in family interactions as predictors of expressions of negative adolescent affect. *Journal of Research on Adolescence*, 4 (4), 535-552.
- Allen, J. P., Hauser, S. T., Bell, K. L., & O'Connor, T. G. (1994b). Longitudinal assessment of autonomy and relatedness in adolescent family interactions as predictors of adolescent ego development and self-esteem. *Child Development*, 65, 179-94.
- Arbuckle, J.L. (2003). Amos 5.0 update to Amos user's guide. Chicago, IL: Smallwaters Corporation.
- Barber, B. K. (1996). Parental psychological control: Revisiting a neglected construct. *Child Development*, 67, 3296-3319.
- Barber, B. K., Bean, R. L., & Erikson, L. D. (2002). Expanding the study and understanding of psychological control. In B. K. Barber (Ed.). *Intrusive Parenting: How Psychological Control Affects Children and Adolescents* (pp. 263-289). Washington, DC: American Psychological Association.
- Barber, B. K., & Harmon, E. L. (2002). Violating the self: Parent psychological control of children and adolescents. In B. K. Barber (Ed.). *Intrusive Parenting: How Psychological Control Affects Children and Adolescents* (pp. 15-52). Washington, DC: American Psychological Association.
- Barber, B. K., Olsen, J. E., & Shagle, S. C. (1994). Associations between parental psychological and behavioral control and youth internalized and externalized behaviors. *Child Development*, 65, 1120-1136.
- Barber, B. K., Stolz, H. E., & Olsen, J. A. (2005). Parental support, psychological control, and behavioral control: Assessing relevance across time, culture, and method. In W. F. Overton (Ed.). *Monographs of the Society for Research on Child Development*. Boston: Blackwell Publishing.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of personality and social psychology*, 51 (6), 1173-1182.
- Björkqvist, K., Lagerspetz, K. M., & Kaukiainen, A. (1992). Do girl manipulate and boys fight? Developmental trends in regard to direct and indirect aggression. *Aggressive Behavior*, 18, 117-127.

- Bongers, I. L., Koot, H. M., van der Ende, J., & Verhulst, F. C. (2003). The normative development of child and adolescent problem behavior. *Journal of Abnormal Psychology, 112* (2), 179-192.
- 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* (5), 1523-1537.
- Bukowski, W. M., & Sippola, L. K. (2001). Groups, individuals, and victimization: A view of the peer system. In J. Juvonen and S. Graham (Eds.) *Peer Harassment in School: The Plight of the Vulnerable and Victimized*. (pp. 355-377) New York: The Guildford Press.
- Burt, S. A., McGue, M., Krueger, R. F., & Iacono, W.G., (2005). How are parent-child conflict and childhood externalizing symptoms related over time? Results from a genetically informative cross-lagged study. *Development and Psychopathology, 17*, 145-165.
- Cauffman, E., Feldman, S. S., Jensen, L. A., Arnett, J. J. (2000). The (un)acceptability of violence against peers and dates. *Journal of Adolescent Research, 15* (6), 652-673.
- Coleman, P. K., & Byrd, C. P. (2003). Interpersonal correlates of peer victimization among young adolescents. *Journal of Youth and Adolescence, 32* (4), 301-314.
- Conger, K. J., Conger, R. D., & Scaramella, L. V. (1997). Parents, siblings, psychological control and adolescent adjustment. *Journal of Adolescent Research, 12* (1), 113-138.
- Costigan, C. L., Cause, A. M., & Etchison, K. (2006). Changes in African-American mother-daughter relationships during adolescence: Conflict, autonomy, and warmth.
- Crick, N. R., & Bigbee, M. A. (1998). Relational and overt forms of peer victimization: A multiinformant approach. *Journal of Consulting and Clinical Psychology, 66* (2), 337-347.
- Crick, N. R., & Dodge, K. A. (1996). Social information-processing mechanisms in reactive and proactive aggression. *Child Development, 67*, 993-1002.
- Crick, N. R., & Grotpeter, J. K. (1996). Children's treatment by peers: Victims of relational and overt aggression. *Development and Psychopathology, 8*, 367-380.
- Crick, N. R., Grotpeter, J. K., & Bigbee, M. A. (2002). Relationally and physically aggressive children's intent attributions and feelings of distress for relational and instrumental peer provocations. *Child Development, 73* (4), 1134-1142.

