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Parents are important socialization agents in terms of adolescents' social, emotional, and behavioral development. Yet few studies have examined the relationship between parenting behaviors and adolescents' friendship competence during adolescence. Furthermore, the generative mechanisms by which parents affect adolescents' friendship competence are not well understood. The current study examined the prospective relationship between parenting behaviors in early adolescence and adolescents' friendship competence during middle adolescence in a community-based sample of 416 two-parent families living in the Southeastern United States. Social learning theory and attachment theory were used to deduce two generative mechanisms by which parenting affected adolescents' development of friendship competence. Gender differences also were examined.

Several important findings emerged. Psychological control was the only parenting behavior that was uniquely associated with friendship intimacy and conflict behaviors in adolescents' friendships. Adolescents' perceptions of attachment insecurity fully mediated the relationship between psychological control and adolescents' intimacy behaviors. These findings highlight the importance of parents' psychological control in relation to adolescents' friendship competence. Parental hostility and warmth were not uniquely associated with friendship competence, directly or indirectly. Socioemotional behaviors did not uniquely explain the relationship between parenting behaviors and

friendship competence. No gender differences were found. Results supported an attachment theory perspective and indicated that adolescents' problems with intimacy promoting behaviors in friendships are largely a function of adolescents' perceptions of insecure attachment to parents that make it difficult to be supportive and satisfied in close relationships with age-mates. Results contribute to previous research by examining why parenting behaviors affect adolescents' friendship competence during a particularly sensitive period for the development of this competency.

UNDERSTANDING THE LINK BETWEEN PARENTING BEHAVIORS AND  
FRIENDSHIP COMPETENCE: SOCIOEMOTIONAL  
PROBLEMS OR ATTACHMENT  
INSECURITY?

By

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APPROVAL PAGE

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## CHAPTER I

### INTRODUCTION

Competence in the context of friendship is an important developmental task for adolescents (Sullivan, 1953). Competencies needed to maintain friendships during adolescence differ somewhat from competencies needed to maintain relationships with childhood friends and may be more similar to those needed in adult relationships (Buhrmester, 1990; Engels, Finkenauer, Dekovic, & Meeus, 2001). Friendship competence during adolescence includes establishing intimacy, giving and receiving support, and managing conflict (Burlinson, 1995). Adolescents who have difficulty mastering these competencies are at risk for troubled friendships (Demir & Urberg, 2004). Lower friendship competence is associated with behavioral and psychological problems during adolescence (Allen, Porter, & McFarland, 2006; Hussong, 2000). Furthermore, adolescents who have difficulty forming competent relationships with friends are at a greater risk of not successfully resolving important developmental tasks during young adulthood (Fullerton & Ursano, 1994; Roisman, Masten, Coatsworth, & Tellegen, 2004).

Adolescents' relationships with parents are important predictors of friendship competence (Cui, Conger, Bryant, & Elder, 2002; Engels et al., 2001). However, few studies have examined processes by which parenting affects adolescents' friendships. Social learning theory and attachment theory can be used to deduce two different

pathways by which specific parenting behaviors affect friendship competence. *Social learning theory* proposes that parents influence friendship competence because adolescents learn a particular interaction style with parents that youth then enact in interactions with friends (Bandura, 1986). Adolescents who have developed unskilled, aggressive, coercive, manipulative, and withdrawn behaviors through negative interactions with parents may have difficulty establishing intimacy and managing conflict in friendships (Capaldi & Clark, 1998; Capaldi, Pears, Patterson, & Owen, 2003). Furthermore, adolescents who have externalizing and internalizing problems may select into friendships with others who reinforce these behaviors and as a result experience problems within the friendship (Rubin, Chen, Coplan, Buskirk, & Wojslawowicz, 2005). *Attachment theory* suggests that parents influence social relationships by providing adolescents with a secure base from which to explore other relationship contexts. Adolescents who report feeling insecurely attached to parents may find it difficult to develop close and intimate relationships with others (Bowlby, 1988). No studies have specifically tested whether parents influence friendship competence through adolescents' perceptions of attachment security with parents, through parents' effects on actual behaviors of adolescents (e.g., aggression), or both. Therefore, this study's primary goal is to test a model in which three parenting behaviors during early adolescence uniquely affect friendship competence during middle adolescence through perceptions of attachment security to parents and/or socioemotional problems.

## Substantive Contributions

The current study substantively contributes to the literature in four ways: (a) by providing support for the growing body of research suggesting parenting behaviors in early adolescence are important influences on adolescents' ability to develop competent friendships during middle adolescence; (b) by examining the unique effects of parenting behaviors on friendship competence; (c) by examining two important processes by which parenting may affect friendship competence; and (d) by considering the direct and indirect effects of parenting on two important features of friendship competence.

### *Direct Effects of Parenting Behaviors during Early Adolescence*

Early adolescence is an important time to investigate the effect of parenting behaviors on adolescents' friendship competence. Parenting behaviors employed during early adolescence may have a particularly important influence on youths' ability to accomplish developmental tasks during early and middle adolescence (Erikson, 1968; Galambos, Barker, & Almeida, 2003; Steinberg & Silverberg, 1986; Zimmer-Gembeck & Collins, 2003). Upon the transition to adolescence, parents' and youths' expectancies regarding their relationships with one another often are violated. Mismatches between adolescents' developmental expectations and parents' developmental expectations are highest during early adolescence and stabilize over time (Collins & Repinski, 1994). Violation of expectations may in turn cause problems in the parent-adolescent relationship (Collins, 1995). Although this realignment process is considered normative, parenting behaviors may be adversely impacted upon the transition to adolescence (Conger, Conger, & Scaramella, 1997; Shanahan, McHale, Crouter, & Osgood, 2007;

Shearer, Crouter, & McHale, 2005). Changes in parenting behaviors during early adolescence may be short lived but could have detrimental effects on youths' ability to accomplish salient developmental tasks during this time, such as the development of friendship competence (Call & Mortimer, 2001; Collins & Repinski, 1994). Development of friendship competence may be particularly vulnerable to shifts in parenting behaviors during early adolescence because the development of skills needed in friendships is an important developmental task that youth work toward accomplishing by middle adolescence. Furthermore, development of friendship competence by middle adolescence is critical so that youth can begin to develop other age-related competencies by late adolescence (Brown 2004; Capaldi, Dishion, Stollmiller, & Yoerger, 2001; Connolly, Furman, & Konarski, 2000). Surprisingly, few researchers have directly examined the argument that parenting behaviors during the transition to early adolescence, as opposed to parenting in childhood or middle adolescence, are particularly important to youths' ability to form competent friendships by middle adolescence. The current study contributes to the literature by examining the relationships between parental hostility, psychological control, and lower parental warmth in early adolescence and adolescents' friendship competence in middle adolescence. A focus on the effect of parenting behaviors during this developmental shift is important because it contributes to a growing body of research suggesting that parents do matter during early adolescence and that how parents negotiate the realignment process is critical to youths' ability to complete new tasks and challenges during adolescence.

### *Unique Effect of Parenting Predictors*

Parenting behaviors may affect adolescents' adjustment differentially (Barber, Stolz, & Olson, 2005; Buehler, Benson, & Gerard, 2006). For example, past research and theory has suggested particularly strong relationships between psychological control and internalizing behavior, parental hostility and externalizing behavior, and parental warmth and attachment security (Barber, 1996; Bender et al., 2007; Bowlby, 1988; Patterson, 1982). Few studies have examined simultaneously the effects of multiple aspects of parenting behavior and tested unique relationships between parenting behaviors and several aspects of adolescents' friendship competence. The current study expands on previous work and contributes to the literature by examining if parental hostility, parental psychological control, and lower parental warmth have unique relationships (i.e., statistically significant relationships between two constructs when all other constructs are considered in the same model) with two features of friendship competence during adolescence (intimacy and conflict management). This contribution is important because identifying specific aspects of parenting that have the strongest relationship with the development of specific aspects of adolescents' friendship competence is consistent with efforts by prevention and intervention specialists to increase the cost-effectiveness of programs by targeting and teaching socialization skills to parents that promote specific aspects of adolescents' adjustment (Dishion & Stormshak, 2007).

### *Mediating Mechanisms*

With the exception of Cui et al. (2002), few studies have examined the mediating processes that may explain links between parenting behaviors and friendship competence

during adolescence. The current study tests a model in which higher parental hostility, parental psychological control, and lower parental warmth, are associated with lower friendship competence indirectly through adolescents' socioemotional problems and/or through adolescents' perceptions of insecurity in their attachments to parents. No studies have simultaneously examined insecurity perceptions and problem behaviors as mediating the relationship between parenting behaviors and friendship competence. Tangential research that has separately examined the effect of parenting on attachment insecurity and socioemotional problems and the effect of attachment insecurity and socioemotional problems on friendship competence has suggested that negative parenting behaviors during early adolescence predict both youths' perceptions of insecurity with parents and socioemotional problems, and that attachment insecurity and socioemotional problems negatively affect friendship competence (Capaldi & Clark, 1998; Capaldi et al., 2003; Doyle & Markiewicz, 2005; Muris, Meesters, & Van den Berg, 2003). Examining these two generative mechanisms, socioemotional problems and attachment insecurity to parents is important because it helps researchers and practitioners begin to identify the etiology of friendship problems, which is paramount in developing cost-effective prevention and intervention programs (Dodge, Dishion, & Lansford, 2006; Kilmann, Urbaniak, & Parnell, 2006). Furthermore, examining specific mediators derived from two important developmental theories contributes to theory advancement because it provides a direct test of the salience and applicability of social learning and attachment theories in explaining the development of interpersonal relationships with age-mates during adolescence.

### *Measuring Multiple Aspects of Friendship Competence*

Positive features of friendship and conflict may represent two different variables associated with different predictors and outcomes (Demir & Urberg, 2004; Hussong, 2000). Yet few studies assess multiple aspects of friendship competence; and they instead rely only on quality as a measure of competence in adolescents' friendships (Furman, 1998). Several competencies may be important for adolescents to attain in the context of friendship. Buhrmester, Furman, Wittenberg, and Reis (1988) identified five competency domains important in adolescents' interpersonal relationships. These domains included (a) initiation of interactions and relationships, (b) assertion of personal rights and displeasure with others, (c) self-disclosure of personal information, (d) emotional support of others, and (e) management of interpersonal conflicts. Assessing multiple aspects of friendship competence as opposed to a global measure of friendship quality may be particularly important during adolescence because multiple friendship competencies become important to the functioning of friendships during this developmental period as compared to childhood (Berndt & Perry, 1986). The current study draws on Buhrmester et al.'s conception to create two latent constructs that reflect friendship competence. The first construct, intimacy (e.g., support), assesses positive features of friendship competence, and the second construct, conflict in the friendship, assesses negative features of friendship competence (e.g., relational aggression). Thus, the current study contributes to the literature by measuring multiple aspects of adolescents' friendship competence. This is important because identifying the differential processes by which



parenting affects friendship intimacy and conflict will help to inform intervention efforts as to the unique predictors of different competencies needed in adolescents' friendships.

### Methodological Contributions

With a few exceptions, studies that have examined the relationship between parenting behaviors and adolescents' friendship competence have relied on adolescents' self-report of parenting behaviors and have used a global measure of friendship quality. The current study improves upon previous work by using six waves of annual, longitudinal data, multiple reporters and methods, and multiple measures of friendship competence. These improvements are important because methodological limitations from previous studies may have obscured substantive findings and caused researchers to draw inaccurate conclusions regarding the specialized relationships between parenting behaviors, adolescents' adjustment, and multiple aspects of friendship competence.

### *Prospective Associations*

Researchers who have examined associations between parenting and friendship competence primarily have focused on longitudinal associations during childhood or concurrent associations during adolescence. Few studies have prospectively examined the effect of parenting behaviors during early adolescence on friendship competence during middle adolescence. The development of intimacy and conflict management in friendships are age-related tasks that begin to develop during early adolescence and are fine-tuned by middle adolescence (Crosnoe, 2000; Selman, 1981). Thus, early adolescence is a time when new skills needed in peer relationships are being developed. In the current study, parenting behaviors are measured upon the transition to early

adolescence and as such, the effects of parenting behaviors on the development of new skills needed in friendships can be examined. This prospective approach marks an improvement over cross-sectional studies conducted during adolescence because it allows the examination of the effects that parenting behaviors have on the emergence of friendship difficulties over a five-year period. Although prospective data does not provide evidence of causality, it does provide a developmental perspective on how parenting behaviors affect friendship competence during a critical period of development.

#### *Multiple Methods and Informants*

The current study utilized multiple informants and methods to test the hypothesized model. When studies rely solely on youth report there is a plausible risk that adolescents' negative or hostile attribution biases may affect reports of hostility and warmth both from parents and in relationships with friends (Rubin et al., 2005). Multiple informants may reduce shared method variance by reducing the chance that a participant's "frame of reference" affects values reported for both the dependent and independent variables and thus inflates the correlation between the two constructs (Melby, Conger, Ge, Warner, 1995; Tafarodi & Swann, 2001). Although shared method variance is a plausible threat to the validity of studies examining the relationship between parenting and friendship competence, few studies have used multiple informants. Therefore, mothers', fathers', teachers', and youths' measures of constructs were used when possible

Furthermore, using multiple reporters also helps to increase the content validity of the constructs in the study. To represent adequately a theoretical construct, especially a

behavior, the expression of that behavior in different environments should be measured (Bank, Dishion, Skinner, & Patterson, 1990). Research has indicated that internalizing and externalizing behaviors vary based on context (Achenbach, McConaughy, & Howell, 1987). Therefore, obtaining reports from multiple informants (teachers and youth) on adolescents' socioemotional behaviors increases content validity by adequately reflecting the intended construct. Moreover, multiple methods (observation and self-report) were used to assess parenting in the current study. Research has suggested that it is important to assess an insider's view of parenting (i.e., parent report) and an outsider's view of parenting (i.e., observations) because the two reports may differ and measuring only one does not capture the complete construct of parenting within a given family (Noller & Callan, 1988). The current study used multiple reporters and methods to increase content and construct validity and thus the accuracy of the inferences made from the findings in this study.

### *Multiple Measures*

Researchers have argued that methodologically it is important to measure both positive and negative aspects of friendship (Berndt, 2004; Furman, 1998; Laursen, 1998). Yet widely-used friendship measures sum positive and negative items together to represent the overall quality of the relationship. This approach assumes that friendship competence is a global construct that exists on a continuum from positive to negative (Hartup, 1995). Representing friendship features as bipolar assumes that youth who are high on intimacy are also low on conflict. When, in fact, some youth may be high on conflict and high on intimacy (Hussong, 2000). Methodologically, youth who are high on

both would fall at the midrange and the measurement would fail to assess adequately the intended construct and thus affect construct validity. The current study assesses positive features of friendship and negative features of friendship as separate constructs. This makes a methodological contribution because properly explicating constructs that are distinct (i.e., intimacy and conflict) helps researchers who study friendship competence work toward a consensus on the operational definition of friendship intimacy and friendship conflict (Shadish, Cook, & Campbell, 2002).

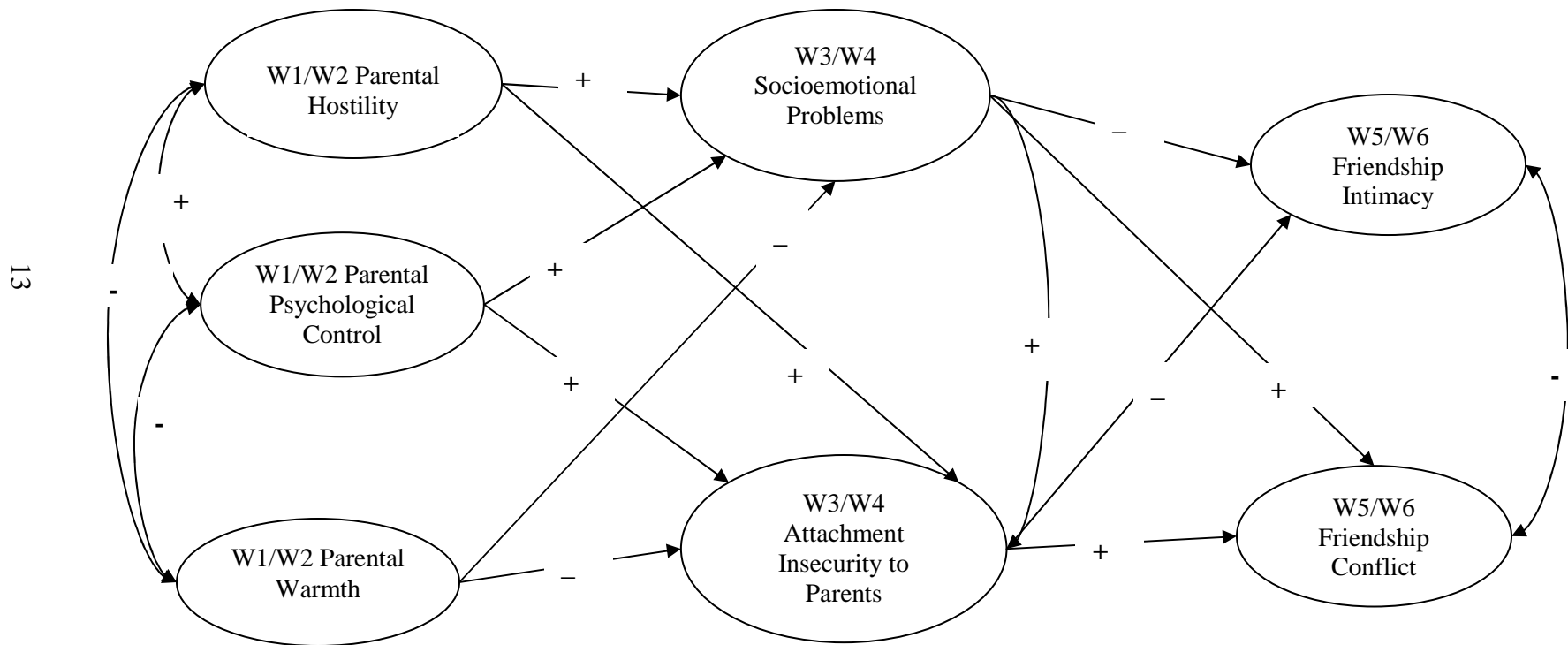
#### Hypothesized Model

Figure 1 presents the conceptual model that was tested in this study. The model proposes that parents' hostility, psychological control, and lower warmth during early adolescence are associated with problems adolescents have developing intimacy and conflict management skills in close friendships during middle adolescence, and that this association is fully mediated by adolescents' socioemotional problems and/or adolescents' perceptions of insecurity in their attachments to parents. Multiple informants and multiple indicators were used to form the latent constructs and test this model across six years. Adolescent gender differences in structural paths were assessed.

In sum, this study contributes substantively to the existing literature in several ways. First, the current study contributes to the growing body of research that has examined the effect of parenting behaviors on adolescents' friendship competence and expands on this research by examining the unique effect that three parenting behaviors during early adolescence have on different aspects of friendship competence during middle adolescence. Furthermore, the current study examines two important transmission

mechanisms, socioemotional problems and insecure attachment to parents that help explain the relationship between negative parenting and friendship competence during adolescence. In addition to substantive contributions, this study has several methodological strengths. Specifically, six waves of data, multiple informants, multiple methods, and multiple measures are used to test associations between parenting and friendship competence. The findings from the current study make an important contribution to understanding why adolescents have trouble in friendships.

**Figure 1.** Hypothesized model that examines mediators of the relationship between parenting behaviors and friendship competence. W1/W2 means an average of Wave 1 and Wave 2. W3/W4 means an average of Wave 3 and Wave 4. W5/W6 means an average of Wave 5 and Wave 6.



## CHAPTER II

### THEORETICAL FOUNDATIONS AND LITERATURE REVIEW

#### Theoretical Foundations

##### *Introduction*

Theoretically, parents may influence adolescents' friendship competence either directly or indirectly (Parke et al., 2006). Parents directly influence adolescents' social relationships by acting as a direct instructor or a model of desired behaviors needed in friendships or as regulators of opportunities for adolescents' to develop skills needed in the context of friendships. Parents indirectly influence adolescents' friendships by employing parenting behaviors that influence adolescents' behaviors and/or cognitions that then guide interactions within friendships. The current study examines direct effects of parenting behaviors on adolescents' friendship competence, as well as explanations of why negative parenting behaviors affect adolescents' friendships. Concepts and propositions from learning theories and psychoanalytic theories were used to justify hypothesized direct relationships between parenting behaviors and adolescents' friendship competence. Concepts and propositions from social learning theory and attachment theory were used to deduce two mechanisms of transmission linking parenting behaviors to adolescents' friendship competence.

### *Direct Effects*

Parenting behaviors may have a direct effect on the development of adolescents' friendship competence in a myriad of ways (Parke et al., 2006). Drawing on Skinner's learning theory (as cited in Miller, 1989) parents may directly influence adolescents' friendships by rewarding certain behaviors, which are then generalized to the context of friendships. Drawing on propositions derived from Blos' theory of individuation, parents might influence adolescents' friendships by restricting adolescents' independence, thus making it difficult for youth to develop a sense of autonomy that is needed for the development of positive and intimate relationships (Blos, 1979; Erikson, 1968). Furthermore, from a psychoanalytic perspective, parents who express warmth and acceptance toward adolescents might also influence adolescents' friendship competence because youth internalize their parents' prosocial values, which are then applied to interactions with friends (Maccoby & Martin, 1983). In the current study, the direct effects of parental hostility, parental psychological control, and lower parental warmth on adolescents' friendship competence were examined. Although propositions from learning theories and psychoanalytic theories both can be used to generate hypotheses concerning associations between different parenting behaviors and adolescents' friendship competence, the association between parental hostility and friendship competence is better understood from a learning theory perspective; and the effect of parental psychological control and parental warmth on friendship competence is better explained from a psychoanalytic perspective.



*Parental hostility.* Learning theories provide an excellent justification as to why parental hostility negatively affects adolescents' friendship competence. Learning theories propose that parents socialize children and adolescents through the process of teaching and learning. Parents reward behaviors that they want to engender in adolescents and punish behaviors that they wish to extinguish. Children and adolescents then generalize learned behaviors to other settings (Maccoby & Martin, 1983). Parental hostility is the extent to which parents express harsh, angry, and critical behavior toward adolescents. Parents who express hostility toward youth might teach adolescents that hostile and aggressive behaviors are an appropriate way to deal with problems in the context of relationships. Thus, parental hostility may affect friendship competence by teaching adolescents hostile and aggressive behaviors that they enact with friends because youth are taught from parents that these behaviors are rewarded in the context of relationships (Maccoby & Martin). Furthermore, parents who attempt to use hostility to control adolescents but give into youth when their behaviors become increasingly aggressive and out of control may inadvertently reward adolescents' hostile behaviors and make youth more likely to act aggressively in relational settings (Patterson, 1982; coercion theory). Thus, adolescents who experience parental hostility may have difficulty initiating and reciprocating intimacy behaviors because these adolescents' approach social interactions by acting aggressively toward age-mates which makes it difficult to establish trust and support in a relationship. Furthermore, the proposition that adolescents' learn specific behaviors such as aggression from parents and then generalize those aggressive behaviors to future interactions with friends provides a particularly good

explanation as to why parental hostility is associated with conflict in adolescents' friendships. Therefore, the current study hypothesized that a direct and unique association between parental hostility and friendship intimacy and conflict provides support for a learning theory explanation of the direct effect of hostile parenting on adolescents' friendships.

*Psychological control.* Propositions stemming from a psychoanalytic tradition can be used to deduce the hypothesis that psychological control is associated positively with adolescents' friendship difficulties. Psychological control is characterized by parental control attempts that intrude into youths' psychological and emotional development. Psychologically-oriented parental control attempts include intrusiveness, love withdrawal, shaming, and guilt induction. Parents' use of psychological control may interfere with adolescents' autonomy development because parents rely on intrusion to control adolescents' thoughts and emotions (Barber, 1996). Blos (1979) proposed that autonomy development is a central developmental task for adolescents to accomplish so that youth can form a sense of self as competent and separate from parents. Youth who are unable to individuate from parents may have difficulty in relationships with peers because they do not yet have a sense of self that makes it difficult to be intimate with age-mates (Erikson, 1968). Furthermore, parental psychological control may negatively affect adolescents' ability to feel connected with parents and communicate with parents about their lives. Although parents must encourage individuation processes during adolescence, it is also important for parents to maintain connectedness with youth (Allen et al., 2002). Therefore, a lack of connectedness with parents may cause adolescents to feel like they

do not have a secure base to rely on in order to negotiate new developmental tasks, such as friendship competence (Hauser, 1991). Thus, in the current study a unique relationship between psychological control and adolescents' friendship competence provides support for theories that are derived from a psychoanalytic perspective.

*Parental warmth.* Parental warmth is the extent to which parents convey warmth, support, and acceptance in their relationship with adolescents. Parental warmth is positively associated with the development of youths' friendship competence (Cui et al., 2002; Domitrovich & Bierman, 2001). From a psychoanalytic perspective, parents socialize children and adolescents by providing a loving and caring environment that results in children/adolescents identifying with parents and internalizing parents' values. Adoption of parental values then carries into the adoption by youth of prosocial behaviors and attitudes that guide individuals' interactions throughout the life-course. Psychoanalytic theories propose that parental warmth is the primary way in which parents socialize children to develop desired behaviors (Maccoby & Martin, 1983). Adolescents whose parents are supportive and accepting will internalize those values and interact with age-mates in a caring and supportive manner. Adolescents whose parents are less responsive and warm may not internalize parents' prosocial values and may have difficulty in friendships with intimacy and conflict. Thus, propositions from a psychoanalytic perspective are used to deduce the hypothesis that parental warmth has a direct and unique relationship with adolescents' friendship competence.

*Summary.* These two major developmental perspectives, learning theories and psychoanalytic theories provide theoretical justification of the specialized and direct

relationships between parenting behaviors and friendship competence. Specifically, propositions from learning theories were used to deduce the unique and direct relationship between parental hostility and friendship competence, and propositions from a psychoanalytic perspective were used to deduce the unique and direct effects of psychological control and parental warmth on friendship competence. Social learning theory, which is derived from a learning theory tradition, and attachment theory, which is derived from a psychoanalytic tradition, are used below to deduce the specific generative mechanisms that explain the relationship between parenting and adolescents' friendship competence. Although parenting behaviors may have specialized relationships with friendship features, both social learning theory and attachment theory are used to deduce the generative mechanisms by which all three parenting behaviors affect adolescents' friendship competence.

*Mediating Pathways.* Parents may affect adolescents' friendship competence indirectly through their influence on adolescents' behaviors and/or cognitions (Parke et al., 2006). Social learning theory and attachment theory are used to deduce the specific mechanisms through which parenting behaviors affect friendship competence. The mechanisms of transmission proposed by social learning theory and attachment theory differ. Bandura's social learning theory focuses on the importance of observational learning and reciprocal determinism as socialization mechanisms that influence behaviors enacted in relationships with friends, whereas attachment theory proposes that behaviors enacted in other contexts are the result of felt security and internal working models that guide individuals' expectations and interaction styles in relationships with others. In

general, social learning theory suggests that adolescents who experience negative parenting behaviors develop maladaptive behaviors and interaction patterns, which make it difficult to interact with peers in a manner that promotes intimacy and conflict management in close relationships with age-mates. In contrast, attachment theory focuses primarily on how parenting behaviors influence cognitive representations of felt security in the parent-child relationship that provides adolescents with resources and views that guide beliefs and behaviors in social interactions with friends (Bowlby, 1988).

Examining the salience of individuals' behaviors and cognitions to the development of adolescents' friendship competence is important because findings can be used to tailor interventions to youth who experience friendship difficulties and to test each theory's applicability in explaining why parenting affects friendship competence.

*Social learning theory.* From a social learning theory perspective, problematic socioemotional behaviors may mediate the association between negative parenting behaviors and friendship competence. Two concepts stemming from a social learning perspective, observational learning and reciprocal determinism, are used to deduce the pathway through which parenting behaviors affect adolescents' friendship competence through adolescents' socioemotional problems. This mediating pathway suggests that parental hostility, psychological control, and lower warmth are associated with an increase in externalizing (e.g., aggression) and/or internalizing (e.g., depressive symptoms) problems in adolescents. In turn, theoretically, adolescents' externalizing behavior is associated with the future use of aggressive behaviors in interactions with friends. Adolescents' internalizing behavior is associated with withdrawn and avoidant

behaviors in interactions with friends. Thus, both externalizing and internalizing problems affect adolescents' ability to develop intimacy and conflict management skills over time with such competencies being important for the management of adolescents' close friendships.

*Observational learning.* Parents may influence adolescents' relationships with friends indirectly through the effect that observational learning has on the development of maladaptive behaviors. Observational learning occurs as a function of observing, retaining, and reproducing behavior observed in others (Bandura, 1986; i.e., modeling). Bandura proposed four processes inherent in observational learning: (a) attentional processes, (b) retention processes, (c) motor production processes, and (d) motivational processes.

Each aspect of observational learning contributes to determining whether behaviors observed in parents are retained and reproduced in adolescents' interactions with others. In order for learning to occur, children must pay attention to models. Individuals pay attention to models that are salient and valued in their lives (Bandura, 1986). For children and adolescents, parents are among the most important and valued individuals in their lives. Thus, adolescents are more likely to attend to behaviors modeled by parents.

Learning, however, is not just a function of directly attending to and replicating behaviors after they have occurred. Individuals must retain information in a symbolic form that guides future interaction patterns (Bandura, 1986). For example, adolescents whose parents use harsh and intrusive means of socialization learn that hostility and

psychological control are appropriate ways in which to handle conflict. Adolescents may then internalize these behaviors and develop maladaptive ways of interacting with others (e.g., aggressive or withdrawn behaviors). Furthermore, individuals are more likely to retain information when the modeled behaviors occur more than one time. Parents' use of ineffective means of discipline are likely to be patterned behaviors that have been used consistently throughout adolescents' lives, making it more likely that observed behaviors are retained and develop into maladaptive patterns of interacting with the world (Snyder & Stoolmiller, 2002).

Reproduction processes focus on individuals' ability to perform physically a certain behavior. One could extend this idea to suggest that certain cognitive abilities are needed to understand and reproduce observed behaviors. During adolescence, certain cognitive abilities, such as the ability to think abstractly, emerge (Steinberg, 2008). The ability to think abstractly may then facilitate the process of translating learned behavior from parents into interactions with close age-mates outside of the family.

Finally, Bandura proposed that whether individuals ultimately perform a certain action is determined in part by the functional value of a behavior. Adolescents are more likely to model their parents' behavior when they perceive that behavior as effective in bringing about a desired response (Bandura, 1986). Parental hostility may result in adolescents' immediate compliance (Gershoff, 2002). Thus, to some extent, hostility is an effective means of discipline in the short term, and adolescents may be more likely to approach interactions with others in a hostile manner because they perceive hostile behavior as an effective means of accomplishing goals. Furthermore, behaviors are more

likely to be reproduced by adolescents when directly rewarded. In regards to the development of externalizing behavior, adolescents are more likely to act aggressively when parents reward aggressive behavior. The same pattern may be true for internalizing behaviors such that when youth withdraw from interaction with parents due to conflict parents also may respond by withdrawing from conflict thus inadvertently rewarding withdrawal behaviors (Roth, 1980). When adolescents' aggressive behaviors and internalizing behaviors are functional and rewarded in the parent-adolescent relationship then youth are motivated to model these behaviors in interactions with peers (Snyder, 2002). Drawing on all the elements of observational learning, the current study proposes that parenting behaviors model, shape, and reinforce adolescents' externalizing and internalizing problem behaviors. The presence of these socioemotional problems makes it difficult for adolescents to develop friendship competencies.

*Reciprocal determinism.* The concept of reciprocal determinism also helps explain the relationship between negative parenting behaviors and adolescents' friendship competence from a social learning perspective. Reciprocal determinism reflects the complex interaction of the person, the person's behavior, and the environment and suggests that a person's behavior both influences and is influenced by the environment and personal factors. Specifically, reciprocal determinism stresses that when people interact with the environment they are not simply reactors to external stimuli but also are creators of their own daily interactions (Bandura, 1986). People's cognitive abilities, physical characteristics, personality, beliefs, goals, and attitudes influence both their behaviors and the environments they inhabit. Patterson's coercion model (2002) is a



classic example of reciprocal determinism. The coercion model suggests that hostile exchanges between parents and adolescents are partly a result of adolescents' coercive behavior. According to this model, parents use ineffective disciplinary practices such as threats or belittling to control behavior of adolescents who are aggressive. Adolescents respond to parents by acting defiantly causing parents to use increasing amounts of hostility to control youths' behavior. Parents also may give into defiant behaviors thus further reinforcing adolescents' aggression (Simons, Simons, & Wallace, 2004). Thus, hostile parenting and negative control attempts further exacerbate existing antisocial behavior and contribute to the development of a general pattern of interacting antisocially toward others.

Problems adolescents have in close and personal relationships may result from adolescents developing trait-like behaviors that are maladaptive in response to chronic negative parenting (Capaldi & Clark, 1998). Capaldi's work has focused on externalizing behaviors as a mediator of the association between negative parenting practices and close and personal relationships with others. Capaldi proposed that adolescents have trouble in close relationships because they have developed an aggressive interaction style toward others making it difficult to develop intimacy and effectively manage conflict in relationships. Although past research in this area has focused on externalizing behaviors, the underlying logic also can be applied to internalizing behaviors. Adolescents who do not experience warmth and support from parents may develop internalizing problems. For example, when parents are unsupportive and unreceptive youth may develop a withdrawn interaction style that makes it difficult to establish intimacy with friends and negotiate

interpersonal conflicts. Drawing on Capaldi's work and reciprocal determinism, the proposed model suggests that parental use of negative parenting behaviors exacerbates externalizing and/or internalizing problems in youth who then experience difficulties interacting prosocially in relationships with friends.

Reciprocal determinism further suggests that individuals are partial creators of their own environments. Adolescents who exhibit problem behaviors may have difficulty developing friendship competence because they seek out environments that reward already established maladaptive patterns of interaction. Bandura suggested that individuals create their own histories and structure environments to maximize positive and minimize aversive experiences (Snyder, Reid, & Patterson, 2003). The concept that individuals select environments that reward already established ways of interacting applies to adolescents who exhibit both internalizing and externalizing behaviors. For example, adolescents who are aggressive may select into friendships that reward aggressive behaviors and as a result these friendships may be characterized by higher levels of conflict (Dishion, Andrews, & Crosby, 1995). Adolescents who have internalizing problems may select into friendships with other youth who internalize their emotions and these friendships may be characterized by avoidant coping behaviors. Research indicates that adolescents who report more externalizing and internalizing behaviors select into relationships with peers who reinforce these maladaptive interaction patterns (Rose, 2002; Rubin et al., 2005). Thus, difficulty developing competencies in friendships is partially a result of adolescents selecting into friendships with youth who share similar characteristics and thus reinforce negative interaction patterns.

*Attachment theory.* Attachment theory suggests that children's relationships with parents are an important predictor of close relationship features throughout the lifespan (Bowlby, 1988). Secure attachments with parents provide adolescents with a view of future relationships, as well as a secure base to help adolescents negotiate important tasks associated with developing friendship competence. Although attachment develops during infancy, attachment security with parents is determined by the way caregivers treat their children throughout the life cycle (Ainsworth, 1989). Positive relationships with parents influence the development of secure attachments, whereas adverse experiences with parents influence the development of insecure attachments (Bowlby, 1988).

Feelings of security developed in relationships with parents may, in turn, influence relationships with friends during adolescence (Ducharme et al., 2002). Kerns (1998) proposed that the development of felt security with a caregiver affects relationships with peers in three possible ways. First, attachments with caregivers provide a secure base that supports exploration of the social environment. Second, attachments lead adolescents to develop a particular behavioral style carried over into relationships with friends, a notion that overlaps with a social learning theory perspective. Finally, Kerns suggested that attachments affect relationships with friends through individuals' working models that contain beliefs and expectations about self and others. The hypothesized model draws specifically on the concepts of secure base and working model and hypothesizes that parental hostility, psychological control, and lower warmth predict adolescents' feelings of insecurity in the parent-adolescent relationship making it difficult for youth to develop friendship competence.

*Secure base.* A secure base is critical to adolescents' felt security in the parent-child relationship (Ainsworth, 1989). Attachment theory proposes that infants are equipped with species-specific behaviors that promote proximity to a caregiver for the purpose of protection. Caregivers provide infants protection by acting as a secure base (Bowlby, 1988). The concept of a secure base was originally drawn from Blatz's security theory (as cited in Ainsworth, 1989) which proposed that children need to develop a secure dependence on parents before exploring unfamiliar situations. Theoretically, children whose parents provide this secure base develop feelings of security, whereas children who have parents who do not provide a secure base develop feelings of insecurity.

Developing a secure base with parents during infancy and maintaining that secure base throughout the lifespan is important because it provides individuals with a sense of security as they explore new environments and accomplish new developmental tasks. Security is defined as individuals' feelings or appraisals that they can trust and be supported by an attachment figure (Ainsworth, 1989). Sroufe and Waters (1977) proposed that the goal of attachment behavior is to achieve a sense of "felt security" and that the function of the attachment bond is to provide a secure base so that children can feel supported while exploring the environment. Feelings of security are developed when individuals feel confident that they can deal with a situation either by relying on their own competencies or because they can depend on some other person to act competently for them (e.g., a parent). Feelings of insecurity may arise in a number of ways that include encountering new situations, not feeling competent enough to deal with a

situation, and/or parents not providing a secure base for children to draw upon as a resource (Ainsworth, 1989). Parental behaviors that promote a sense of security may differ as a function of age (Rice, 1990). During infancy, a toddler may promote security by clinging to his/her parent when a stranger enters the room. During adolescence, parents may not provide direct physical support, but youth still feel a sense of security when they believe that an attachment figure is open to communication and responsive if help should be needed (Lieberman, Doyle, & Markiewicz, 1999; Rice, 1990).

Parents foster adolescents' felt security by using specific parenting behaviors. Parents who are warm, supportive, and responsive engender a sense of security in children and adolescents (Ainsworth, Blehar, Waters, & Wall, 1978). Consistently responding to children's and adolescents' needs also is important for the development of feelings of security. Parental hostility and parental psychological control may lead to the development of feelings of insecurity in adolescents because adolescents do not feel that they can trust in and use parents as a secure base as they explore new environments (Bosman, Braet, Van Leeuwen, & Beyers, 2006). Specifically, parents who use psychological control try to control adolescents' emotions and cognitions. This type of control may make it difficult for adolescents to trust parents with their thoughts and emotions thus straining open communication with parents and adolescents' belief that they can rely on parents as a secure base. Hostile and critical behavior from parents also might impair communication and trust in the parent-adolescent relationship and result in adolescents not relying on parents as a source of security. Although the majority of research has focused on the effect of parenting on children's feelings of security,

adolescents still rely on the availability of an attachment figure as a source of security (Bowlby, 1973; Steinberg, 1990). Ironically, adolescence is a time when youth continue to rely on parents to serve as a secure base as they develop competencies outside the home but also is a time when relationships with parents may be strained (Collins & Laursen, 2004). Adolescents who experience strained relationships with parents may feel that they can no longer rely on parents as a secure base, particularly when relationships have been strained for a long time.

Adolescents' feelings of insecurity in the parent-adolescent relationship may affect the development of friendship competence. Adolescents who feel insecurely attached to parents may find it difficult to negotiate certain developmental tasks because they do not have a secure base from which to explore new arenas (Ainsworth, 1989; Call & Mortimer, 2001; Durcharme et al., 2002). Attachment theory proposes that feelings of security are particularly important when individuals encounter unfamiliar situations that induce stress reactions. New competencies needed in friendships during adolescence may be considered unfamiliar situations. Research with children has indicated that children who use parents as a secure base are more competent and willing to seek out novel and new experiences (Rice, 1990). Researchers have extended the idea of a secure base to adolescents. Specifically, Call and Mortimer (2001) suggested that parents and others can provide arenas of comfort which offer a supportive context for adolescents to relax and rejuvenate so that stressful experiences, such as developmental tasks, in another arena can be endured. When adolescents trust parents and feel that they can communicate with parents, they are more likely to rely on them for support in managing close friendships.

Adolescents who do not feel they can trust in and communicate with parents may not feel competent mastering new tasks associated with friendship (Durcharme et al). Thus, theoretically, negative parenting behaviors indirectly affect friendship competence because youth do not feel a sense of a secure base with parents to explore new tasks associated with the development of friendship competence during adolescence.

*Working models.* Although the proposed model draws primarily on the concept of perceptions of felt security, adolescents who experience negative parenting may develop insecure internal working models, which also impair the development of friendship competence. As children establish attachments with caregivers, they develop internal working models that govern feelings about parents, self, how they expect to be treated, and how they plan to behave in future interactions. Internal working models developed in parent-child relationships guide relationships with others such as friends or romantic partners (Weimer, Kerns, & Oldenburg, 2004). Internal working models become ingrained into children's personalities and unconsciously govern feelings regarding parents, self, and how one expects to be treated by important others (Ainsworth, 1989). This conceptualization of working models suggests that attachment classifications to parents are stable across the life span and guide thoughts and behaviors in future relationships at an unconscious level. Furman, Simon, Shaffer, and Bouchev (2002) distinguished internal working models from relationship styles. The former is congruent with the definition of working models given above and typically is assessed during adolescence through attachment interviews. In contrast, relational styles refer to conscious perceptions or views of close and personal relationships and are assessed

through self-report measures. Research has indicated that there is overlap between internal working models and relational styles but that they are distinct constructs (Furman et al., 2002). The current study draws on Furman and colleagues' concept of relational styles because perceptions of attachment insecurity to parents is measured by self-report and is believed to be a conscious view of attachment relationships developed with parents that governs feelings and expectations in relationships with friends. Thus, the conceptualization of attachment insecurity as relational styles was used to deduce the mediating pathway from parenting behaviors to friendship competence.

Insecure perceptions of relationships with parents may affect adolescents' capacities to form competent relationships with friends. Friendships may represent a type of attachment relationship and thus relationship views developed through interactions with parents likely apply to interactions with friends (Weiss, 1982). Theoretically, representations that adolescents hold regarding parents guide their expectations and interpretations of interactions with friends. Furman and Simon (1998) suggested that relationship styles involve expectations regarding intimacy and closeness with others. One of the developmental tasks of adolescence is to develop intimacy in the context of close friendships (Sullivan, 1953). Insecure relational styles impair intimacy development in close friendships. Adolescents whose parents use negative parenting behaviors may expect rejection from others and have doubts as to whether or not others will be supportive and trustworthy and thus enact behaviors consistent with these expectations (Lieberman et al., 1999). Representations of relationships with parents have been found to influence self-disclosure, emotion regulation, and conflict management in friendships



(Ducharme et al., 2002). Therefore, the hypothesized model draws on the concept of relationship views to propose that adolescents' perceptions of insecurity with parents mediates the relationship between negative parenting behaviors and friendship competence.

## Review of Literature

### *Parenting Behaviors and Adolescents' Friendship Competence*

Parents affect the development of adolescents' relationships with friends (Domitrovich & Bierman, 2001; Freitag, Belsky, Grossman, Grossman, Scheurer-English, 1996; Sroufe, Englund, & Carlson, 1999; Updegraff, Madden-Derdich, Estrada, Sales, & Leanord, 2002). In part, this is because parenting behaviors affect the development of competencies needed to maintain friendships during adolescence (Cui et al., 2002). Friendship competence is the extent to which adolescents are able to perform social tasks needed to maintain high quality friendships. Two important competencies in adolescents' friendships are conflict management skills and intimacy behaviors (Englund, Hyson, Levy, & Sroufe, 2000). Few researchers have focused on the effects of specific parenting behaviors on friendship competence during adolescence (Cui et al.). The current study contributes to the literature by examining the unique effects of parental hostility, parental psychological control, and lower parental warmth on adolescents' intimacy and conflict behaviors in friendship during middle adolescence.