- Cunningham, C. E., Pettingill, P., & Boyle, M. (2001). *The Brief Child and Family Phone Interview (BCFPI-2): Interviewers Manual*. Hamilton Health Services: Canadian Center for the Study of Children at Risk.
- Erickson, E. H. (1968). *Identity: Youth and Crisis*, New York: W. W. Norton & Company, Inc.
- Frazier, P. A., Tix, A. P., & Barron, K. E. (2004). Testing moderator and mediator effect in counseling psychology research. *Journal of Counseling Psychology, 51* (1), 115-134.
- Hawley, P. H., Little, T. D., & Pasupathi, M. (2002). Winning friends and influencing peers: Strategies of peer influence in late childhood. *International Journal of Behavioral Development, 26* (5), 466-474.
- Hodges, E. V., Malone, M. J., & Perry, D. G. (1997). Individual risk and social risk as interacting determinants of victimization in the peer group. *Developmental Psychology, 33* (6), 1032-1039.
- Hodges, E. V., & Perry, D. G. (1999) Personal and interpersonal antecedents and consequences of victimization by peers. *Journal of Personality and Social Psychology, 76* (4), 677-685.
- Hoyle, R. H., & Smith, G. T. (1994). Formulating clinical research hypotheses as structural equation models: A conceptual overview. *Journal of Consulting and Clinical Psychology, 62* (3), 419-440.
- Killen, M., & Stangor, C. (2001). Children's social reasoning about inclusion and exclusion in gender and race peer group contexts. *Child Development, 72* (1), 174-186.
- Kline, R. B. (2005). *Principles and Practice of Structural Equation Modeling* (2nd ed.). New York: The Guilford Press.
- Kochenderfer, B. J., & Ladd, G. W. (1997). Victimized children's responses to peers' aggression: Behaviors associated with reduced versus continued victimization. *Development and Psychopathology, 9*, 59-73.
- Ladd, G. W., & Kochenderfer-Ladd, B. (1998). Parenting behaviors and parent-child relationships: Correlates of peer victimization in kindergarten? *Developmental Psychology, 34* (6), 1450-1458.
- Ladd, G. W., & Kochenderfer-Ladd, B. (2002). Identifying victims of peer aggression from early to middle childhood: Analysis of cross-informant data for concordance, estimation of relational adjustment, prevalence of victimization, and characteristics of identified victims. *Psychological Assessment, 14* (1), 74-96.