*Parental hostility.* Studies that have examined the association between parental hostility and friendship competence have done so using cross-sectional data (Engels, Dekovic, & Meeus, 2002; Laible & Carlo, 2004). Findings from these studies have

indicated that higher parental hostility is associated with lower quality friendships (Domitrovich & Bierman, 2001; Laible & Carlo, 2004). Only one study has examined the direct effect of parental hostility on friendship competence using prospective data. In a sample of 221 adolescents and parents, Cui et al. (2002) used multiple methods and informants and found that parental hostility was associated prospectively with hostile behavior in adolescents' friendships four years later. Cui and colleagues focused on friendship interactions and did not specifically measure conflict management or intimacy behaviors. The current study builds on Cui et al.'s findings by proposing that hostility is associated positively with conflict and lower intimacy in adolescents' close friendships.

*Psychological control.* Theoretically, parents who use psychological control may adversely affect the development of youths' friendship competence. I found only one study that investigated the direct effect of psychological control on adolescents' friendships. Dekovic and Meeus (1997) examined the effect of love withdrawal on attachment to friends in a large cross-sectional study of adolescents aged 12 to 18. Results from regression analyses indicated that love withdrawal was associated negatively with peer attachment, suggesting that parental psychological control negatively affected adolescents' intimacy with friends. Clearly more research should examine the unique relationship between parental psychological control and problems with friendship competence during adolescence because psychologically controlling behavior may be a particularly detrimental parenting behavior to the development of adolescents' friendship intimacy and conflict behaviors. This relationship has not yet been demonstrated empirically.

*Parental warmth.* Parents who convey warmth to adolescents positively affect the development of youths' friendships (Cui et al., 2002; Domitrovich & Bierman, 2001). Research on the effects of parental warmth on adolescents' friendships has focused predominantly on parental support and parental acceptance (Cui et al., 2002; Dekovic & Meeus, 1997; Way & Greene, 2006). For example, Cui and colleagues examined the relationship between support in the family and adolescents' friendship quality in a prospective study using multiple methods. Results indicated that parents' supportive behavior toward adolescents had a direct and positive effect on supportive behavior in adolescents' best friendships four years later. Way and Greene (2006) investigated the relationship between parental support and both general friendship and closest same-sex friendship competence in an ethnically diverse group of 206 adolescents. Controlling for baseline friendship quality, hierarchical linear modeling indicated that parental support predicted an increase in general and closest same-sex friendship quality over the four years of the study.

Not all studies have found a significant relationship between warmth and different aspects of friendship competence during adolescence. Engels et al. (2002) examined the concurrent associations between several parenting practices and peer attachment and support in a sample of 508 15 to 18 year olds. Regression analyses revealed that youth-reported parental affection and responsiveness were not associated uniquely with peer attachment or peer support when entered simultaneously into the regression equation with seven other parenting variables. In a cross-sectional study, Updegraff et al. (2002) found that acceptance and open communication with parents were associated positively with

intimacy in adolescents' friendships but were not significantly associated with frequency of conflict in adolescents' friendships. Such findings suggest that different parenting behaviors may have stronger associations with different aspects of friendship competence. Thus, it is important to examine the effects of various parenting behaviors simultaneously and to consider more than one aspect of friendship competence in order to illuminate which parenting behaviors have the greatest influence on specific aspects of friendships. The current study addresses this gap in the literature by examining simultaneously the effects of parental hostility, parental psychological control, and parental warmth on conflict and intimacy in adolescents' same-sex close friendships.

*Mediating Pathway: Socioemotional Problems*

As described in the theory section, social learning theory suggests that the effect of negative parenting behaviors on adolescents' friendship competence may be mediated by youths' socioemotional problems. Socioemotional problems include both externalizing and internalizing problems. Externalizing problems include both delinquent (e.g., stealing, property destruction, and substance abuse) and aggressive (e.g., physical and verbal) behaviors. Internalizing problems are internal feelings or states that include anxiety, depression, and withdrawal behaviors. Parents who use negative parenting behaviors contribute to the development of socioemotional problems (Buehler, Benson, & Gerard, 2006; Fraser, 1996; Reid & Patterson, 1989; Scaramella et al., 1999). In turn, externalizing and internalizing problems may impair adolescents' ability to manage conflict effectively and establish intimacy in close friendships.

No studies have directly tested the proposition that socioemotional problems mediate the relationship between negative parenting behaviors and problems with friendship competence during adolescence. However, three areas of tangential research support the hypothesized mediating mechanism: (a) models that have examined socioemotional problems as a mediator of the association between parenting and adolescents' romantic relationships, (b) research that has examined the relationship between parenting behaviors and socioemotional problems, and (c) research that has examined the relationship between socioemotional problems and friendship competence.

*Socioemotional problems as a mediator.* Socioemotional problems developed, in part, from interactions with parents may affect adolescents' close and personal relationships with peers. Researchers have examined externalizing behaviors as a mediator of the association between negative parenting behaviors and later romantic relationships (Andrews, Foster, Capaldi, & Hops, 2000; Capaldi & Clark, 1998). Although close friendships differ from romantic relationships (Furman et al., 2002), both represent important intimate relationships in which patterns from the family may be replicated, and researchers have suggested that there is some overlap between the two types of relationships (Parke, Neville, Burks, Boyum, & Carson, 1994). Drawing on a social learning perspective, Capaldi proposed that adolescents' antisocial behavior mediated the relationship between negative parenting and experiences in romantic relationships (Capaldi & Clark, 1998). Using multi-methods and informants, Capaldi and Clark prospectively examined the effects of inconsistent and hostile parenting from 4<sup>th</sup> through 8<sup>th</sup> grades on male adolescents' aggression toward a romantic partner during late

adolescence. Antisocial behavior during middle adolescence was considered as a mediator. Findings indicated that male adolescents' antisocial behavior mediated the relationship between negative parenting behaviors and aggression toward a romantic partner. The authors concluded that adolescents' antisocial behavior is a key factor accounting for the transmission of aggression from family-of-origin to romantic relationships. Capaldi and Clark's findings are extended to support the pathway in the hypothesized model that maladaptive ways of interacting with others (i.e., externalizing and internalizing problems) mediated the relationship between negative parenting behaviors and friendship competence.

*Negative parenting behaviors and socioemotional problems.* Negative parenting consistently has been associated with adolescents' externalizing and internalizing behaviors, both concurrently and longitudinally (Finkenauer, Engels, & Baumesiter, 2005; Reid & Patterson, 1989; Rothbaum & Weisz, 1994). Drawing on longitudinal research, parental hostility, psychological control, and parental warmth have been examined as predictors of externalizing and internalizing problems; when analyzed together, each has been found to be a unique predictor of socioemotional adjustment (Buehler et al., 2006; Finkenauer et al., 2005).

Parental hostility has been associated with externalizing problems and, to a lesser extent, internalizing problems (Bender et al., 2007; Pike, McGuire, Hetherington, Reiss, & Plomin, 1996; Reid & Patterson, 1989; Rothbaum & Weisz, 1994; Scaramella et al., 1999). Adolescents who experience hostile, critical, and rejecting parenting do not learn to control their aggression and instead learn that aggressive behaviors are an acceptable

way of interacting with the world (Snyder, 2002). For example, Williams, Conger, and Blozis (2007) examined the effects of parental hostility on 451 adolescents and their younger siblings' aggressive behaviors. Findings indicated that parental hostility was associated positively at one point in time with aggression among target adolescents ( $M$  age = 15) and a growth in aggression over a four-year period for younger siblings ( $M$  age = 12).

Some adolescents may respond to parents' critical and rejecting behavior by internalizing feelings of rejection and learn that withdrawn behaviors are a means of interacting with the world (Capaldi & Stoolmiller, 1999). Mcleod, Weisz, and Wood (2007) conducted a meta-analysis on the relationship between parenting and children's depression and found that parental hostility was the strongest parenting predictor of depressive symptoms. Scaramella et al. (1999) used repeated-measures ANOVA and examined the effects of parental hostility, warmth, and management on adolescents' externalizing and internalizing problems. Hostility was associated positively with concurrent internalizing and externalizing problems. Hostility also predicted adolescents' increased externalizing problems but not increased internalizing problems over a five-year period. Drawing on these findings, the hypothesized model expects that parental hostility is associated positively with adolescents' socioemotional problems.

Psychological control is a particularly problematic parenting behavior to employ during the adolescent years and has been associated with externalizing and internalizing problems (Barber, 1996; Barber, Olsen, & Shagle, 1994). Parents who use psychological control may place too many constraints on their children's independence and hinder

normal socioemotional development (Rubin et al., 2005). Psychological control has been associated positively with externalizing behavior among adolescents (Finkenauer et al., 2005; Peiser & Heaven, 1996; Robila & Krishnakumar, 2006). Rogers and Buchanan (2003) examined the effect of psychological control on early adolescents' externalizing behaviors over a one-year period and found that psychological control predicted increased externalizing behaviors.

Psychological control also has been associated with internalizing behaviors during adolescence (Doyle & Markiewicz, 2005; Finkenauer et al., 2005; Gray & Steinberg, 1999; Robila & Krishnakumar, 2006). For example, psychological control was associated positively with internalizing behaviors in a cross-sectional study of 9,564 ethnically diverse adolescents (Silk, Morris, Kanaya, & Steinberg, 2003). Pettit, Laird, Dodge, Bates, and Criss (2001) used multiple reporters to assess the relationships between parental psychological control during 8<sup>th</sup> grade and externalizing behavior and internalizing behavior during 9<sup>th</sup> grade, controlling for prior behavior problems measured at age five. Hierarchical regression analyses indicated a main effect of psychological control on internalizing behaviors but not on externalizing behaviors. Psychological control interacted with preadolescent antisocial problems such that for adolescents with lower preadolescent antisocial behavior, parents use of psychological control during 8<sup>th</sup> grade was associated with higher teacher-reported delinquent behavior during 9<sup>th</sup> grade. These findings suggest that psychological control may be a particularly important parenting behavior to examine during adolescence.



Parental warmth is one of the most consistent predictors of positive and negative adjustment outcomes in children and adolescents (Gecas & Seff, 1990). Lower parental warmth has been associated with externalizing and internalizing behavior in adolescents (Gerard & Buehler, 2004; Operario, Tschann, Flores, & Bridges, 2006). From a theoretical perspective, adolescents who experience lower levels of warmth from parents may internalize or externalize feelings of rejection that impair everyday interactions (Capaldi & Stoolmiller, 1999). For example, Muris et al. (2003) examined the effect of parental emotional warmth on externalizing and internalizing problems in a cross-sectional study of 742 early adolescents, and they found that youth-reported lower parental warmth was associated with youth-reported externalizing and internalizing problems. Galambos et al. (2003) used hierarchical linear modeling to examine the effects of three parenting behaviors, one of which was parental support, on internalizing and externalizing behaviors in a sample of 109 adolescents. Mothers', fathers', and youths' reports collected over a 3 ½ year period indicated that parental support predicted increased internalizing problems but did not predict increased externalizing problems. Rubenstein and Feldman (1993) observed the conflict resolution behaviors of male adolescents. Based on interactions with parents, the authors identified three conflict resolution patterns: attack, avoidance, and compromise. Findings indicated that lower family support predicted avoidance during conflict with parents four years later. Although this study did not specifically examine internalizing behaviors as an outcome, avoidance behaviors are associated with internalizing problems. The current study builds

on these findings to suggest that lower parental warmth is associated positively with socioemotional problems.

*Socioemotional problems and friendship competence.* Youth who are more aggressive, anxious, and withdrawn may have difficulty developing competent peer relationships (Crick & Grotpeter, 1995; Ladd & Burgess, 1999). A large body of research has suggested that adolescents with more externalizing behaviors have trouble in peer relationships (Bagwell & Coie, 2003; Dodge, 1983; Parker & Asher, 1987; Rubin et al., 2005). Van Lieshout, Cillessen, and Haselager (1999) suggested that individuals develop generalized interaction patterns that are then reflected by behavioral patterns displayed in interactions with others. The authors proposed that antisocial behavior is an interactive orientation displayed in relationships with others. Research also has indicated that adolescents with more internalizing behaviors experience problems in relationships with peers (Rubin et al., 2005; Windle, 1994). Asendorpf (2002) suggested that inhibited and withdrawn behaviors reflect a behavioral pattern displayed in interactions with others. The majority of research examining socioemotional problems as a predictor of problems in peer relationships has focused on peer rejection (e.g., Dodge, 1983; Parker & Asher, 1993). Yet, externalizing and internalizing problems also may impair the development of important friendship competencies during adolescence.

Research has indicated that adolescents who report similar levels of externalizing behaviors tend to be friends (Cairns et al., 1988; Hartup, 1996; Simons-Morton, Hartos, & Haynie, 2004) and that once in friendships, adolescents with externalizing behaviors reinforce one another's behavior (Bagwell & Coie, 2003; Dishion, Spracklen, Andrews,

& Patterson, 1996). Homophily is an important predictor of whom adolescents choose to affiliate with, both in the larger peer group and in close friendships (Cairns, Cairns, Neckerman, Gest, & Garipey, 1988; Van Lier, Vitaro, Wanner, Vuijk, Crijnen, 2005). Social learning theory proposes that individuals select into relationships with others who are like them in order to reinforce already existing traits (Bandura, 1986). Using a sample of 334 6<sup>th</sup> graders, Newcomb, Bukowski, and Bagwell (1999) examined the proposition that friends possessed similar characteristics and that these characteristics were reinforced in the context of friendship over time. Results indicated that participants were more similar to a close friend in regards to aggression than they were to a randomly selected peer, and that, controlling for initial aggressive behavior, adolescents were more similar to selected friends six months later on aggressive behavior. These findings provide support for the social learning proposition that friends may reward already existing behavior patterns and may shape the use of aggressive behavior in present and future friendships (Snyder, 2002).

Research has suggested that adolescents with externalizing problems have impaired social interactions, which make it difficult to establish intimacy and manage conflict in interpersonal relationships (Bagwell & Coie, 2003; Claes & Simard, 1992; Eisenberg, Fabes, Nyman, Bernzweig, & Pinuelasm 1994; Patterson, 1982). Few studies, however, have focused specifically on social interaction within friendships. Findings from the few studies that have had this focus have found that the quality of friendships among youth with externalizing behaviors is impaired compared to adolescents who do not experience socioemotional problems (Brendgen, Little, Krappman, 2000; Dishion,

1990; Poulin, Dishion, & Haas 1999). For example, Dishion, Andrews, and Crosby (1995) cross-sectionally examined 186 13 to 14 year old boys' interactions with close friends. Observation of antisocial dyads indicated that negative engagement, impaired social skills, noxious behaviors, and bossiness were correlated positively with antisocial behavior and relationship satisfaction as reported by youth.

Adolescents who experience depressive symptoms and anxiety symptoms may also affiliate with others who have internalizing problems (Haselager, Hartup, Van Lieshout, & Riksen-Walraven, 1998; Mrug, Hoza, & Bukowski, 2004; Rubin, Wojslawowicz, Rose-Krasnor, Booth-Laforce, & Burgess, 2006). Few researchers have empirically examined homophily in the friendships of adolescents with internalizing problems. Rubin et al. (2006), however, found that shy/withdrawn children were more likely to be friends with other shy/withdrawn children when compared to control children's best friendships. Furthermore, adolescents who select into friendships with others who have internalizing problems also may find that internalizing behaviors are reinforced over time (Rose, 2002; Windle, 1994). The current study suggests that selecting into friendships with others who reinforce existing internalizing problems impairs adolescents' friendship competence.

Adolescents with internalizing problems may experience problems in peer relationships (Asendorpf, 2002; Kraatz-Keily, Bates, Dodge, & Pettit, 2000; Rubin et al., 2005; Windle, 1994). Internalizing problems, such as withdrawal, may have a particularly problematic effect on friendships during adolescence because these relationships become increasingly intimate and complex (Allen et al., 2006). Rubin et al.

(2006) examined the friendships of shy/withdrawn children and a nonaggressive/nonwithdrawn group of 5<sup>th</sup> graders. Participants, target children, and best friends completed the friendship quality questionnaire on two different occasions, once at the beginning of the school year and again seven months later. Shy/withdrawn children rated their best friendships lower than did control children on help and guidance, intimate exchange, and conflict resolution. Capaldi and Stoolmiller (1999) found similar results when they examined the effects of depressive symptoms measured at sixth grade among male adolescents on several areas of adjustment during late adolescence/early adulthood. Controlling for prior adjustment in peer relationships, depressive symptoms predicted an increase in self-reported poorer intimacy and communication with close friends, six years later. This finding is particularly noteworthy because it suggests that associations between socioemotional problems and friendship competence are dynamic and important to examine throughout the course of adolescence, as opposed to at just one point in time.

*Summary.* Past research has clearly indicated that negative parenting affects adolescents' socioemotional development, and has tentatively suggested that socioemotional problems affect adolescents' ability to manage conflict and engage in intimacy promoting behaviors in close friendships. The current study builds on this work by specifically examining socioemotional problems as a mediator of the association between negative parenting behaviors and problems with friendship competence. Furthermore, this study addresses methodological problems in previous studies by examining prospective patterns of parental influence and youths' maladjustment.

*Youth gender as a moderator.* Gender differences may exist in regards to socioemotional problems mediating the relationship between parenting and friendship competence. Specifically, female adolescents may experience more adverse reactions to negative parenting than do male adolescents (Helsen, Vollebergh, & Meeus, 2000; Rogers & Buchanan, 2003; Rothbaum & Weisz, 1994), which in turn may impair female adolescents' friendships. For example, Operario et al. (2006) found that depression and anxiety were higher among girls who experienced lower parental warmth than among boys who experienced lower warmth. Pettit et al. (2001) found that psychological control was more of a risk factor for female adolescents' development of internalizing behaviors than it was for male adolescents' development. Werner and Silbereisen (2003) found that warmth from fathers was associated negatively with girls' externalizing behaviors but not boys' problems. Although these results only suggest that the pathways from negative parenting behaviors to adolescents' socioemotional development differs by gender, this research can be extended to argue that the entire mediating pathway is stronger for female adolescents than male adolescents. Specifically, if girls are experiencing more of an adverse reaction to negative parenting behaviors that are manifest in the development of socioemotional problems, then these problems might impair conflict and intimacy with close friends. Furthermore, intimacy behaviors, as they are typically defined in measures of friendship quality, are particularly salient aspects of female adolescents' friendships and female adolescents may feel added stress to develop intimacy (Davies & Lindsay, 2004; Parker & Asher, 1993; Parks, 2007). Therefore, I hypothesized that youth gender moderates the mediating pathway and that the pathway from parenting to friendship

competence through socioemotional problems is stronger for female adolescents than for male adolescents.

*Mediating Pathway: Attachment Insecurity*

Attachment security with parents also may mediate the association between specific parenting behaviors and adolescents' friendship competence. Theoretically, negative parenting behaviors affect friendship competence because adolescents feel insecure in their relationships with parents, making it difficult to negotiate the interpersonal task of developing friendship competence during adolescence (Call & Mortimer, 2001). Furthermore, adolescents who feel more insecurely attached to parents may develop views and expectations of relationships that are negative (Furman & Simon, 1999). Three areas of research support the hypothesis that attachment insecurity mediates the relationship between negative parenting and problems with friendship competence: (a) studies that have examined the complete mediating pathway, (b) studies that have examined the relationship between negative parenting behaviors and attachment insecurity, and (c) studies that have examined the relationship between attachment insecurity and problems with friendship competence.

*Attachment insecurity as a mediator.* Research supports the proposition that attachment insecurity mediates the relationship between negative parenting behaviors and problems with friendship competence (Bosmans et al., 2006; Domitrovich & Bierman, 2001; Doyle & Markiewicz, 2005; Ojanen & Perry, 2007). For example, Domitrovich and Bierman found that children's perception of maternal parenting behaviors mediated the association between maternal warmth/non-hostile parenting behavior and social

behavior and problem solving with friends. Results from this study are limited due to the cross-sectional design, the age of the sample, and the possibility that perceptions of parenting differ to some extent from attachment security with parents. Adolescence may be a particularly important time to examine representations of attachment relationships to parents as a mediator because the emergence of formal operations allows youth to reflect on and gain insight into their relationships, a cognitive ability that was not possible during childhood (Furman et al., 2002). Drawing on data from a longitudinal study of 451 European American adolescents and their mothers and fathers, Paley, Conger, and Harold (2000) tested a model that examined whether parental hostility and warmth were prospectively associated with adolescents' social functioning two-years later directly or indirectly through children's representations of their relationships with parents. Results from structural equation modeling indicated that negative representation of parents partially mediated the positive relationship between parental hostility/lower warmth and youths' negative social behavior toward peers (e.g., being inconsiderate toward others). Although this study was longitudinal and assessments occurred during adolescence, Paley and colleagues focused on social behaviors toward the larger peer group as opposed to close friendships and aggregated positive and negative features of social behaviors with peers. Past research has suggested that there is overlap between social interactions with the larger peer group and interactions with friends but that friendships are a distinct relationship that may have different antecedents and consequences (Kupersmidt & DeRosier, 2004; Samter, 2003). Thus, the current study builds on the above findings by using prospective data to examine attachment insecurity as a mediator of the unique



associations between specific parenting behaviors and adolescents' conflict and intimacy friendship features.

*Negative parenting to attachment.* Parents promote adolescents' feelings of insecurity by being hostile, using inappropriate methods of controlling adolescents' behavior, and by being unresponsive to the needs of their adolescents (Batgos & Leadbeater, 1998; Bowlby, 1973). Countless studies have identified parenting behaviors as predictors of attachment security during infancy and early childhood (Belsky, 1999 reviews). Surprisingly, few researchers have specifically examined the effect of parenting behaviors on felt security during adolescence. Thus, identifying parenting factors that contribute to adolescents' felt attachment security is an important area of research (Karavasilis, Doyle, & Markiewicz, 2003). This study contributes to existing research by examining the relationship between three important parenting behaviors and attachment security in a sample of early adolescents.