- LaFontana, K. M., & Cillessen, A. H. (2002). Children's perceptions of popular and unpopular peers: A multimethod assessment. *Developmental Psychology, 38*, 635-647.
- Leadbeater, B. J., Blatt, S. J., & Quinlan, D. M. (1995). Gender-linked vulnerabilities to depressive symptoms, stress, and problem behaviors in adolescents. *Journal of Research on Adolescence, 5* (1), 1-29.
- Leadbeater, B. J., Boone, E. M., Sangster, N. A., & Mathieson, L. C. (in press). Sex differences in the costs and benefits of relational and physical aggression in high school. *Aggressive Behavior*.
- Leadbeater, B. J., Kuperminc, G. P., Blatt, S. J., & Hertzog, C. (1999). A multivariate model of gender differences in adolescents' internalizing and externalizing problems. *Developmental Psychology, 35* (5), 1268-1282.
- Lerner, R. & Kauffman, M. B. (1985). The concept of development in contextualism. *Developmental Review, 5*, 309-333.
- Linder, J. R., & Collins, W. A. (2005). Parent and peer predictors of physical aggression and conflict management in romantic relationships in early adulthood. *Journal of Family Psychology, 19* (2), 252-262.
- Liu, G., Leadbeater, B. J., Youngblade, L. M., Foran, K., & Jansson, M. K. (2006). *Individual and neighborhood predictors of youth injuries: Does socio-economic environment matter?* Poster presentation at the Society for Research on Adolescence 11th Biennial Meeting. San Francisco, California, March 23-26, 2006.
- Loehine, J. C., Neiderhiser, J. M., & Reiss, D. (2005). Genetic and environmental components of adolescent adjustment and parental behavior: A multivariate analysis. *Child Development, 76* (5), 1104-1115.
- Nelson, D. R., & Crick, N. R. (2002). Parental psychological control: Implications for childhood physical and relational aggression. In B. K. Barber (Ed.), *Intrusive Parenting: How Psychological Control Affects Children and Adolescents* (pp. 161-189). Washington, DC: American Psychological Association.
- Ollendick, T. H., & Vasey, M. W. (1999). Developmental theory and the practice of clinical child psychology. *Journal of Clinical Child Psychology, 28* (4), 457-466.
- Olweus, D. (1991). Bully/victim problems among school children: Basic facts and effects of a school based intervention program. In D. J. Pepler & K. H. Rubin (Eds.), *The Development and Treatment of Childhood Aggression* (pp. 411-449). Hillsdale, N.J.: Lawrence Erlbaum Associates.

- Pellegrini, A. D., & Long, J. D. (2002). A longitudinal study of bullying, dominance, and victimization during the transition from primary school through secondary school. *British Journal of Developmental Psychology*, *20*, 259-280.
- Perry, D. G., Hodges, E. V., & Egan, S. K. (2001). Determinants of chronic victimization by peers: A review and new model of family influence. . In J. Juvonen & S. Graham (Eds.). *Peer Harassment in School: The Plight of the Vulnerable and Victimized* (pp. 73-104). New York: Guilford Press.
- Prinstein, M. J., & Cillessen, A. H. (2003). Forms and functions of adolescent peer aggression associated with high levels of peer status. *Merrill-Palmer Quarterly*, *49* (3), 310-342.
- Rogers, K. N., Buchanan, C. M., & Wichell, M. E. (2003). Psychological control during early adolescence: Links to adjustment in differing parent/adolescent dyads. *Journal of Early Adolescence*, *23* (4), 349-383.
- Roland, E., & Idsøe, T. (2001). Aggression and bullying. *Aggressive Behavior*, *27*, 446-462.
- Smith, P. K., Shu, S., & Madsen, K. (2001). Characteristics of victims in school bullying: Developmental changes in coping strategies and skills. In J. Juvonen and S. Graham (Eds.) *Peer Harassment in School: The Plight of the Vulnerable and Victimized*. (pp. 332-351). New York: The Guildford Press.
- Snyder, J., Brooker, M., Patrick, M. R., Snyder, A., Schrepferman, L., & Stoolmiller, M. (2003). Observed peer victimization during early elementary school: Continuity, growth, and relation to risk for child antisocial and depressive behavior. *Child Development*, *74* (6), 1881-1898.
- Stone, G., Buehler, C., & Barber, B. K. (2002). Interparental conflict, parental psychological control, and youth problem behavior. In B. K. Barber (Ed.). *Intrusive Parenting: How Psychological Control Affects Children and Adolescents* (pp. 15-52). Washington, DC: American Psychological Association.
- Storch, E. A., Crisp, H., Roberti, J. W., Bagner, D. M., & Masia-Warner, C. (2005). Psychometric evaluation of the social experiences questionnaire in adolescents: Descriptive data, reliability, and factorial validity. *Child Psychiatry and Human Development*, *74* (2), 167-176.
- Ullman, J. B. (2001). Structural equation modeling. In B.G. Tabachnick & L. S. Fidell (Eds.), *Using Multivariate Statistics* (pp.653-771). Boston: Allyn and Bacon.