Attachment theory proposes that adolescents who are criticized and rejected by parents may develop insecure attachments because they do not feel that they can trust in and openly communicate with parents (Bowlby, 1988). There is limited research, however, examining the effect of parental hostility on adolescents' attachment insecurity. Weinfield, Sroufe, and Englund (2000) found that child maltreatment assessed both in childhood and adolescence was associated with insecure attachments at age 18, concurrently and prospectively. We might expect reported child maltreatment to have a stronger association with attachment insecurity because of the extreme nature of that parenting behavior. Although parental hostility does not necessarily constitute child

maltreatment, different types of maltreatment (i.e., emotional and physical abuse) do involve hostile, critical, and angry behaviors by parents directed toward adolescents. Allen, Porter, McElhaney, McFarland, and Marsh (2007) examined the effect of paternal and maternal hostility on adolescents' attachment insecurity and found that both paternal and maternal hostility were associated with adolescents' attachment insecurity. Although this study was longitudinal, attachment insecurity and parental hostility were measured concurrently, thus limiting conclusions regarding causality. Drawing on this body of research, the current study hypothesizes that parental hostility is associated positively with felt attachment insecurity.

As detailed earlier in this chapter, psychological control is another negative parenting behavior that theoretically should predict attachment insecurity during adolescence. Only one study specifically has investigated the relationship between psychological control and attachment security during adolescence. Leondari and Kiosseoglou (2002) examined the relationship between attachment and parental psychological control in a sample of 319 adolescents and young adults, and found that insecure attachment and psychological control were positively correlated. Findings from a study by Karavasilis and colleagues also are relevant to the proposed pathway. Specifically, the researchers found that autonomy granting was associated positively with adolescents' attachment security. Although autonomy granting is a distinct construct from psychological control, the two constructs are associated and parents who use psychological control typically do not grant their adolescents appropriate amounts of autonomy (Steinberg, 1990). Drawing on theory and this body of research, the current

study hypothesizes that psychological control is associated positively with attachment insecurity.

Warm, responsive, and supportive parenting is associated with adolescents' perceptions of felt security in relationships with parents (Bowlby, 1988; Crowell, Waters, & Waters, 2005). Adolescents whose parents are less responsive and supportive may report feeling more insecurely attached to parents. The few studies that have examined the relationship between warmth and attachment security during adolescence have used cross-sectional designs. For example, Allen et al. (2003) examined the relationship between maternal supportiveness and attachment security as measured by the Adult Attachment Interview, and found that maternal support was associated positively with adolescents' attachment security with mothers. Ducharme et al. (2002) examined adolescents' perceptions of security with mothers and fathers and adolescents' self-reports regarding interactions with parents, and findings indicated that attachment security was associated positively with positive interactions with parents and use of negotiation strategies during conflicts with both mothers and fathers. Finally, Karavasilis et al. (2003) investigated the relationship between parenting and attachment security in an ethnically diverse sample of 202 elementary school students and 212 high school students in Canada. Hierarchical regression analyses revealed that a lack of parental warmth was associated positively with feelings of insecure attachment to parents for both elementary school students and adolescents. Findings from these studies are limited because assessment was not prospective and Ducharme et al. relied solely on youths' reports of attachment and parenting. The current study contributes to the existing research by

examining the relationship between lower parental warmth and attachment insecurity prospectively and by considering parents' report and observers' ratings of parenting.

*Attachment insecurity and problems with friendship competence.* Feelings of attachment in the parent-adolescent relationship have been related consistently to competence in social relationships, concurrently and longitudinally (Allen, Moore, Kuperminc, & Bell, 1998; Freitag et al., 1996; Mayseless & Scharf, 2007; Sroufe et al., 1999; Zimmerman, 2004). Research has indicated that adolescents who report feelings of insecurity with parents are less satisfied in close friendships, experience more conflict with friends, and engage in less intimacy related behaviors with friends (Ducharme et al., 2002; Weimer et al., 2004). Theoretically, attachment insecurity with parents affects adolescents' conflict and intimacy behaviors in friendships by impairing relationship views and by not providing a secure base that youth can rely on to negotiate new tasks in adolescence.

Feelings of insecurity with parents are associated with problems establishing and maintaining intimacy in adolescents' close friendships (Batgos & Leadbeater, 1994; Ducharme et al., 2002). Schneider, Atkinson, and Tardif (2001) conducted a meta-analysis with 63 studies and found small to moderate effect sizes for the association between attachment and children's peer relationships. Effect sizes were larger during adolescence than in childhood and larger in studies that focused on close friends as opposed to peers in general. Lieberman et al. (1999) investigated the relationship between attachment and peer relationships in a cross-sectional study of 267 early adolescents and 274 children from two-parent families. Attachment security was assessed separately for

mothers and fathers and included participants' perceptions of parental availability and help sought from parents. Regression analyses indicated that participants who viewed their parents as more available and who relied on their parents more in times of stress reported higher quality friendships with a close same-sex friend. Although neither of these studies specified what aspects of intimacy behaviors were measured, intimacy behaviors such as support, acceptance, and communication are typically a part of measures that assess global aspects of friendship quality (Furman, 1998). Based on these findings, the current study hypothesizes that attachment insecurity is associated positively with problems developing intimacy behaviors in relationships with same-sex close friends.

Attachment insecurity with parents also may impair adolescents' ability to manage conflict in close friendships. Managing conflict in close friendships is an important developmental task for adolescents to accomplish so that they can be successful in relationships throughout the lifespan (Burleson, 1995). Research on the association between insecure attachments with parents and adolescents' friendships has primarily focused on global indicators of friendship competence that have not included conflict management skills. A few studies have found a positive relationship between feelings of insecurity with parents and difficulty managing conflict in close friendships. Specifically, Zimmerman (2004) found that attachment insecurity with parents as assessed by the Adult Attachment Interview was associated positively with difficulty managing conflict in adolescents' close friendships. Generalization of the results from this study are limited because of the small sample size ( $N = 43$ ). In a larger sample ( $N =$

117) of middle adolescents and their parents, Allen et al. (2002) examined the relationship between attachment security and social problem-solving skills. Results indicated that attachment security was a significant predictor of social problem-solving skills controlling for baseline social skills two years earlier. In Allen and colleagues' study, social problem-solving skills were a general measure of adolescents' responses to conflicts with peers, parents, and other adults, and problem solving unique to friendships was not examined. The results, however, still support the proposition that attachment security affects adolescents' ability to manage conflict in nonspecific close relationships. Finally, Ducharme et al. (2002) conducted a cross-sectional study with 150 European American adolescents that examined the relationship between attachment security and adolescents' social interactions with peers. Data consisted of adolescents' self-report on attachment security and a daily diary measuring adolescents' interactions with parents and peers. Attachment insecurity with fathers but not mothers was associated with conflict in general peer interactions but not with conflict strategies used in close friendships. Thus, the current study builds on previous research that has considered the relationship between attachment insecurity and friendship competence by exploring associations prospectively and examining specific aspects of friendship competence as opposed to a global positive evaluation of friendship quality.

*Youth gender as a moderator.* The role of attachment insecurity as a mediator of the association between negative parenting and problems with friendship competence may differ based on youths' gender. Although most studies find that gender differences do not exist regarding the effects of attachment on adolescents' adjustment (Rice, 1990;

Schneider et al., 2001), some research and theories have suggested that girls' development may be affected more adversely by feelings of insecure attachment (Cosse, 1992; Kenny, Moilanen, Lornax, & Brabeck, 1993). Based on this research, the hypothesized model considers the moderating effect of gender. Specifically, I hypothesized that the relationship between negative parenting behaviors and adolescents' problems with friendship competence as mediated by feelings of attachment insecurity is stronger for girls than for boys.

### *Hypotheses*

There is accumulating evidence that negative parenting behaviors affect youths' friendship competence during adolescence. The current study builds on this evidence and proposes that parental hostility, psychological control, and lower parental warmth are associated positively with problems developing intimacy and conflict in relationships with friends.

1. Wave 1 (W1) and 2 (W2) parental warmth is associated negatively with problems with Wave 5 (W5) and 6 (W6) intimacy and conflict behaviors.
2. W1 and W2 parental hostility is associated positively with problems with W5 and W6 intimacy and conflict behaviors.
3. W1 and W2 parental psychological control is associated positively with problems with W5 and W6 intimacy and conflict behaviors.

Currently, the explanation as to why parenting affects friendship competence has been largely theoretical. Parenting may affect friendship competence in two possible ways. Adolescents who experience parental hostility, parental psychological control, and

lower parental warmth may develop maladaptive ways of interacting with the world. In turn, socioemotional problems may affect adolescents' ability to develop intimacy and manage conflict with close friends. Adolescents who experience negative parenting also may develop feelings of insecure attachment to parents that affect the development of competencies needed in close friendships. Thus, the current study hypothesizes that the associations between parenting behaviors and friendship competence can be fully explained by adolescents' socioemotional behaviors and/or perceptions of attachment insecurity to parents. The hypothesized model (Figure 2) includes the following hypotheses:

4. W3 and W4 attachment insecurity with parents and adolescents' socioemotional problems fully mediate the associations between all three negative parenting behaviors and problems with intimacy and conflict behaviors.
5. Associations between parenting behaviors and problems with intimacy and conflict behaviors are stronger for female adolescents than male adolescents. The mediating pathways through socioemotional problems and attachment insecurity are stronger for female adolescents than male adolescents.

Testing the above hypotheses helps explain the effects that parenting behaviors during early adolescence may have on friendship competence. Exploring these links is crucial in understanding why some adolescents experience problems developing friendship competence. Developing friendship competence is one of the most salient



developmental tasks that adolescents need to accomplish in order to transition successfully into early adulthood (Roisman et al., 2004). Thus, the current study contributes to understanding the processes that affect an understudied yet critical competency that must be attained during adolescence.

## CHAPTER III

### METHODS

#### Sample

This study is part of a larger longitudinal project that examined the effect of family processes on the transition from childhood into adolescence. In the first wave of data collection, 2,297 6<sup>th</sup> grade students in 13 middle schools from a southeastern county completed a questionnaire during school. Sixth graders were invited to participate in this study because they were beginning the transition from childhood into adolescence. The sample was representative of families in the county in regards to race, family income, and family structure.

A subsample of 1,131 eligible families were identified (two-parent married households, no step children), and 416 families agreed to participate in the 4-year study (37% response rate). Stepfamilies were not included in the initial sample because stepfamilies differ from families without stepparents in the home and funds were inadequate to collect questionnaire and observational data from a large enough sample of stepfamilies to conduct group comparisons (Buehler, 2006). Primary reasons for not participating included time constraints and/or an unwillingness of one or more family members to be videotaped. Participants were similar to eligible non-participants on all study variables reported by youth on the school-based questionnaire. At the onset of the study (W1) adolescents ranged in age from 11 to 14 ( $M = 11.90$ ,  $SD = .42$ ). Participants

were primarily European American (91%) and 51% were girls. The median level of education for parents was an associate's degree. This level of education is similar to European American adults in the county (county mean category was some college, no degree; U.S. Census, 2000, Table P148A of SF4). The median level of household income for participating families was about \$70,000, which is higher than the median 1999 income for married European Americans in the county (\$59,548, U.S. Census, 2000, Table PCT40 of SF3; \$64,689 inflation-adjusted dollars through 2001). There were 366 participating families at W2, 340 families at W3, and 330 families at W4 (80% retention of W1 families). Attrition analyses revealed no differences between the retained and attrited families on any of the study variables.

#### Procedures

Youth completed a questionnaire during fall of the 2001-2002 school year. During the first four years of data collection, questionnaires also were mailed home to youth, mothers, and fathers at which time family members were asked to complete questionnaires independently. Another brief questionnaire containing particularly sensitive information was completed during the home visit (e.g., extreme adolescent antisocial behavior). The home visit also consisted of four videotaped family interaction tasks. For each task, the home visitor recorded the interaction, explained the task to the family members involved, helped the family complete a sample question, introduced the family members on the tape, and then went to a part of the house where the participating family members could not be heard. For purposes of the current study, only interaction task 3 was used. Task 3 lasted 20 minutes and was a problem-solving task, which

included mothers, fathers, and adolescents. The task focused on issues identified by family members on the Issues Checklist given before the interaction task (Conger, Conger, Elder, Lorenz, Simons, & Whitbeck, 1992). Task 3 was used because the current study is interested in assessing parenting that occurs within a given family, as opposed to the specific relationships between mothers and adolescents and fathers and adolescents. Interaction tasks were based on tasks used by the Iowa Youth and Family Project and data were coded using the Iowa Family Interaction Rating Scales (IFIRS; Melby & Conger, 2001). Trained coders who had passed several written tests and viewing tests rated the videotaped tasks. To assure accuracy of observers' ratings, coders had to pass criterion viewing exams at 80%. To assess reliability of data, 20% of tasks were coded by an independent rater. In-home assessments were conducted again a year later (W2), two years later (W3), and three years later (W4). Most adolescents were in 7<sup>th</sup> grade at W2 ( $M = 13.11$ ,  $SD = .65$ ), in 8<sup>th</sup> grade at W3 ( $M = 14.10$ ,  $SD = .65$ ), and in 9<sup>th</sup> grade at W4 ( $M = 15.10$ ,  $SD = .65$ ). Families were compensated \$100 for their participation for W1, \$120 for W2, \$135 for W3, and \$150 for W4.

During middle adolescence, youth who participated in W1 of the project were invited to participate in a telephone interview focused on adolescents' relationships with friends and romantic partners. These W5 telephone interviews took place about one year following the families' W4 home assessment. Youth who had not participated in W4 were eligible to participate in the telephone interviews and attempts to contact these youth began at the onset of W5. As youth had not yet reached age 18 at W5, youths' parents were contacted by phone or through the annual newsletter to obtain informed consent.

Parents could give consent for youth to participate by telephone, e-mail, or by signing and returning a mailed/faxed copy of a consent form. Once parents gave consent, youth assent was obtained over the telephone before the interview took place. Trained undergraduates and graduate students conducted interviews with youth. All interviews were conducted over the telephone unless the adolescent requested that an interview protocol be mailed to his or her home (6%). For purposes of the friendship portion of the interview protocol, adolescents were asked to select a same-sex closest friend to think about when responding to statements. The decision was made to ask adolescents to think about same-sex closest friends because past research suggests that the majority of adolescents report that their closest friends are of the same-sex (> 90%), and we expected that mixed-sex friendships might differ in characteristics compared to same-sex friendships (Cui et al., 2002; Furman, 1998). Seventy-nine percent of youth reported having a best friend, and those youth who reported they did not have a same-sex best friend were asked to think about their relationship with their same-sex closest friend when answering questions. If adolescents were currently involved in a romantic relationship, they also were asked to respond to a series of similar statements regarding their romantic partner. On average, interviews lasted 20 minutes. Three-hundred and thirteen youth participated in the W5 telephone interviews. Most adolescents were in 10<sup>th</sup> grade at W5 ( $M = 16.08$ ,  $SD = .64$ ). Five of those youth were not included in data analysis because they were siblings of the target youth (308 adolescents, 74% retention rate of W1 families). A second round of telephone interviews were conducted a year later (W6). There were 265 participating youth at W6. Seventy-six percent of youth in W6

reported having a best-friend. Four of those youth were not included in data analysis because they were siblings of target youth (261 youth, 63%). Most adolescents were in the 11<sup>th</sup> grade at W6 ( $M = 17.08$ ,  $SD = .64$ ). Youth participating in W5 and W6 did not differ significantly from nonparticipating youth who participated in W1 on any of the variables examined in the current study (analyses conducted using MANOVA). Youth were compensated \$10 for W5 participation and \$10 for W6 participation.

### Measures

Multiple reporters, methods, and measures were used to assess the constructs in the structural model (Figure 2). Using multiple informants, methods, and measures helps to reduce method and informant bias and more accurately captures the entire domain of a construct (Bank et al., 1990). Furthermore, all parenting constructs, mediators, and dependent variables consisted of data collected over a two-year period that were averaged to create latent constructs. Assessment of study variables over two years captures stability in behaviors and thus increases content validity (Cui et al., 2002).

#### *Parenting Behaviors*

Three parenting behaviors were examined and represented the independent constructs in the hypothesized model: parental hostility, parental psychological control, and parental warmth. Parenting behaviors from W1 and W2 were used. W1 and W2 parenting behaviors were used because parenting behaviors may shift during the transition to early adolescence (i.e., 6<sup>th</sup> and 7<sup>th</sup> grade) and the current study was interested in capturing the effect that parenting during this time of transition has on adolescents' ability to accomplish an important developmental task. Mothers', fathers' and observers'

ratings of parenting were considered as indicators for the three respective parenting behaviors. Mothers' and fathers' reports of parenting were considered as indicators of the same latent parenting constructs because parents are very consistent in the parenting behaviors they employ (Amato, 1994; Baumrind, 1991). Furthermore, models that estimate simultaneously the effect of mothers and fathers in the same model or that estimate the effect of mothers and fathers in separate models are limited in the conclusions that can be drawn regarding differential effects of mothers' and fathers' parenting on adolescents' adjustment (Stolz, Barber, & Olson, 2005).

*Parental hostility.* Mothers', fathers', and observers' reports were used to measure hostility. Parents reported on the 8-item Iowa Youth and Families Assessment protocol (Conger, Ge, Elder, Lorenz, & Simons, 1994). Respondents were asked about the frequency of mothers' and fathers' behaviors toward youth in the past year with sample items including "Shouted, yelled, or screamed at youth," and "Called him/her dumb or lazy or some other name like that." Response options ranged from 0 (*this has never happened*) to 6 (*this has happened more than 20 times in the last year*). Higher scores on this scale indicated more hostile behaviors used by parents. Cronbach's alpha was .78 for mothers' reports and .77 for fathers' reports of hostility at W1. Cronbach's alpha was .84 for mothers' reports and was .81 for fathers' reports of hostility at W2. W1 and W2 mothers' reports were averaged to represent one manifest indicator ( $r = .67$ ), as were W1 and W2 fathers' reports ( $r = .68$ ).

The IFIRS was used to measure observed hostility from mother to youth and father to youth (Melby & Conger, 2001). Hostile behaviors on this rating scale included

disapproving and critical statements toward youth, contemptuous behaviors toward youth, and physical attack by parents. Coders rated parents' behavior toward youth on a 1 (*not at all characteristic*) to 9 (*highly characteristic*) response format. Higher scores on this scale indicated more expressed hostility. Ratings by coders on observed maternal hostility at W1 and W2 were averaged to represent one manifest indicator ( $r = .39$ ), and ratings by coders on observed paternal hostility were averaged at W1 and W2 to represent observed paternal hostility as a manifest indicator ( $r = .33$ ). Buehler (2006) reported adequate intraclass correlations and percent agreement using these ratings with this data set.

*Psychological control.* The 8-item Psychological Control Scale (PCS; Barber, 1996) and three items developed by Bogenschneider, Small, and Tsay (1997) were used from W1 and W2 of data collection to measure mothers' and fathers' use of psychologically intrusive behaviors toward youth. Parents responded to items such as "I am a person who acts like I know what my child is thinking or feeling," and "I am a person who finishes my child's sentences when she or he talks." The response format was 1 (*not like me*), 2 (*somewhat like me*), and 3 (*a lot like me*). Higher scores indicated higher levels of psychological control by parents. Cronbach's alphas for W1 were .77 and .74 for mothers' and fathers' reports, respectively. Cronbach's alphas for W2 were .64 and .69 for mothers' and fathers' reports, respectively. Correlations between parents' ratings at W1 and W2 were moderately high (mother = .61, father = .55) and the decision was made to average W1 and W2 reports for each parent separately yielding two manifest



indicators that represented maternal psychological control W1/W2 and paternal psychological control W1/W2.

*Parental warmth.* Parental warmth is a latent variable that represented both mothers' and fathers' reports of warmth as well as observed warmth. Parents completed the 10-item *acceptance subscale* of the Children's Report of Parental Behavior Inventory (CRPBI; Schludermann & Schludermann, 1970) during W1 and W2 of the study. Sample items included "I am a person who believes in showing my love for my child," and "I am a person who gives my child a lot of care and attention." Response options were 1 (*not like me*), 2 (*somewhat like me*), and 3 (*a lot like me*). Cronbach's alpha was .76 for mothers' reports of acceptance and was .83 for fathers' reports on acceptance at W1. Cronbach's alpha was .81 for mothers' reports of acceptance and .84 for fathers' reports of acceptance at W2. Correlations between parents' ratings at W1 and W2 were high (mother = .68, father = .68) and the decision was made to average W1 and W2 reports for each parent separately yielding two manifest indicators that represented maternal warmth W1/W2 and paternal warmth W1/W2.

Warmth also was measured by using coders' ratings of mother to youth and father to youth warmth from the IFIRS (endearing, praising, and supportive expressions; Melby & Conger, 2001). Coders rated parents' behavior toward youth on a 1 (*not at all characteristic*) to 9 (*highly characteristic*) scale. Ratings by coders on observed maternal warmth at W1 and W2 were averaged to represent one manifest indicator ( $r = .28$ ), as were ratings on observed paternal warmth at W1 and W2 ( $r = .26$ ). Buehler (2006)

reported adequate intraclass correlations and percent agreement using similar ratings with this data set.

### *Adolescent Socioemotional Problems*

Socioemotional problems were represented by one latent variable composed of youths' and teachers' reports on externalizing and internalizing behaviors over a two-year period (W3/W4). Data for W3 and W4 were used, as opposed to socioemotional problems measured at one wave, to obtain a more stable estimate of problem behaviors during early adolescence. Youths' reports were used because adolescents are thought to be important sources of information on their own internalizing behaviors and to a lesser extent externalizing behaviors (Achenbach et al., 1987; Stanger & Lewis, 1993).