Appendix A: Peer Victimization Self-Report Questionnaire

Directions: Here is a list of things that people your age (peers) sometimes do. How often do they happen to you?	Never	Sometimes	Almost all the Time
a) How often do your peers leave you out on purpose when it is time to do an activity?	1	2	3
b) How often do you get hit by your peers?	1	2	3
c) How often does a peer who is mad at you try to get back at you by not letting you be in the group?	1	2	3
d) How often do your peers yell at you or call you mean names?	1	2	3
e) How often do you get pushed or shoved by your peers?	1	2	3
f) How often do your peers tell lies about you to make others not like you anymore?	1	2	3
g) How often do your peers kick you or pull your hair?	1	2	3
h) How often do your peers say they won't like you unless you do what they want you to do?	1	2	3
i) How often do your peers say they will beat you up if you don't do what they want you to do?	1	2	3
j) How often do your peers try to keep others from liking you by saying mean things about you?	1	2	3

Appendix B: Internalizing Problems Self-Report Questionnaire

Directions: Do you notice that you...	Never	Sometimes	Often
a) worry that something bad will happen to the people you are close to?	1	2	3
b) worry about being separated from those you are close to?	1	2	3
c) are scared to go to sleep without your parents nearby?	1	2	3
d) become overly upset when leaving someone you are close to?	1	2	3
e) become overly upset while away from someone you are close to?	1	2	3
f) feel sick before being separated from those you are close to?	1	2	3
g) worry about doing better at things?	1	2	3
h) worry about past behaviors?	1	2	3
i) worry about doing the wrong thing?	1	2	3
j) worry about things in the future?	1	2	3
k) are afraid of making mistakes?	1	2	3
l) are overly anxious to please people?	1	2	3
m) have no interest in your usual activities?	1	2	3
n) get no pleasure from your usual activities?	1	2	3
o) have trouble enjoying yourself?	1	2	3
p) are not as happy as other people your age?	1	2	3
q) feel hopeless?	1	2	3
r) are unhappy, sad or depressed?	1	2	3

Appendix C: Externalizing Problems Self-Report Questionnaire

Directions: Do you notice that you...	Never	Sometimes	Often
a) are easily distracted or have trouble sticking to activities?	1	2	3
b) fail to finish things you start?	1	2	3
c) have difficulty following directions or instructions?	1	2	3
d) are impulsive, or that you act without stopping to think?	1	2	3
e) jump from one activity to the next?	1	2	3
f) fidget?	1	2	3
g) are cranky?	1	2	3
h) are defiant, or that you talk back to people?	1	2	3
i) blame others for your own mistakes?	1	2	3
j) are easily annoyed by others?	1	2	3
k) argue a lot with adults?	1	2	3
l) are angry and resentful?	1	2	3
Directions: How often do you...			
m) steal things at home?	1	2	3
n) destroy things that belong to others?	1	2	3
o) damage school or other property?	1	2	3
p) break into someone else's house, building, or car?	1	2	3
q) physically attack people?	1	2	3
r) use weapons when fighting?	1	2	3

Appendix D: Parental Psychological Control Scale – Youth Self-Report

Directions: How much do you feel the following statements are like your “father/mother”?	Not like him/her	Somewhat like him/her	Like him/her
My “father/mother” is a person who...			
a) is always trying to change how I feel or think about things.	1	2	3
b) changes the subject whenever I have something to say.	1	2	3
c) often interrupts me.	1	2	3
d) blames me for other family members’ problems.	1	2	3
e) brings up past mistakes when he/she criticizes me.	1	2	3
f) is less friendly with me if I do not see things his/her way.	1	2	3
g) will avoid looking at me when I disappoint him/ her.	1	2	3
h) if I hurt his/her feelings, stops talking to me until I please him/her.	1	2	3