Teachers' reports were used to reduce mono-method bias that might result from only considering youths' reports, and to strengthen content validity by obtaining ratings of socioemotional behaviors in a different context outside the home (i.e., school). Teachers' reports were only available for W3 because teacher data were not collected when youth transitioned to high school. Externalizing and internalizing behaviors were measured using teachers' reports (Teacher Report Form) and youths' reports (Youth self-report) on the 118-item Child Behavior Checklist (CBCL; Achenbach, 1991). The Achenbach measures were designed to measure adolescents' emotional and behavioral problems. Response options were 0 (*not true*), 1 (*somewhat or sometimes true*), and 2 (*very true or often true*). Higher scores indicated higher levels of externalizing problems and internalizing problems. The 35-item *externalizing behavior subscale* included items such as "gets in fights" and "breaks rules." The 32-item *internalizing behavior subscale*

included items such as “feels worthless” and “cries a lot.” The CBCL (all forms) is a widely used measure with established test-retest reliability and validity (Doll, Furlong, & Wood, 1994). Cronbach’s alphas for the externalizing subscale at W3 were .89 and .91 for youth and teachers, respectively. Cronbach’s alphas for the internalizing subscale at W3 were .89 and .84 for youth and teachers, respectively. At W4 Cronbach’s alpha for the externalizing subscale was .90 for youth and Cronbach’s alpha for the internalizing subscale was .90 for youth. Youths’ reports of W3 and W4 externalizing problems and W3 and W4 internalizing problems were highly correlated. Thus, W3 and W4 reports were averaged and four manifest indicators represented socioemotional problems: W3/W4 youth report externalizing ( $r = .63$ ), W3 teacher report externalizing, W3/W4 youth report internalizing ( $r = .65$ ), and W3 teacher report of internalizing.

#### *Attachment Insecurity*

Attachment insecurity was represented by one latent variable based on youth reports of feelings of trust, alienation, and communication with mother and father during W3 and W4 of the project. A modified 12-item version of The Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1997) measured youths’ perception of attachment insecurity on three subscales: the 4-item *alienation subscale*, the 4-item *trust subscale*, and the 4-item *communication subscale*. Response options on this scale ranged from 1 (*almost never or never true*) to 5 (*almost always or always true*). Youth were asked to think about their respective parent when responding to items. Higher scores on the *alienation subscale* and lower scores on the *trust* and *communication subscales* represented feeling more insecurely attached to parents. The *alienation subscale* included

items such as “I get easily upset at home,” and “I don’t get much attention at home.” Cronbach’s alphas at W3 were .81 and .77 for youths’ reports regarding mothers and fathers, respectively. At W4 alphas were .77 for youths’ reports regarding both *alienation subscales* with mothers and fathers. The *trust subscale* included items such as “my parents respect my feelings,” and “my parents accept me as I am.” Reliability estimates at W3 were  $\alpha = .91$  for youths’ reports for mothers and  $\alpha = .90$  for youths’ reports on fathers, and at W4 were  $\alpha = .92$  for youths’ reports on both attachment insecurity with mothers and fathers. The *communication subscale* included items such as “I tell my mother/father about my problems and troubles,” and “If my mother/father know something is bothering me, they ask me.” Reliability estimates for the *communication subscale* at W3 were  $\alpha = .84$  for youths’ reports on both mothers and fathers and at W4 were  $\alpha = .86$  and  $\alpha = .84$  for youths’ reports on mothers and fathers, respectively. Due to the high correlations ( $r = .59 - .61$ ) between W3 and W4 subscales, youths’ responses to the attachment subscales were averaged within a scale creating three manifest indicators for both mother and father: W3/W4 communication, W3/W4 trust, W3/W4 alienation. Furthermore, past research has found that adolescents’ evaluations of attachment security with mother and father are not differential predictors of adjustment and find high correlations between the two variables (Bosmans et al., 2006). In the current study, correlations between the three attachment subscales for mothers and fathers ranged from .35 -.65 and thus the decision was made to average youths’ reports of attachment security to mother and attachment security to father. Thus, the latent construct of attachment insecurity to parents was represented by three manifest indicators: W3/W4 trust mother

and father, W3/W4 communication mother and father, W3/W4 alienation mother and father.

### *Problems with Friendship Competence*

Two latent variables were created to represent friendship competence: intimacy behaviors and conflict in the friendship (Englund et al., 2000). To assess intimacy behaviors, a latent variable was created which consisted of an average of W5 and W6 youths' reports on friendship support, attachment to friends, and friendship quality. A second latent construct represented conflict in the friendship (i.e., frequency and behavioral responses) at W5 and W6. Intimacy and conflict behaviors were measured at W5 and W6 because the current study was interested in assessing adolescents' competence in friendships at a time when close friendships are most salient in adolescents' lives (Crosnoe, 2000).

*Intimacy behaviors.* Youth reported on several measures that represented intimacy behaviors. A 7-item measure of support from a same-sex close friend measured youths' reports of support in close friendships (Berndt & Perry, 1986; Vernberg, Abwender, Ewell, & Beery, 1992). Response options ranged from 1 (*never*) to 5 (*every day*). Items on this scale included "When you do a good job on something, how often does this friend praise and congratulate you," and "If you needed help with something, how often could you count on this friend to help you." Cronbach's alphas for W5 and W6 were .73 and .71, respectively.

The 7-item Relationship Assessment Scale (Hendrick, 1988) assessed adolescents' evaluation of the overall quality of their same-sex closest friendship. The

response scale ranged from 1 (*low satisfaction*) to 5 (*high satisfaction*). Items on the scale included “How well does your friend meet your needs” and “How good is your friendship compared to most.” Cronbach’s alphas for W5 and W6 were .73 and .71, respectively. Hendrick (1988) reported good reliability and construct validity for this scale.

Youth report at W6 on the Peer Scale of the Revised 12-item IPPA was used to measure communication, closeness, and alienation in adolescents’ same-sex closest friendships. Response options on this scale ranged from 1 (*almost never or never true*) to 5 (*almost always or always true*). Higher scores on the *alienation subscale* and lower scores on the *trust* and *communication subscales* represent feeling more insecurely attached to peers. The 4-item *alienation subscale* included items such as “I feel alone or apart when I am with my friends,” and “I get upset a lot more than my friends know about.” The 4-item *trust subscale* included items such as “My friends listen to what I have to say,” and “I feel my friends are good friends.” The 4-item *communication subscale* included items such as “I tell my friends about my problems and troubles,” and “My friends are concerned about my well-being.” Cronbach’s alpha for W6 was .70. Past research has reported adequate test-retest reliability and internal consistency (Armsden & Greenberg, 1987; Raja, McGee, & Stanton, 1992) and has documented that youths’ reports of attachment to peers as measured by the IPPA are a related yet distinct construct from youths’ reports of attachment to parents (Gullone & Robinson, 2005; Raja et al., 1992).

*Conflict in friendship.* To assess adolescents' conflict management in friendships, a latent variable was created composed of frequency of conflict W5/W6, behavioral responses to conflict W5/W6, and affective responses to conflict W5/W6.

*The Conflict and Antagonism Subscales* from the Network of Relationships Inventory (NRI; Furman & Buhrmester, 1985; 6 items) was used to measure frequency of conflict in adolescents' same-sex closest friendship. Participants were asked to respond on a scale from 1 (*little or none*) to 5 (*the most*) to questions such as "How much do you and your friend disagree or quarrel," and "How much do you and your friend get on each others nerves." Higher scores on this scale indicated more frequent conflict between friends (W5  $\alpha = .78$ , W6  $\alpha = .73$ ).

To assess behavioral responses to conflict, youths' reports (W5/W6) on seven items from the Relational Aggression Scale (Crick, 1997) and four items from the *avoidance subscale* of the Conflict Resolution Behavior Questionnaire (Rubenstein & Feldman, 1993) were used. The Relational Aggression Scale asked adolescents to respond on a scale from 1 (*never true*) to 5 (*almost always true*) to questions such as "When one of you or both of you is upset do you try to exclude the other from your group of friends." Higher scores on this scale indicated more relational aggression in conflict situations with friends. Cronbach's alphas at W5 and W6 were .65 and .51. The Conflict Resolution Behavior Questionnaire also was used to assess youths' behavioral responses to conflict. The response format for the *avoidance subscale* ranged from 1 (*never*) to 4 (*often*). Higher scores on the *avoidance subscale* indicated higher use of avoidance techniques when confronted with friendship conflict. Sample items on this scale included

“try to avoid talking about it,” and “clam up and hold your feelings inside.” Cronbach’s alphas at W5 and W6 were .66 and .63, respectively.

To assess adolescents’ affective and behavioral responses to conflict, the 12-item *Emotional Reactivity Subscale* from the Insecurity in the Interparental Subsystem Scale (SIS; Davies & Forman, 2002; YR; W5) was used. Instead of focusing on their parents’ relationships, adolescents were asked to evaluate how true certain statements were when they had an argument with their best friend. Statements included “I feel sad,” “I can’t calm myself down,” and “I yell or say unkind things.” The response format for this scale ranged from 1 (*not at all true of me*) to 4 (*very true of me*). Higher scores on the *emotional reactivity subscale* indicated more difficulty regulating behavioral and affective responses when faced with conflict in a close friendship. Cronbach’s alphas at W5 and W6 for this scale were .85 and .78, respectively.



## CHAPTER IV

### RESULTS

#### Analytic Strategy

The AMOS 7.0 structural modeling program was used for data analysis. Structural equation modeling (SEM) offers several advantages over other statistical techniques, including (a) the ability to create latent variables, (b) the ability to assess the relationship between individual constructs as well as overall model fit, and (b) the ability to take into account random and systematic measurement error. SEM is an appropriate statistical technique in the current study because it minimizes plausible threats to validity including low internal consistencies on some study measures, shared method variance on self-reports from the same measure (i.e., CBCL and IPPA), and potential multicollinearity between constructs (Grewal, Cote, & Baumgartner, 2004 ; Kline, 2005). Model fit for all SEM analyses was examined using the chi-square goodness of fit statistic, the comparative fit indices (CFI), and the root mean square error of approximation (RMSEA), as several fit indices are recommended with large sample sizes (Byrne, 2001). A nonsignificant chi-square indicated a good model fit. The CFI statistic should be greater than .90 to assume that the model is correctly specified. CFI values of .90 to .95 indicated adequate fit of the data and values of .95 or higher indicated a good model fit. RMSEA should be close to approaching zero, with values below .05 indicating a good model fit and values ranging from .06 to .08 indicating an adequate model fit

(Thompson, 2000). The significance threshold for all models was set at  $p < .05$ . To deal with missing data, a full information maximum likelihood estimation procedure (FIML) was used. Missing data are a threat to any research study, especially longitudinal projects. Inappropriate strategies (e.g., mean substitution, listwise deletion) for handling missing data may produce invalid conclusions (Acock, 2005). Thus, FIML was used in the analyses because it produces less biased estimates than deleting cases.

### *Measurement Model*

Multiple methods, reporters, and measures were used to create latent constructs in the structural model. Use of multiple informants, methods, and measures helps minimize shared method variance and informant bias (Bank et al., 1990). The hypothesized measurement and structural model is presented in Figure 2. In the hypothesized model, negative parenting behaviors were represented by three latent constructs which were measured using mothers' and fathers' reports of a specific parenting behavior for W1 and W2 of the study and observers' ratings of parent-child interactions on designated scales for W1 and W2 (e.g., acceptance for warmth). Correlations between parenting behaviors were taken into account in the SEM model as parenting constructs may be related.

Socioemotional problems were represented by a latent variable consisting of four indicators: youths' reports on internalizing behaviors average of W3 and W4, youths' reports on externalizing behaviors average of W3 and W4, teachers' reports of internalizing W3, and teachers' reports of externalizing W3. Internalizing and externalizing behaviors are highly related and in the hypothesized model are thought to impair friendship competence similarly (Capaldi & Stoolmiller, 1999), and thus

externalizing and internalizing behaviors were used as indicators of nonspecific socioemotional problems. Attachment insecurity was represented by one latent construct, which consisted of youth report on perceptions of attachment insecurity to mother and attachment insecurity to father (average of youths' perceptions of both mother and father). There were three manifest indicators for each attachment insecurity construct: W3/W4 trust, W3/W4 communication, and W3/W4 alienation. The latent constructs of attachment insecurity and socioemotional problems were allowed to covary because these two constructs are thought to be related. Furthermore, error covariances were estimated between the manifest indicators of internalizing and externalizing problems, as well as between the indicators of attachment insecurity. This was done to account for possible shared method variance that was expected because of using youths' self-report on a given version of the same assessment (YSR and IPPA; Bollen, 1989; Kenny & Kashy, 1992).

Finally, problems with friendship competence were represented by two latent constructs, each with several manifest indicators. Friendship intimacy consisted of youths' reports for W5 and W6 on friendship quality, friendship support, and peer attachment (W6 only). Friendship conflict was measured by youths' reports for W5 and W6 on frequency of conflict, avoidance of conflict, use of relational aggression in the friendship, and emotional reactivity in response to conflict.

### *Structural Model*

To test the research hypotheses, structural equation models were estimated to examine the direct effect of negative parenting behaviors on problems with friendship competence, as well as the two mediating pathways. Both mediators were tested in the

same model in some of the analyses. Statisticians recommend that all mediators be tested in the same model so that you can determine the unique effect of each mediator, controlling for the other mediators (Preacher & Hayes, 2007). This is particularly important in the analysis because two explanations as to why parenting affected friendship competence are evaluated. Youth gender also was considered as a moderator using multiple-group SEM analysis.

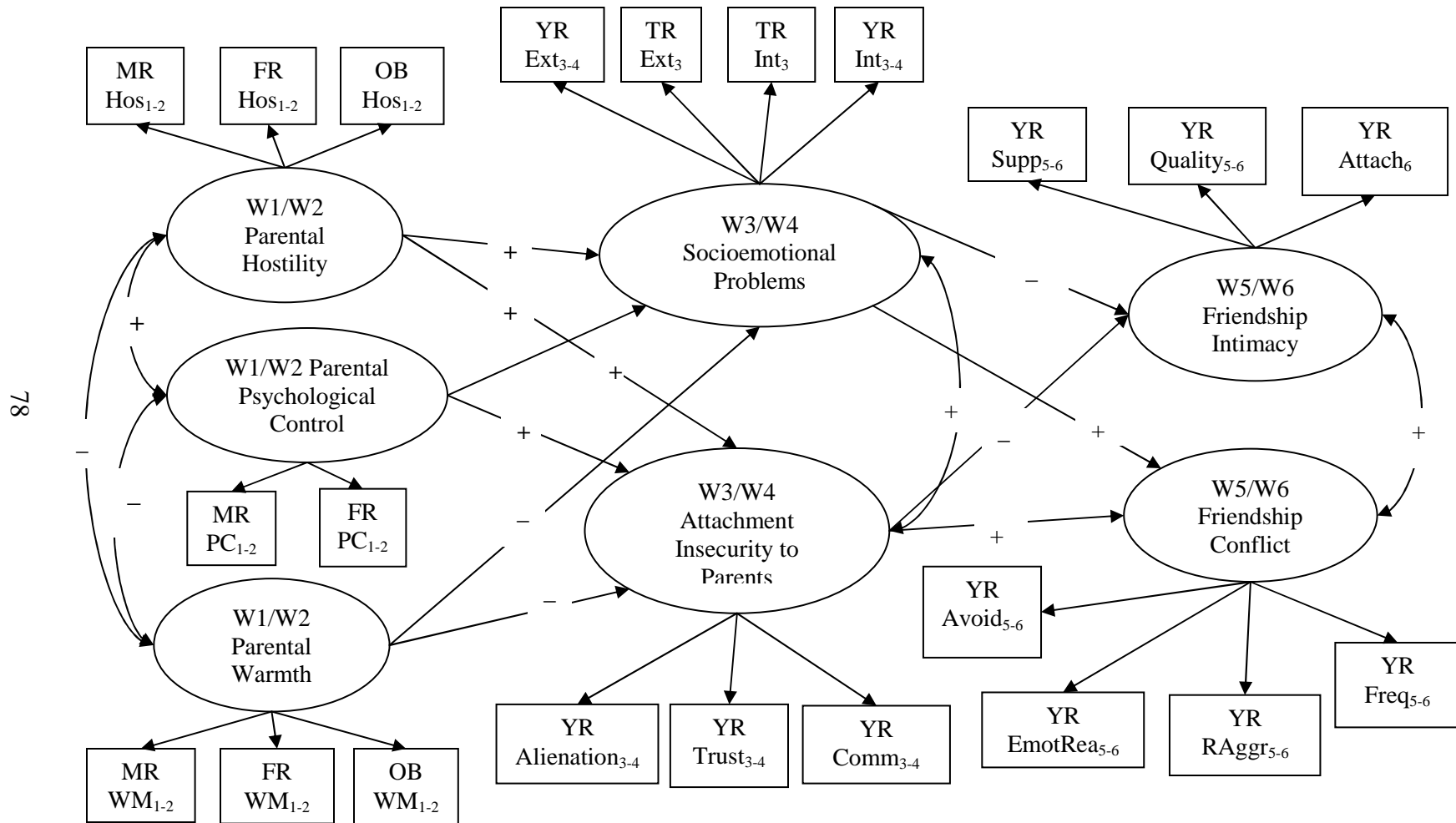
Several steps were followed to test for mediation. Specifically, for socioemotional problems and attachment insecurity to be considered significant mediators, several criteria had to be met: (a) the path from each of the parenting predictors to friendship intimacy and conflict had to be significant when tested in the direct model; (b) the relationship between the mediators and friendship intimacy and conflict had to be significant; (c) the relationship between parenting predictors and mediators had to be significant; and (d) the pathway between parenting predictors and friendship competence had to be attenuated when the mediators were included in the model. To test whether an effect was fully mediated the direct effect between parenting and friendship competence must be reduced to nonsignificant when mediating effects are considered in the model. If the absolute size of the direct effect is reduced when mediators are considered in the model but the direct effect is still significant then the mediation effect is said to be partial (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). It was expected that socioemotional problems and attachment insecurity would fully mediate the relationship between parenting behaviors and adolescents' friendship competence. However, if there was not a significant relationship between parenting behaviors and friendship competence

in the direct model then I tested for an indirect effect as opposed to mediation. Holmbeck's (1997) criterion for distinguishing mediated effects from indirect effects was followed. An effect is said to be indirect as opposed to mediating when there is a significant relationship between independent variables and mediators and a significant relationship between mediators and outcomes but there is not a significant relationship between dependent and independent variables when associations are tested in the direct model. If there was not a relationship between parenting predictors and friendship competence in the direct model, the direct effect was not retained but the indirect effect of a specific parenting predictor was still examined. Sobel's test also was used to test both specialized and unique mediating and indirect pathways for statistical significance (i.e., through socioemotional problems and through attachment insecurity).

To test for moderating effects of youth gender, a multiple-group SEM analysis was conducted with two groups: girls and boys. Before testing whether gender moderated the paths between parenting, mediators, and friendship competence, tests of measurement invariance for constructs in the direct model and mediating model were conducted. Past research has indicated that the salience of measurement items of friendship quality and friendship conflict may differ by gender (Hussong, 2000), and thus it is important to assess metric equivalence across gender for key study constructs before testing for structural invariance. To test for metric invariance, two models were compared, one in which all parameters were constrained to be equal and the other in which the factor loadings were allowed to vary across the two groups. Change in the chi-square was examined for statistical significance at the  $p < .05$  level. A significant change in chi-

square signified that manifest indicators were differentially related to the latent construct for boys and girls. A test of factor loadings across groups provides evidence regarding what has been termed “weak measurement invariance,” which maximizes the validity of the inferences made from the moderating analysis of the structural pathways (Bauer, 2005; Byrne et al., 1989). After testing for metric invariance, structural invariance was assessed. Specifically, using the change in chi-square test, the moderating hypothesis that the structural pathways from parenting to friendship competence and the mediating pathways explaining this association would be stronger for girls was examined (Byrne, 2001). A significant change in chi-square between the models suggests that gender differences in the freed structural pathways exist, and critical ratios were then examined to locate specific, significant group differences.

**Figure 2.** Proposed structural and measurement model examining mediators of the relationship between parenting and friendship competence. Direct effects from parenting to friendship competence are expected but not represented. MR means mother report; FR means father report; OB means observer rating; YR means youth report; TR means teacher report.



## Results

### *Preliminary Results*

Correlations among indicators are presented in Table 1. All correlations were in the expected direction and indicated significant relationships between key study variables. Specifically, parental hostility and psychological control were correlated positively with at least one measure of friendship conflict and correlated negatively with measures of friendship intimacy. Parental psychological control had the highest correlations with measures of friendship competence. Warmth was correlated positively with friendship support but was not correlated significantly with any other measures of friendship competence.

All parenting predictors were associated significantly with socioemotional problems, such that negative parenting behaviors were related to higher levels of adolescents' externalizing and internalizing problems. All parenting predictors, with the exception of warmth, were associated significantly with all measures of attachment insecurity, such that negative parenting was related to higher levels of attachment insecurity. Finally, both measures of socioemotional problems and attachment insecurity were associated significantly with measures of friendship conflict and friendship intimacy, such that higher levels of socioemotional problems and attachment insecurity were related to higher levels of friendship conflict and lower levels of friendship intimacy.



Means, standard deviations, skewness, and kurtosis also are presented in Table 1. Skewness values typically should fall between 1 and -1, with a 0 representing a normally distributed variable. Kurtosis values range from a -2 to infinity, with negative values representing a platokurtic distribution and positive values representing a leptokurtic distribution (Kline, 2005). Externalizing, internalizing, and relational aggression variables were slightly positively skewed and leptokurtic, indicating that, on average, in this data set youth scored low on externalizing, internalizing, and relational aggression variables, and values tended to aggregate more around the mean.

### Measurement Models

#### *Hypothesized Measurement Models*

The hypothesized structural model postulated that parental warmth, parental psychological control, and parental hostility at W1 and W2 are associated with friendship intimacy and conflict at W5 and W6 and that these relationships are mediated through youths' socioemotional problems and/or attachment insecurity to parents. When the originally hypothesized measurement model was used and all latent constructs were included in the final structural model, the model did not identify. Model identification problems may have been caused by the high correlation between psychological control and parental hostility ( $r = .88$ ). Furthermore, certain indicators for the latent constructs of socioemotional problems and friendship competence had low factor loadings that resulted in poor model fit when the full structural model was considered.

*Parenting.* In the hypothesized model, parental hostility and parental warmth represented two latent constructs that included both parents' reports and observers'

ratings of hostility and warmth. Due to the high correlation between the indicator variables, specifically psychological control and hostility, the model did not identify. The current study was interested in uncovering unique and specialized effects of parenting on friendship competence and thus all three dimensions of parenting were retained in the final model. Furthermore, past research has shown that warmth, hostility, and psychological control are distinct factors that should be considered as separate predictors (Barber et al., 2005). In preliminary analyses, exploratory factor analysis using oblimin rotation methods revealed that there was a possible method bias for parents' reports of psychological control and parents' reports of hostility that resulted in poor discriminant validity. When parents' reports of psychological control and parents' reports and observers' ratings of hostility and warmth were factor analyzed, a six-factor solution emerged. Factors included: mothers' reports of psychological control and hostility, fathers' reports of psychological control and hostility, observed warmth mother/father, observed hostility mother/father, mothers' report of acceptance, and fathers' report of acceptance. This result indicated that the methods used to collect data (e.g., type of reporter) were possibly biasing the relationships between parenting variables. To increase discriminant validity among the parenting variables, only observed reports of hostility and observed reports of warmth were used as manifest indicators for these two constructs. A follow-up exploratory factor analysis using only observed hostility, observed warmth, and parents' reports of psychological control resulted in a three-factor solution that included observed parental hostility to youth, observed warmth to youth, and parents'

reports of psychological control. Thus, the measurement model for parenting behaviors was revised.

*Socioemotional problems.* The measurement model for socioemotional problems did not identify due to one negative error variance. Furthermore, in the final structural model when socioemotional problems was a latent construct that consisted of both youth and teachers' reports of internalizing and externalizing problems, teachers' reports of youths' externalizing and internalizing problems had low factor loadings (.34 and .14, respectively) and using teacher scores as manifest indicators significantly decreased model fit,  $\Delta\chi^2 = 69$ ,  $df = 29$ ,  $p > .001$ . Therefore, teacher manifest variables were not included in the respecified measurement model.

*Friendship competence.* In the hypothesized model, friendship competence consisted of two latent factors, friendship intimacy behaviors and conflict management in the friendship. Originally, friendship intimacy consisted of three indicators: support, attachment to friends, and friendship quality. Attachment to friends was not a significant indicator of friendship intimacy (factor loading = .15) and was dropped from further analyses. Conflict management originally consisted of four indicators: frequency of conflict, relational aggression in the friendship, emotional reactivity to friendship conflict, and avoidance of conflict in the friendship. Emotional reactivity and avoidance of conflict were significant manifest indicators of conflict management in the measurement model. However, in the structural model when emotional reactivity and avoidance of conflict were retained, model fit decreased significantly (CFI from .94 to .81). Therefore, emotional reactivity and avoidance of conflict were dropped as manifest

indicators of conflict. The respecified measurement model had two indicators that represented friendship competence: (a) intimacy behaviors of friendship, as indicated by friendship quality and support in the friendship and (b) conflict behaviors of friendship, as indicated by frequency of conflict and relational aggression in the friendship.

### *Respecified Measurement Models*

Factor structures for parenting predictors, mediators, and friendship competence were examined in AMOS (Version 7). Factor loadings for the respecified measurement models are represented in Table 2. Several of the latent constructs only had two manifest indicators, which resulted in identification problems (Loehlin, 2004). Thus, in order to evaluate factor loadings and model fit, three measurement models were examined: (a) a measurement model for parenting, (b) a measurement model for socioemotional problems and attachment, and (c) a measurement model for friendship competence.

*Parenting.* Parental hostility, parental psychological control, and parental warmth were considered in the same measurement model. Model fit for the parenting measurement model was adequate,  $\chi^2 = 15.8$  (6),  $p < .001$ ,  $CFI = .95$ ,  $RMSEA = .06$  and all of the factor loadings were significant and above .35.

*Mediators.* Attachment insecurity with parents and socioemotional problems were examined in the same measurement model. Model fit was good,  $\chi^2 = 11.0$  (4),  $p < .05$ ,  $CFI = .99$ ,  $RMSEA = .07$ . Factor loadings for attachment insecurity ranged from .59 to .94. Factor loadings for socioemotional problems were .83 (youth report externalizing) and .67 (youth report internalizing). Attachment insecurity and socioemotional problems were highly correlated,  $r = .70$ ,  $p < .001$ . Furthermore, because externalizing and

internalizing behaviors are often examined as separate latent constructs in research, a three-factor model consisting of externalizing behaviors and internalizing behaviors as separate latent constructs was examined. The three-factor model for mediators did not significantly fit the data better than a two-factor model, as illustrated by change in chi-square ( $\Delta\chi^2 = 116.8$ ,  $df = 7$ ,  $p < .001$ ) and decrease in fit statistics ( $CFI = .89$ ,  $RMSEA = .16$ ).

*Friendship competence.* Friendship competence was represented by two latent variables, friendship intimacy and friendship conflict. Model fit for the two-factor model was marginal,  $\chi^2 = 75.1$  (1),  $p < .01$ ,  $CFI = .98$ ,  $RMSEA = .12$ . Friendship intimacy and friendship conflict were highly correlated,  $r = .77$ ,  $p < .001$ .

#### Respecified Model

##### *Direct Model: Parenting to Friendship Competence*

To examine the first set of hypotheses (1-3), the direct effects of parental hostility, psychological control, and warmth on adolescents' friendship intimacy and friendship conflict were tested (Figure 3). Model fit for the direct model was good,  $\chi^2 = 45.2$  (25),  $p < .008$ ,  $CFI = .96$ ,  $RMSEA = .04$ . Parenting predictors explained 13% of the variance in adolescents' friendship conflict and 15% of the variance in adolescents' friendship intimacy. The only hypothesized pathways that were uniquely significant in the direct model were from parental psychological control to friendship intimacy,  $\beta = -.35$ ,  $p = .02$  and psychological control to friendship conflict,  $\beta = .32$ ,  $p = .03$ . Specifically, higher parental psychological control during early adolescence was associated with lower intimacy and higher conflict during middle adolescence. Because parental warmth and

parental hostility were not associated significantly with friendship competence, direct effects from parental hostility and parental warmth to adolescents' friendship intimacy and conflict were dropped from the structural models and only indirect effects were estimated. Psychological control was significantly associated with friendship intimacy and conflict and thus, in subsequent models the direct paths for psychological control were retained and mediation effects were tested. To reflect the fact that subsequent models test for both mediating and indirect effects the term intervening variable will be used as opposed to mediator.

#### *Testing for Indirect and Mediated Effects*

To examine the independent and differential effects of attachment insecurity and socioemotional problems as explanations for the relationship between parenting and friendship competence three models were tested. Mediation and indirect effects were tested first in separate models because attachment insecurity and socioemotional problems were highly correlated which might make it difficult to uncover significant effects when both intervening variables were considered in the same structural model. Furthermore, the current study was interested in examining which explanation, socioemotional problems or attachment insecurity, better accounted for the relationship between parenting and friendship competence. To address this goal, it first needed to be established that socioemotional problems and attachment insecurity were each associated with the predictor and outcome variables when considered in separate models. Thus, three models were tested: (a) the indirect and mediating effects of parenting on friendship competence through socioemotional problems, (b) the indirect and mediating effects of

parenting on friendship competence through attachment insecurity, (c) and the indirect and mediating effects of parenting on friendship competence through both socioemotional problems and attachment insecurity considered in the same SEM analysis. To account for possible shared method variance due to reports on the same scale (i.e., YSR and CBCL) error covariances were estimated between youths' reports of externalizing and internalizing and between youths' reports of communication and trust for all three indirect/mediating models. Nonsignificant correlated error terms were dropped from the final model.

*The intervening effect of socioemotional problems.* To examine the hypothesis that socioemotional problems explained the effect of parental hostility, parental psychological control, and parental warmth on friendship competence, the latent construct of socioemotional problems was added to the direct model (Figure 4). As discussed above, parental hostility and parental warmth were not significantly associated with friendship intimacy or friendship conflict in the direct model. Therefore, only the indirect effects of hostility and warmth on friendship competence were tested because there were no direct effects to mediate. Model fit was good,  $\chi^2 = 68.3 (42), p < .006, CFI = .96, RMSEA = .04$ . The error covariance for youth report of internalizing and externalizing problems was significant ( $r = .39$ ). As hypothesized, parental hostility, psychological control, and warmth each were uniquely associated with socioemotional problems,  $\beta = .32, \beta = .72$  and  $\beta = -.29$ , respectively. Specifically, adolescents whose parents used more psychological control and hostility and were less warm at W1 and W2 reported more socioemotional problems at W3 and W4.

Socioemotional problems were significantly associated with friendship conflict,  $\beta = .34, p = .04$  but not with friendship intimacy,  $\beta = -.24, p = ns$ , suggesting that adolescents who reported higher socioemotional problems experienced more conflict in their friendships but not lower intimacy. The significant associations between (a) psychological control and friendship intimacy, and (b) psychological control and friendship conflict were reduced to nonsignificant when adolescents' socioemotional problems were included in the model, suggesting full mediation. Results from Sobel's test provided further support for the mediating effect between parental psychological control and friendship conflict through socioemotional problems,  $z = 2.13, p < .05$ . Sobel's test also provided support for the indirect effect of parental hostility on friendship conflict through socioemotional problems,  $z = 1.97, p < .04$  but did not support an indirect effect of parental warmth on friendship conflict,  $z = -1.74, p < .08$ . Thus, results provided partial support for the hypothesis that socioemotional problems mediated the relationship between parenting and friendship competence. In sum, socioemotional problems uniquely mediated the relationship between parental psychological control and friendship conflict and parental hostility had a unique indirect relationship with friendship conflict through socioemotional problems.

*The intervening effect of attachment insecurity.* To examine the hypothesis that attachment security explained the effect of parental hostility, parental psychological control, and parental warmth on friendship competence the latent construct of attachment insecurity was added to the direct model (Figure 5). Model fit was good,  $\chi^2 = 89.9 (52), p < .01, CFI = .96, RMSEA = .04$ . The error covariance for youths' reports of trust and



communication was significant ( $r = .57$ ) but not for alienation and communication or alienation and trust ( $r = -.11$  and  $r = -.13$ ). As hypothesized, parental hostility and parental psychological control were uniquely associated with attachment insecurity,  $\beta = .30, p < .01$  and  $\beta = .59, p < .001$ , respectively. In contrast, parental warmth was not associated with attachment insecurity,  $\beta = -.06, p = ns$ . Attachment insecurity was significantly associated with friendship intimacy and friendship conflict,  $\beta = -.58, p < .001$  and  $\beta = .46, p = .04$ , such that higher attachment insecurity at W3 and W4 was associated with lower friendship intimacy and higher conflict at W5 and W6. The direct relationship between (a) psychological control and friendship intimacy, and (b) psychological control and friendship conflict was reduced to nonsignificant when attachment insecurity was considered in the model. Furthermore, Sobel's test provided support that attachment insecurity fully mediated the relationship between parental psychological control and friendship intimacy,  $z = -2.52, p < .05$  and psychological control and friendship conflict,  $z = 2.35, p < .05$ . Hostility also was indirectly associated with friendship intimacy,  $z = -2.12, p < .05$ , and friendship conflict,  $z = 2.22, p < .05$ , through attachment insecurity.

*Comprehensive indirect/mediating model.* To examine the relative effects of attachment insecurity and socioemotional problems on the relationship between parenting and friendship competence, attachment insecurity and socioemotional problems were examined in the same analysis (Figure 6). Model fit was adequate  $\chi^2 = 137.3 (71), p < .01, CFI = .95, RMSEA = .05$ . The error covariance for youths' reports of internalizing and externalizing problems was significant in this model ( $r = .27$ ), as was the error covariance for youths' reports of trust to youths' reports of communication ( $r = .46$ )

Parental hostility and parental psychological control were uniquely associated with both attachment insecurity and socioemotional problems. Parental warmth was only associated uniquely with socioemotional problems,  $\beta = -.27, p = .04$ . Attachment insecurity was significantly associated with friendship intimacy,  $\beta = -.73, p < .01$  but not with friendship conflict,  $\beta = .03, p = ns$ , when socioemotional problems were considered in the same analysis. Socioemotional problems were no longer significantly associated with friendship conflict,  $\beta = .20, p = ns$ .

Attachment insecurity reduced the relationship between psychological control and friendship intimacy to nonsignificant,  $\beta = -.27$ . Sobel's test provided further support that attachment insecurity fully mediated the relationship between psychological control and friendship intimacy,  $z = -2.06, p < .05$ . When parental hostility and parental warmth were considered in the model with parental psychological control and both intervening variables, Sobel's test did not indicate a significant unique path from parental hostility to friendship intimacy,  $z = -1.96, p = .05$ . Taken together, parenting explained 36% of the variance in future attachment insecurity and 58% of the variance in future socioemotional problems. With all the predictors in the same model, 15% of the variance was explained in friendship conflict and 28% of the variance was explained in friendship intimacy.

#### *Gender Moderation*

To test for equality across gender the measurement paths and structural paths were compared across boys and girls. The first model comparison tested whether the measurement models were the same for boys and girls. Moderation analyses for the measurement model of the direct model indicated that the fit of the constrained model

and the model where factor loadings were allowed to vary across boys and girls did differ significantly ( $\Delta\chi^2 = 20.43$ ,  $df = 5$ ,  $p > .001$ ) for boys and girls. Critical ratios for differences between factor loadings for boys and girls were examined. One of five factor loadings differed significantly (more than 1.96) which was the factor loading from relational aggression to friendship conflict,  $z = -3.76$ . The loading was stronger for girls ( $b = .68$ ,  $p < .001$ ) than for boys ( $b = .29$ ,  $p < .001$ ), suggesting that relational aggression was a better indicator of friendship conflict for girls than it was for boys. The factor loadings for the model (Figure 6), which included attachment insecurity and socioemotional problems, also were tested for equality across gender. Results indicated that the fit of the constrained model and the model where factor loadings were allowed to vary differed significantly ( $\Delta\chi^2 = 27.39$ ,  $df = 8$ ,  $p > .001$ ) across boys and girls. In addition to the factor loading from relational aggression to friendship conflict that was found when measurement invariance was tested for the direct model ( $z = -3.76$ ), boys and girls also significantly differed on the factor loading for internalizing behaviors to socioemotional problems ( $z = 2.98$ ). Internalizing behaviors were a better indicator of socioemotional problems for girls,  $b = 1.05$ ,  $p < .001$  than for boys,  $b = .60$ ,  $p < .001$ . None of the other six measurement paths differed significantly for boys and girls. Although differences were found in 2 of the 8 factor loadings, these differences were small and thus should not prevent the assessment of or conclusions drawn from the moderating analyses of the structural pathways (Byrne, Shavelson, & Muthen, 1989) given partial measurement equivalence was demonstrated.

*Hypotheses testing.* Invariance across structural paths was examined for girls and boys assuming weak partial measurement invariance. A fully constrained direct model was compared to one in which all parameters in the model except the six structural paths were constrained to be equal across boys and girls. Comparison of the constrained model with the model where the structural paths were allowed to vary across boys and girls were not significantly different,  $\Delta\chi^2 = 8.02$ ,  $df = 6$ ,  $p = ns$ . Furthermore, a more stringent test of structural invariance also was conducted by allowing the factor loading for relational aggression to vary for girls and boys. This analysis indicated that none of the structural paths for boys and girls differed when the factor loading for relational aggression was allowed to vary. Results indicated that parenting behaviors did not differentially affect male and female adolescents' friendship competence.

To test whether the process by which parenting behaviors affected friendship competence differed for male and female adolescents a fully constrained model (i.e., all parameters assumed equivalent across groups) was compared with a model in which the constraints for the 12 structural pathways were allowed to vary for boys and girls. Results from the omnibus test indicated that there was not a significant change in chi-square when the paths were allowed to differ for boys and girls,  $\Delta\chi^2 = 17.10$ ,  $df = 12$ ,  $p = ns$ . A more stringent test of structural invariance also was conducted by allowing the factor loadings for relational aggression and internalizing behaviors to vary for girls and boys. Critical ratios indicated that none of the 12 structural pathways differed across gender. Results indicated that the process mechanisms of socioemotional problems and

attachment insecurity to parents that explained the relationship between parenting and adolescents' friendship competence did not differ for male and female adolescents.

#### Post Hoc Analyses

Based on the study findings, two alternative models were tested to further clarify the relationships among parenting behaviors, socioemotional problems, attachment insecurity to parents, and friendship competence.

##### *Youth Characteristics as an Intervening Variable*

Although socioemotional problems and attachment insecurity are distinct constructs, both could be considered characteristics of youth that are influenced by common causes (in this case parenting) and predict similar outcomes (i.e., friendship difficulties). As illustrated by the high correlation between the disturbances of attachment insecurity to parents and socioemotional problems ( $r = .70, p < .001$ ), there is strong evidence that these two constructs are related and might share common antecedents. In the current study, this high correlation between intervening variables may have resulted in difficulty identifying unique significant effects. Thus, indicators of adolescents' socioemotional problems and attachment insecurity to parents were used to form one latent construct (labeled youth characteristics) that was then tested as an intervening variable of the relationship between parenting behaviors and friendship competence (Figure 7). Factor loadings for all five manifest indicators were significant. Model fit was adequate  $\chi^2 = 153.6 (77), p < .001, CFI = .94, RMSEA = .05$ , and this model fit was not significantly different from the fit of the model with two intervening variables,  $\Delta\chi^2 = 10.8, df = 6, p = ns$  (Figure 6). Significant relationships between variables did not change.

The relationship between youth characteristics and friendship conflict, however, almost reached significance,  $\beta = .22$ ,  $p = .06$  in the new model and was nonsignificant in the model with two intervening variables (Figure 6). Furthermore, examination of the indirect pathways indicated that the indirect pathway from hostility to friendship intimacy through youth characteristics was significant,  $z = 2.4$ ,  $p = .02$ , suggesting that adolescents who experienced hostile parenting had less intimate friendships because of negative characteristics of self. The mediating pathway from psychological control to friendship intimacy through youth characteristics also was significant,  $z = 2.63$ ,  $p < .001$  and the mediating pathway to friendship conflict reached significance,  $z = -1.87$ ,  $p = .06$ . Thus, the consideration of only one intervening variable in the model may have produced an increase in power that resulted in finding a significant indirect pathway from parental hostility to friendship intimacy through youth characteristics and a trend-level pathway from parental psychological control to friendship conflict through youth characteristics.

#### *Friendship Competence Reconsidered*

The disturbances between friendship intimacy and friendship conflict also were highly associated ( $r = -.77$ ,  $p < .001$ ) suggesting that these constructs are related and might share common antecedents. Although some evidence was found in previous models of differential prediction by intervening variables, because of the high correlation between the two constructs there is still concern that a model testing the direct and intervening effects on one friendship outcome may be more parsimonious and provide a better fit to the data. Thus, one friendship competence construct was formed consisting of four manifest indicators: relational aggression, frequency of conflict, friendship support,

and friendship quality. All factor loadings were significant. The direct effects model was tested and indicated that parental hostility and parental warmth were not significantly associated with friendship competence and that parental psychological control was significantly associated with friendship competence,  $\beta = .37, p = .02$ . Direct effect results are consistent with results found in the previous model, which contained two friendship outcomes (Figure 3). Furthermore, a chi-square difference test did not indicate that there was a significant difference in the fit of the two models  $\Delta\chi^2 = 9.9, df = 5, p = ns$ , although the direct effects model with only one outcome did appear to fit the data better as indicated by a reduction in chi-square.

Differences also were examined by testing the indirect/mediating effects model with only one friendship outcome (Figure 8). A chi-square difference test indicated that Model 6 which included two friendship outcomes provided a better fit to the data than Model 8 which considered only one friendship outcome,  $\Delta\chi^2 = 16.1, df = 4, p < .01$ . Furthermore, attachment insecurity was no longer significantly related to friendship difficulties,  $\beta = .45, p = .10$ , even though the regression coefficient was similar in Model 8 and Model 6. A nonsignificant relationship between attachment insecurity and friendship intimacy may have resulted from the increased, although nonsignificant relationship between psychological control and friendship difficulties ( $\beta = .23$ ).

Table 1.

*Descriptive Statistics and Intercorrelations between Variables*

VARIABLES	1	2	3	4	5	6	7	8
<b>W1/W2 Parental Hostility</b>								
1. Parental Hostility – Obs Mom to Youth	—							
2. Parental Hostility – Obs Dad to Youth	.44**	—						
<b>W1/W2 Parental Warmth</b>								
3. Parental Warmth – Obs Mom to Youth	-.05	-.06	—					
4. Parental Warmth – Obs Dad to Youth	-.10*	-.07	.31**	—				
<b>W1/W2 Parental Psychological Control</b>								
5. Psych Control – MR	.12*	.05	.01	-.02	—			
6. Psych Control – FR	.09	.19**	.01	-.05		—		
<b>W3/W4 Socioemotional Problems - YR</b>								
7. Externalizing – YR	.28**	.28**	-.11*	-.12*	.25**	.19**	—	
8. Internalizing - YR	.18**	.17*	-.17**	-.14*	.21**	.19**	.57**	—



Table 1. *Continued*

<b>VARAIBLES</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
<b>W3/W4 Attachment Insecurity – YR</b>								
9. Communication	-.18**	-.13*	.08	.07	-.13*	-.12*	-.39**	-.29**
10. Trust	-.32**	-.27**	.12*	.12*	-.19**	-.30**	-.53**	-.44**
11. Alienation	.28**	.18*	-.01	-.05	.25	.32**	.43**	.34**
<b>W5/W6 Friendship Intimacy – YR</b>								
12. Friendship Quality	-.12*	-.11*	-.01	.05	-.17**	-.09	-.22**	-.25**
13. Friendship Support	-.11	-.02	-.13*	.05	-.19**	-.10	-.14*	-.10
<b>W5/W6 Friendship Conflict – YR</b>								
14. Relational Aggression	.07	.02	.01	-.02	.17**	.11*	.08	.12*
15. Frequency Conflict	.13*	.08	-.01	-.07	.19**	.04	.22**	.18**
M	3.9	2.7	3.2	2.7	1.2	1.3	8.6	8.1
SD	1.7	1.4	1.5	1.4	.21	.21	6.7	6.8
Skewness	.33	.43	.49	.91	.92	.82	1.54	1.56
Kurtosis	.12	.005	-.22	.73	.92	.35	4.02	3.82

Table 1. *Continued*

VARIABLES	9	10	11	12	13	14	15
<b>W3/W4 Attachment Insecurity – YR</b>							
9. Communication	—						
10. Trust	.68**	—					
11. Alienation	-.39**	-.55**	—				
<b>W5/W6 Friendship Intimacy – YR</b>							
12. Friendship Quality	.29**	.38**	-.35**	—			
13. Friendship Support – YR	.26**	.23**	-.26**	.52**	—		
<b>W5/W6 Friendship Conflict – YR</b>							
14. Relational Aggression	-.11	-.14*	.14*	-.35**	-.22**	—	
15. Frequency Conflict	-.11	-.19**	.32**	-.44**	-.46**	.42**	
M	3.5	4.2	2.3	4.5	4.2	1.2	1.5
SD	.73	.68	.69	.37	.51	.27	.38
Skewness	-.08	-1.2	.42	-.88	-.91	2.3	.99
Kurtosis	-.32	1.5	.35	.65	.57	10.26	1.3

Table 2.

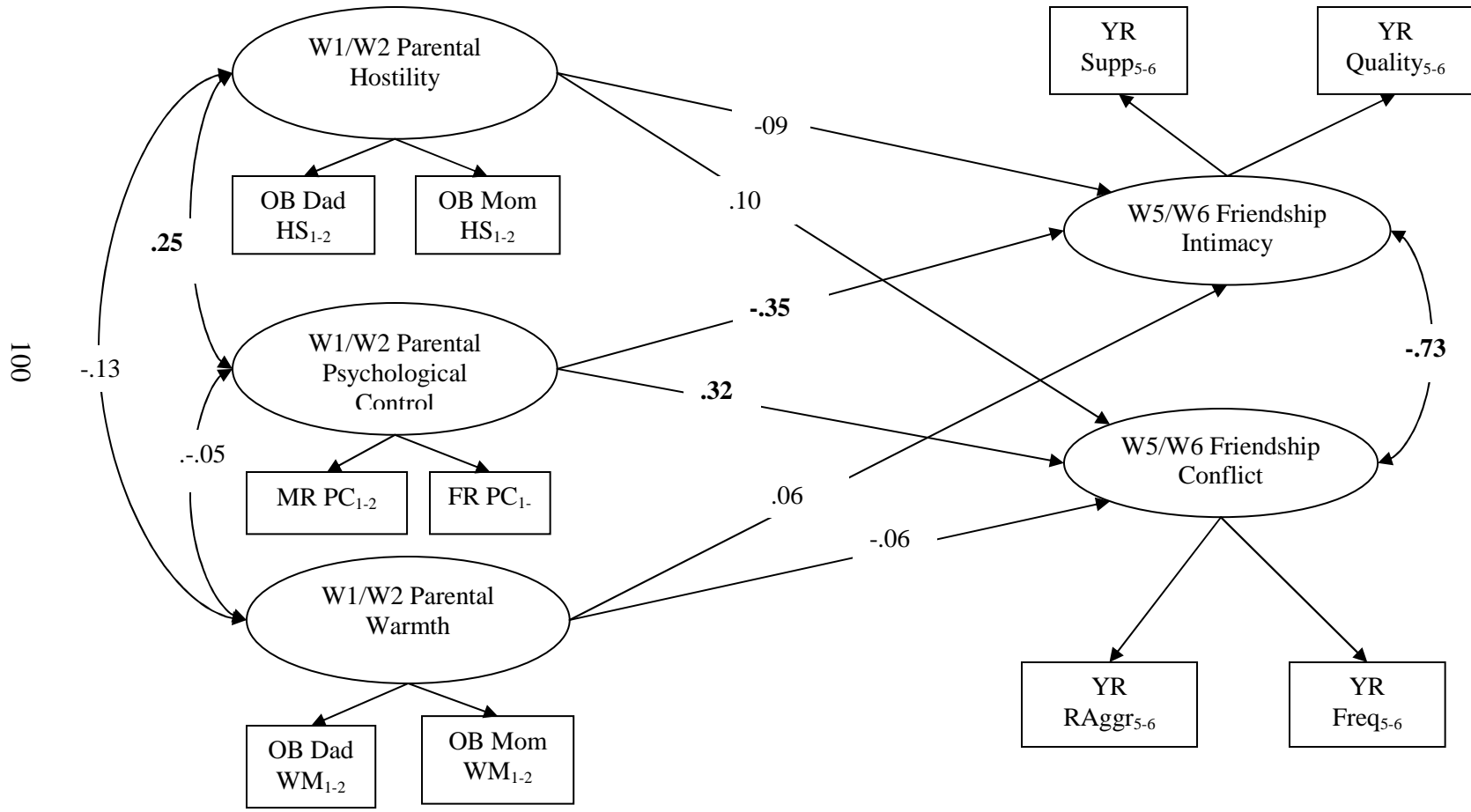
*Factor Loadings SEM Model*

Latent and Manifest Variables	SEM Factor Loading
<b>Parental Hostility (W1/W2)</b>	
Observed maternal hostility to youth	.50
Observed paternal hostility to youth	.89
<b>Parental Warmth (W1/W2)</b>	
Observed maternal warmth to youth	.74
Observed paternal warmth to youth	.43
<b>Parental Psychological Control (W1/W2)</b>	
Mother report of psychological control to youth	.57
Father report of psychological control to youth	.44
<b>Adolescent Socioemotional Problems (W3/W4)</b>	
Youth-reported adolescent externalizing problems	.83
Youth-reported adolescent internalizing problems	.67
<b>Adolescent Attachment Insecurity (W5/W6)</b>	
Youth-reported communication with parents	-.71
Youth-reported trust in parents	-.94
Youth-reported alienation from parents	.59

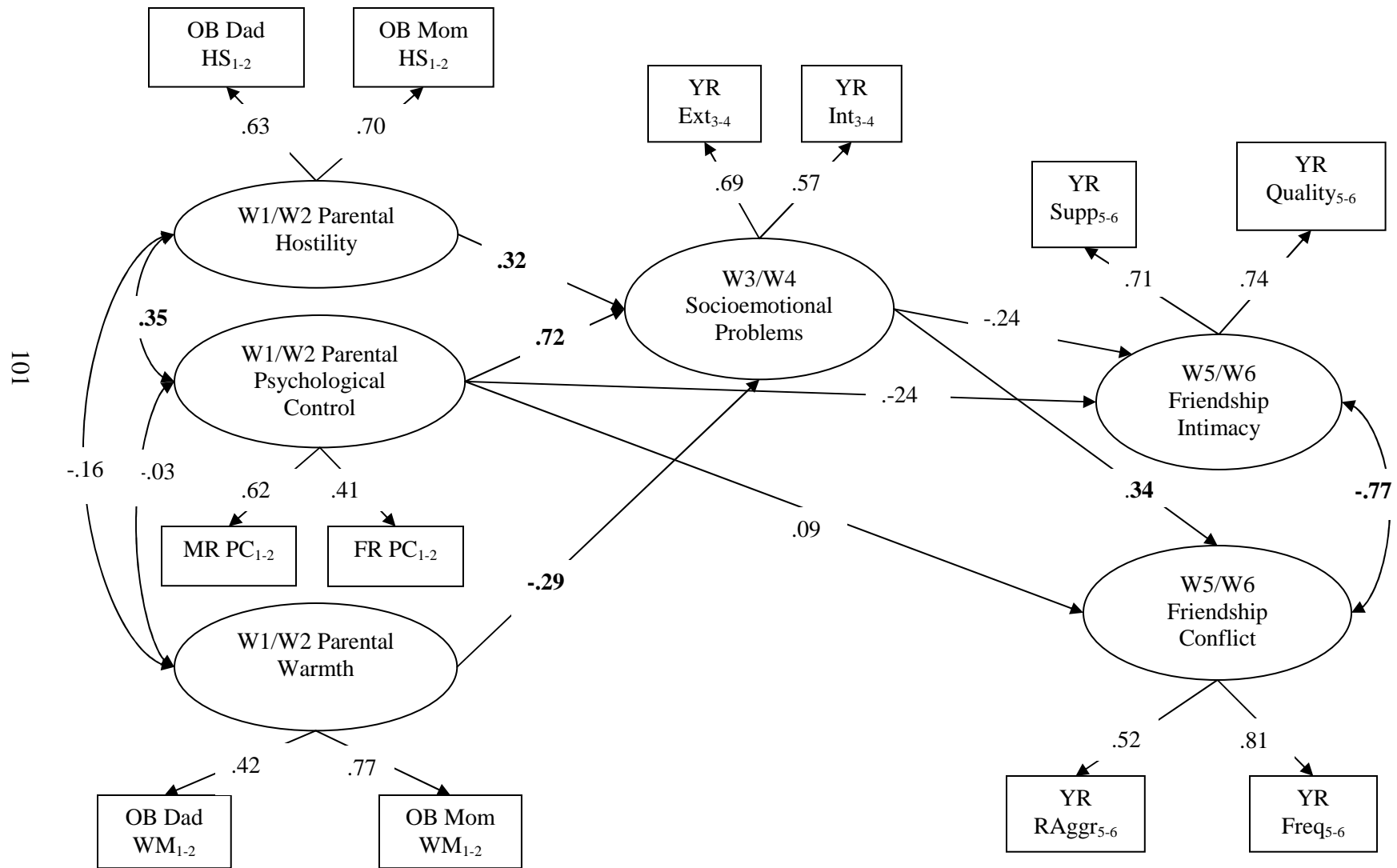
Table 2. *Continued*

Latent and Manifest Variables	SEM Factor Loading
<b>Adolescent Friendship Intimacy (W5/W6)</b>	
Youth-reported friendship quality	.74
Youth-reported friendship support	.71
<b>Adolescent Friendship Competence (W5/W6)</b>	
Youth-reported friendship conflict	.81
Youth-reported friendship relational aggression	.52

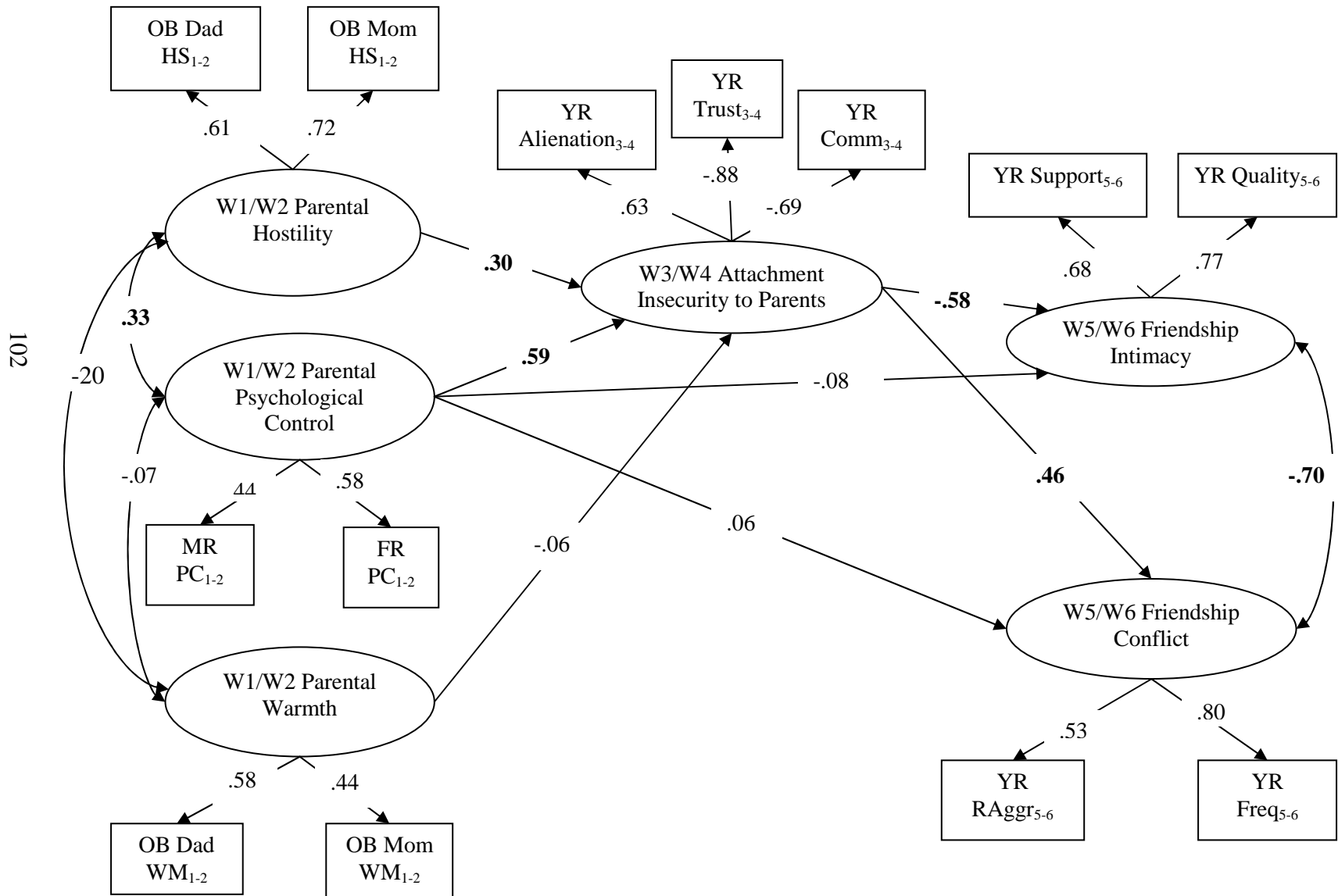
**Figure 3.** Direct model between parenting and friendship competence. MR means mother report; FR means father report; OB means observer rating; and YR means youth report. Significant associations are bolded. CFI = .96, RMSEA = .04,  $p < .001$ .



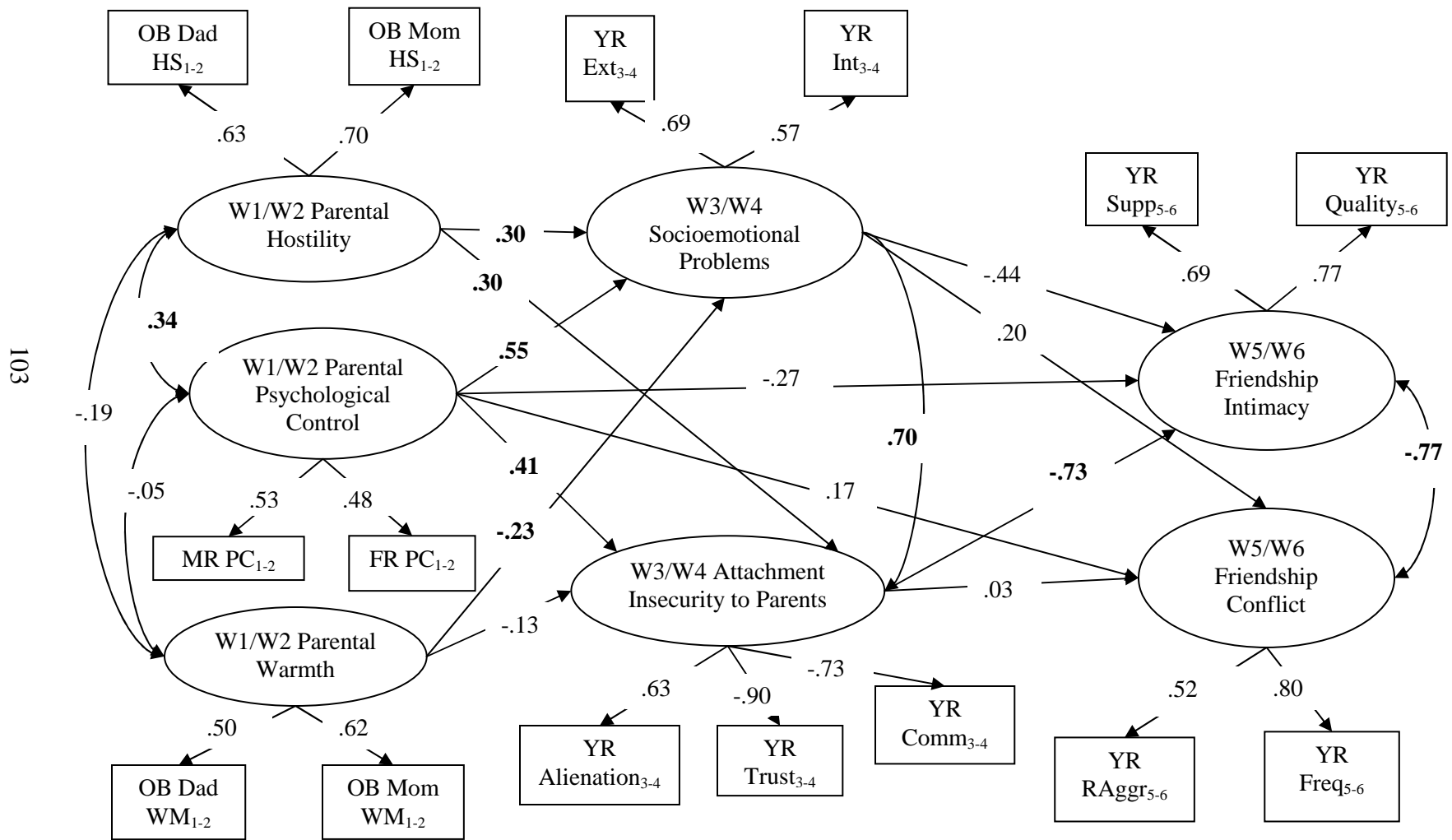
**Figure 4.** Structural model examining socioemotional problems as an intervening variable of the relationship between parenting and friendship competence. MR means mother report; FR means father report; OB means observers' rating; and YR means youth report. Significant structural paths are bolded. CFI = .96 RMSEA = .04,  $p < .01$



**Figure 5.** Structural model examining attachment insecurity as an intervening variable of the relationship between parenting and friendship competence. MR means mother report; FR means father report; OB means observer rating; and YR means youth report. Significant structural paths are bolded. CFI = .96, RMSEA = .04,  $p < .05$

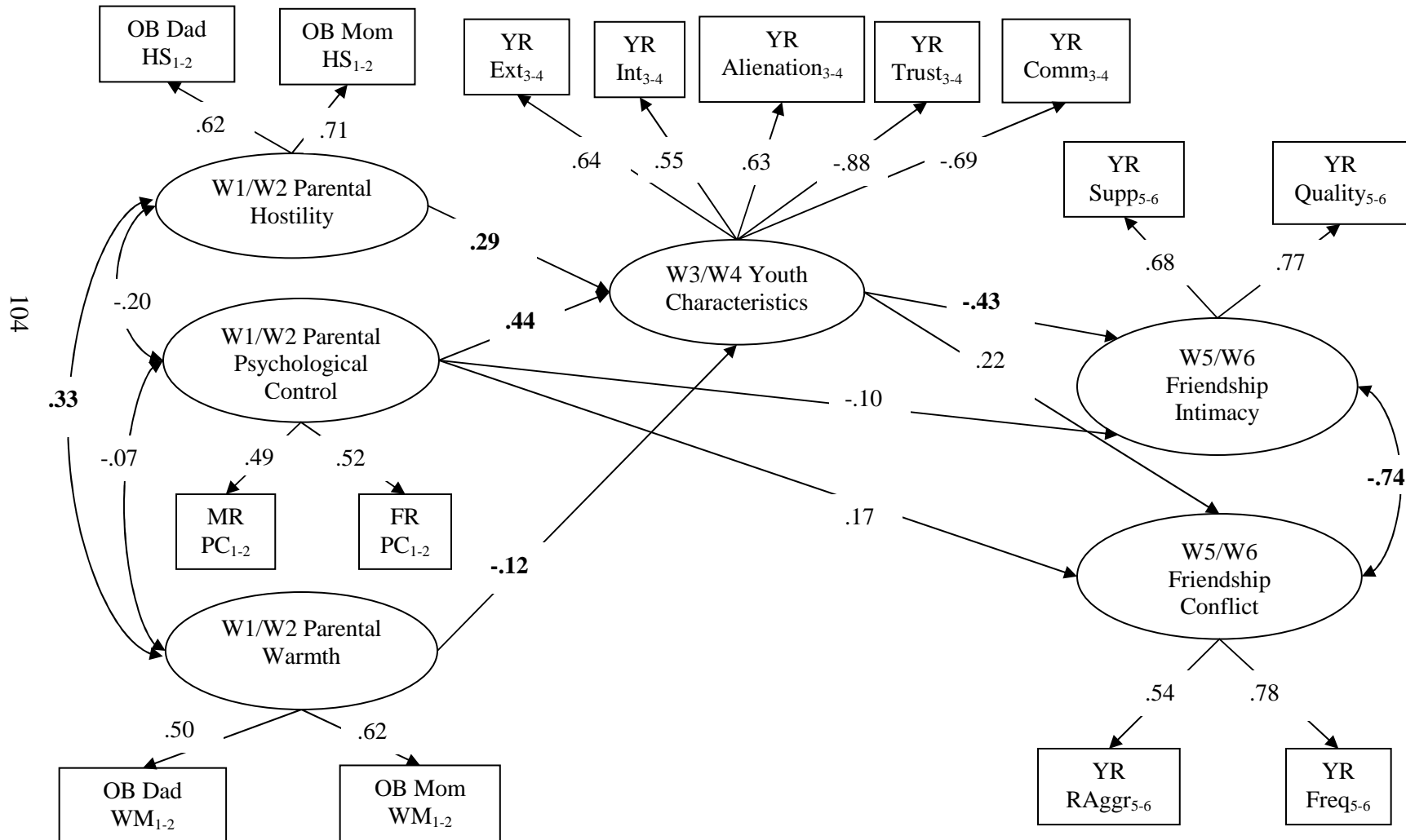


**Figure 6.** Final structural model examining intervening variables of the relationship between parenting and friendship competence. MR means mother report; FR means father report; OB means observer rating; and YR means youth report. Significant structural paths are bolded. Although some coefficients look high associations did not reach significance. CFI = 94 RMSEA = .05,  $p < .001$

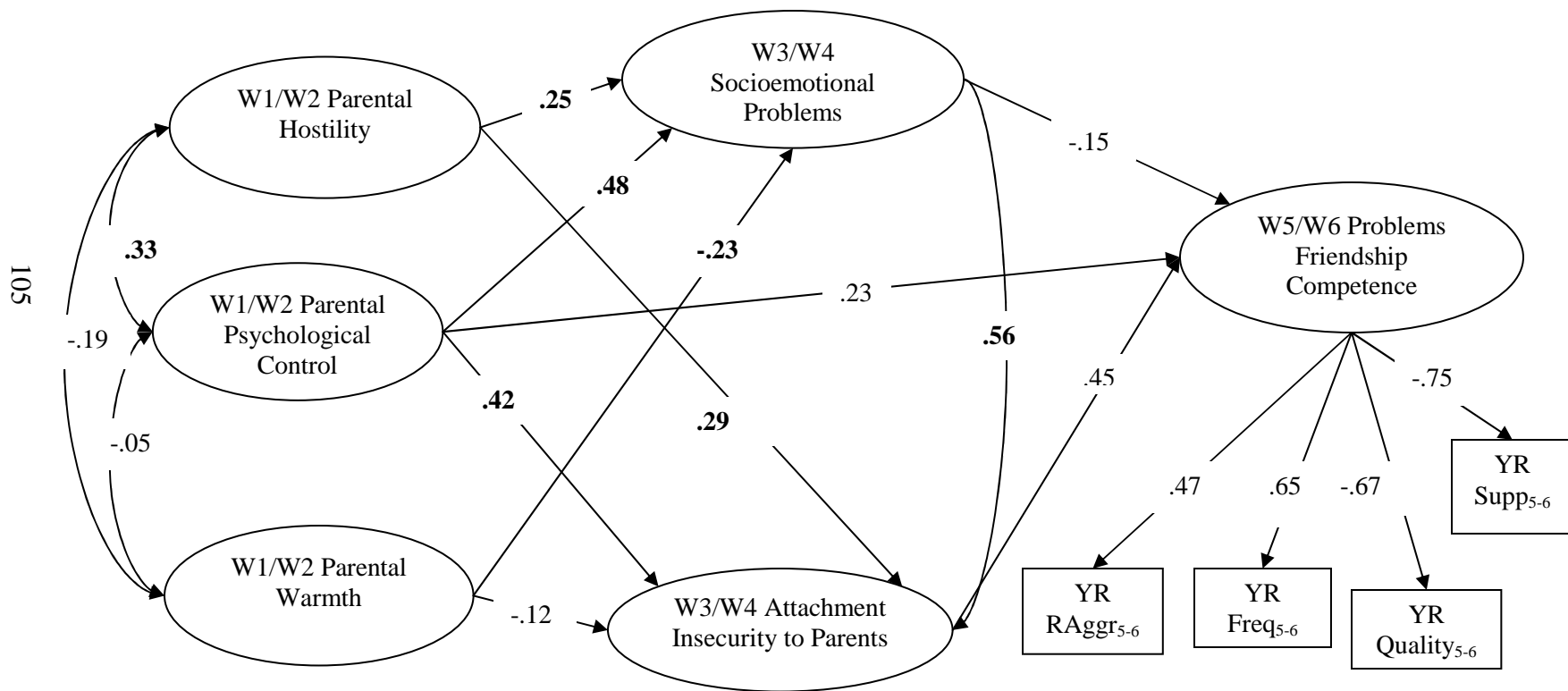




**Figure 7.** Post-hoc structural model examining youth characteristics as an intervening variable of the relationship between parenting and friendship competence. MR means mother report; FR means father report; OB means observer rating; and YR means youth report. Significant structural paths are bolded. CFI = .94 RMSEA = .05,  $p < .001$ .



**Figure 8.** Post hoc model examining intervening variables of the relationship between parenting and one friendship competence variable. YR means youth report. Significant structural paths are bolded. Although some coefficients look high associations did not reach significance. For ease of presentation, the measurement model for parenting behaviors and mediators is not presented. CFI = .93, RMSEA = .05,  $p < .01$ .



## CHAPTER V

### DISCUSSION

Parents are important influences on adolescents' behavioral and social development (Collins & Laursen, 2004; Steinberg & Silk, 2002). Yet few studies have examined the prospective relationship between parenting behaviors in early adolescence and friendship competence with age-mates in middle adolescence, a developmental period in which friendship behavior is central. Furthermore, even fewer researchers have examined why these links might exist. This study contributes to the literature by helping us to understand the mechanisms through which parenting behaviors affect adolescents' friendships. Specifically, this study had two main goals. The first goal was to examine the direct effects that parental hostility, psychological control, and warmth had on adolescents' friendship intimacy and conflict during adolescence. Second and most importantly, I examined two possible mechanisms, socioemotional problems and attachment insecurity to parents, by which parenting behaviors affect friendship competence. This focus on uncovering the mechanisms by which parenting affects friendship competence is important in informing theory and practice regarding interpersonal relationships in adolescence.

## Summary of Results

### *Negative Parenting Behaviors and Adolescents' Friendship Difficulties*

Results from the direct model provided partial support for the hypothesis that parenting behaviors at W1 and W2 are associated prospectively with friendship competence at W5 and W6. Preliminary analyses indicated that, when considered in separate SEM models, higher levels of parental psychological control and parental hostility were associated with more friendship difficulties. In contrast, when considered as an independent predictor, lower parental warmth was not significantly associated with future friendship difficulties. Parenting constructs then were examined in the same model to determine the relative contributions of different parenting behaviors on friendship intimacy and conflict. When parental hostility, psychological control, and warmth were considered in the same analysis, only psychological control was a significant predictor of future friendship difficulties. These findings are inconsistent with the hypothesis that all three parenting behaviors uniquely predict friendship competence.

*Parental hostility.* Parental hostility did not have a unique association with friendship competence when considered in the same model as parental warmth and parental psychological control. In contrast, parental hostility was associated significantly with adolescents' friendship intimacy and conflict when considered as a sole predictor in a separate SEM analysis. Although parental hostility and parental psychological control are distinct constructs, both represent negative control attempts by parents to socialize adolescents and as such it might be hard to find unique effects when both parenting behaviors are considered in the same model. Past research supports the finding that

parental hostility and psychological control are related and some researchers have suggested that aspects of negative parenting such as parental hostility and parental psychological control should be considered as manifest indicators of single latent construct conceptualized as harsh or ineffective parenting (Dishion, Patterson, Stoolmiller, & Skinner, 1991; Scaramella, Neppl, Ontai, & Conger, 2008). Because one of the goals in the current study was to examine specialized pathways from parenting behaviors to friendship competence, both aspects of negative parenting were retained in analyses.

The fact that parental psychological control still had a unique, direct effect on friendship competence with parental hostility in the model is an important finding and may be attributed to elements of parental psychological control that are distinct from hostility. Parental hostility and parental psychological control both contain elements of criticism and blame, as well as negative attempts by parents to control adolescents. Psychological control is distinct from hostility because it includes attempts by parents to control adolescents through intrusion into youths' psychological and emotional development (Barber, 1996; 2002). The elements of psychological control that distinguish it from hostility may explain why psychological control was the only significant predictor of friendship difficulties.

*Psychological control.* Psychological control was a significant predictor of friendship difficulties. Psychological control was the only parenting behavior that had a unique and direct association with adolescents' friendship intimacy and conflict. This finding is consistent with past research that has found differential effects of parenting

behaviors on peer relationships during adolescence (Engels et al., 2002). The fact that psychological control was the only unique predictor of friendship competence suggests that parenting that intrudes into adolescents' thoughts and emotions may be particularly problematic for the development of friendship intimacy and conflict management. This finding is consistent with theories stemming from a psychoanalytic perspective and suggests that when adolescents' ability to develop autonomy is restricted, youth may have difficulties developing close and intimate friendships with peers (Soenens et al., 2008) because they do not have a sense of self that is important for the development of intimacy in friendships (Erikson, 1968). Thus, psychological control may be a particularly robust predictor of friendship difficulties because unlike parental warmth, or to a lesser extent parental hostility, this parenting behavior attempts to thwart adolescents' normative development and freedom to develop relationship skills separate from the context of the family. Parents' use of psychological control also may negatively affect adolescents' ability to feel connected with parents and communicate with parents about their lives. Although adolescents are striving for autonomy, it is still important for youth to maintain a sense of connectedness to the family (Allen & McElhaney, 2002). A lack of connectedness with parents may affect adolescents' ability to feel connected to close friends.

Psychological control intrudes into this balance and negatively impacts both autonomy and connectedness. Thus, adolescents who do not feel that they can communicate with their parents to maintain a sense of connectedness and whose autonomy is restricted may be particularly at risk for friendship difficulties. Two studies

have examined the effect of psychological control on friendship difficulties during adolescence. Results from these studies support the finding that psychological control is an important correlate of friendship difficulties (Dekovic & Meeus, 1997; Soenens et al., 2008). The current study contributes to this research with the finding that psychological control affects intimacy and conflict behaviors in friendships. With the exception of Barber et al. (2005), few researchers test specialized relationships between specific parenting behaviors and specific aspects of adolescents' adjustment and instead typically focus on how a group of parenting behaviors or a parenting style influences one aspect of adolescents' adjustment. For example, studies do not often simultaneously test whether specific parenting behaviors, such as behavioral control, have unique associations with specific adolescent adjustment outcomes, such as externalizing behaviors, when considering other parenting behaviors and other adjustment outcomes in the same model. Future research should examine the finding in the current study that parental psychological control has a unique and direct relationship with adolescents' friendship competence. Replication of this finding would help in advancing theory as well as prevention work.

*Parental warmth.* Parental warmth was not associated with adolescents' friendship intimacy or conflict when considered in a model with other parenting predictors. Even more surprising was that parental warmth was not associated with adolescents' friendship competence when considered as a parenting predictor in a separate SEM model that did not include parental psychological control and parental hostility. Three possible explanations for the nonsignificant findings are discussed.

First, although parental warmth is one of the most robust predictors of adjustment in children (Skinner, Johnson, & Snyder, 2005), this finding has not consistently been established in regards to parental warmth predicting adolescents' friendship competence. Researchers have theorized that parental warmth should have a specialized relationship with social adjustment, but research has been mixed on the effect of parental warmth on future adolescents' friendships with some studies finding a positive and significant association (Cui et al., 2002; Domitrovich & Bierman, 2001) and other studies not uncovering significant effects (Engels et al., 2002; Updegraff et al., 2002). Thus, the literature to date has not revealed a consistent association between parental warmth and friendship competence during adolescence. It is plausible that parental warmth is not a unique predictor of friendship competence during early adolescence; further research needs to be done to replicate this finding.

Theoretically, changes in expression of parental warmth during the transition to early adolescence may explain why parental warmth was not associated with friendship competence in the current study. Lower expressions of parental warmth may be part of the normative realignment process that occurs between parents and children upon the transition to adolescence (Collins & Repinski, 1994). Thus, lower expressed warmth may not be interpreted by adolescents or by parents as a negative behavior and instead may be a normative response by adolescents and parents intended to facilitate the development of adolescents' individuation. Research supports the view that closeness during adolescence may be manifested in different ways to meet the developmental needs of youth. Specifically, intimacy as expressed by physical interactions and positive affirmations of



adolescents by parents may decrease during this realignment process (Collins & Laursen, 2004; Hartup & Laursen, 1991). Thus, past research on the realignment processes of parents and adolescents provides some support for the unexpected finding that lower parental warmth was not directly associated with adolescents' friendship difficulties.

Another possible explanation of why there was no direct relationship found between parental warmth and adolescents' friendship competence is because observers' ratings of parental warmth were used. Behavior interpreted as endearing, praising, and supportive by an observer may not have a similar interpretation by an adolescent and thus may not uniquely affect youths' social behavior outside the family. It may be particularly difficult for observers to assess displays of warmth by parents because parental warmth may represent more of a parenting style as opposed to parental hostility, which may represent more of a parenting behavior that is easier for an outsider to quantify and more in line with adolescents' perceptions (Noller & Callan, 1988). Furthermore, task three from the IFIRS was used in the current study. Task 3 is a conflict resolution task that includes mother, father, and adolescent. Because task 3 is designed to bring forth disagreement and conflict resolution it may not be a good vehicle for eliciting parental warmth and may be a better task for eliciting parental hostility (Melby, Ge, Conger, & Warner, 1995). Thus, relying on observers' ratings during a conflict resolution task may not be an ideal way in which to measure parental warmth. With the exception of Cui et al. (2002), past studies that have uncovered a link between parental warmth and friendship competence have relied solely on adolescents' or parents' reports. Thus, it is difficult to compare findings based solely on parents' reports and findings based solely on observed

report as insider's and outsider's views of the family may differ (Noller & Callan, 1988). Interestingly, Domitrovich et al. (2001) found that parents' reports of parental warmth and hostility did not predict adolescents' friendship interactions but that youths' reports of parenting predicted friendship competence, providing some support that the method used might affect the relationships among study variables. Future studies should consider using parents' reports, youths' reports, and observers' ratings of parenting as latent constructs in the same model to strengthen the validity of findings (Lorenz, Melby, Conger, & Xu, 2007).

*Summary of direct results.* Parental psychological control was the only direct and unique predictor of friendship intimacy and conflict. Theoretically, adolescents may be particularly susceptible to the negative effects of psychological control because they are trying to develop autonomy and an identity separate from the family while maintaining connectedness with parents. Parenting behaviors that disrupt normal developmental processes may be particularly detrimental to adolescents' adjustment and make it difficult for adolescents to accomplish other age-related developmental tasks, one of which is developing friendship competence (Barber, 1996). Despite the plausible explanations given above, the finding that parental hostility and parental warmth were not associated with friendship competence prospectively is still contrary to expectations. To date, not enough prospective research utilizing multiple methods examines the effect of multiple, specific parenting behaviors on friendship competence during adolescence. It is possible that no direct effect existed between parental warmth/parental hostility and friendship competence because these parenting behaviors have an indirect effect on friendship

through other aspects of adolescents' development. Furthermore, the relationship between psychological control and friendship competence may be a result of the effect that parental psychological control has on other aspects of adolescents' adjustment that may negatively impact friendships. The indirect and mediating effects of two important adolescent adjustment outcomes, socioemotional problems and attachment insecurity, are considered below.

*Socioemotional Problems as an Intervening Variable of Associations between Parenting and Friendship Competence*

To test a social learning theoretical explanation, socioemotional problems were considered first as an intervening variable of the relationship between parenting and friendship competence independently from attachment insecurity. Results partially supported a social learning perspective. The relationship between psychological control and friendship conflict was fully mediated by socioemotional problems, indicating that the direct relationship between psychological control and friendship difficulties no longer existed when socioemotional problems were considered. These findings suggested that parental psychological control predicted friendship conflict because it shaped adolescents' socioemotional development in a negative manner, which then lead to higher conflict in adolescents' friendships. These findings suggest that psychological control is associated with friendship difficulties partly because of the effect it has on adolescents' internalizing and externalizing behaviors. Past research has suggested that adolescents who experience a psychologically controlling environment may have too many constraints placed on their independence, which hinders appropriate socioemotional

development (Rubin et al., 2005). Furthermore, from a social learning perspective, adolescents who experience psychological control may have learned behavioral tendencies through interactions with parents, such as being overly controlling, which might then be enacted in other domains. More specifically, overly controlling behaviors or the use of manipulative relationship management techniques, such as relational aggression, learned through interactions with parents might impair conflict management in close friendships.

Parental hostility was indirectly associated with friendship conflict, suggesting that although parental hostility was not directly predictive of friendship conflict in middle adolescence, parental hostility was associated with adolescents' socioemotional problems, which created difficulties managing conflict in friendships. The finding that a unique indirect relationship exists between parental hostility and friendship conflict through socioemotional problems is consistent with past research that has suggested parents affect adolescents' social development through the transmission of behavior patterns learned in the context of the family to new social environments (Capaldi & Clark, 1998; Cui et al, 2002). This finding is important because it provides support for the social learning theory proposition that parental hostility is a unique predictor of adolescents' development because parents who use hostile parenting behaviors teach adolescents maladaptive ways of interacting with the world, specifically aggressive behaviors, that then make adolescents more likely to approach relationships with friends in a hostile manner (Bandura, 1986).

Thus, results supported a social learning theory perspective because adolescents who experienced more hostile and psychologically controlling parenting modeled these behaviors and developed maladaptive interaction styles that generalized to interactions with friends. No research to date has specifically examined socioemotional problems as an intervening variable of the relationship between parenting and friendship competence during adolescence. Several researchers have postulated that social learning theory provides an important explanation as to why parenting behaviors are associated with adolescents' friendship competence, and their speculations received support in this study (Cui et al., 2001; Domitrovich & Bierman, 2001; Markiewicz, Doyle, & Brendgen, 2001).

Interestingly, socioemotional problems did not explain the relationship between any of the parenting predictors and friendship intimacy. Although specialized intervening relationships to the different friendship features were not hypothesized, one could argue that the finding that socioemotional problems explained the relationship between negative parenting behaviors and friendship conflict but not friendship intimacy adds further support for a social learning theory explanation. Specifically, friendship conflict represented a negative behavior (i.e., fighting and use of relational aggression in friendships) that youth enacted in friendships, and friendship intimacy represented a more global evaluation of support and warmth in the friendship. Social learning theory posits that socioemotional problems affect adolescents' control behaviors (i.e., conflict) in friendships more so than adolescents' feelings and cognitions about friendships (i.e., intimacy). Thus, adolescents who observed negative parenting behaviors might develop

maladaptive behaviors, such as aggression and anxiety, which youth then enact in their relationships with close friends. Adolescents who have more socioemotional problems might not have as much difficulty perceiving and evaluating their friendships as supportive and warm. Past research has supported that adolescents who are aggressive and withdrawn do not necessarily report lower quality friendships but do report higher levels of conflict in friendships (Dishion et al., 1995; Rubin et al., 2005). In sum, social learning theory provides a useful explanation as to why psychological control and parental hostility affected friendship conflict but not friendship intimacy. Other explanations, such as adolescents' perceptions of attachment insecurity, might serve as a better justification for the relationship between parenting behaviors and friendship intimacy.

*Attachment Insecurity as an Intervening Variable of Associations between Parenting and Friendship Competence*

Attachment insecurity was examined as a potential intervening variable of the relationship between parenting behaviors and friendship competence. In order to support an attachment theory perspective, it was expected that attachment insecurity would fully mediate the relationship between parenting behaviors and both friendship intimacy and friendship conflict. As expected, the relationships between psychological control and friendship intimacy and conflict were fully mediated by attachment insecurity. Parental hostility was indirectly associated with friendship intimacy and conflict through attachment insecurity. This finding suggested that parental hostility did not have a direct effect on adolescents' friendship competence but parental hostility did shape adolescents'

feelings of attachment insecurity to parents, which were an important predictor of adolescents' friendship difficulties.

Although attachment insecurity was significantly associated with both friendship intimacy and friendship conflict, attachment insecurity was a stronger predictor of friendship intimacy, suggesting a possible specialized pathway between negative parenting behaviors and friendship intimacy through attachment insecurity. The fact that attachment insecurity had a stronger relationship with friendship intimacy is not surprising. Forming intimate friendships involves being supportive and feeling as if you can trust and rely on another person (Buhrmester, 1990). Adolescents who feel more insecurely attached to parents may feel that they can not trust and rely on their parents for support, and thus they may have more trouble trusting friends and evaluating their friendships as close than they do successfully managing conflict in friendships.

Surprisingly, parental warmth was not significantly associated with attachment insecurity and was thus not indirectly associated with friendship competence. This finding is particularly unexpected given that attachment theory and past research has found a consistent association between parental warmth and attachment insecurity to parents (Bowlby, 1988; Crowell et al., 2005; Karavasilis et al., 2003). As discussed above, significant associations between parental warmth and adolescents' adjustment outcomes might be the result of measuring parental warmth with observer's ratings. Future research should examine if parents' reports of warmth have a stronger association with adolescents' perceptions of attachment to parents than do observers' ratings of parental warmth.

Overall, results from this mediating and indirect model provide support for the proposition that negative parenting predicts friendship competence because adolescents who are insecurely attached to parents develop negative expectations and beliefs that hinder positive interactions in the context of friendship. These findings contribute to the growing body of research that suggests parents indirectly affect certain aspects of adolescents' adjustment through important transmission mechanisms, such as attachment insecurity and that during adolescence one reason that parenting behaviors are important to friendship development is because they affect internal processes within the adolescent, such as adolescents' attachment insecurity, which then affects adolescents' friendship competence.

#### *Evaluating the Relative Effects of Intervening Variables*

One of the primary goals of the current study was to examine whether social learning theory, attachment theory, or both provided the best explanation for why parenting behaviors during early adolescence affected friendship competence during middle adolescence. To examine the relative strengths of each theory in explaining the relationship between parenting and friendship competence, socioemotional problems and attachment insecurity to parents were considered as intervening variables within the same SEM model. When both constructs were considered in the same model, socioemotional problems were not a significant intervening variable of the relationship between parenting behaviors and friendship competence. Attachment insecurity did significantly mediate the prospective association between parental psychological control and adolescents' intimacy features. Furthermore, results suggested that no significant effect



remained between psychological control and friendship competence when intervening variables were considered in the model. When both socioemotional problems and attachment insecurity were considered in the same model, an indirect relationship between parental hostility and friendship competence was not found. Thus, results indicated that the pathway between psychological control and friendship intimacy through attachment insecurity was the only significant pathway in the model supporting an attachment theory explanation of why parenting affects friendship competence. This finding highlights that control attempts designed to thwart adolescents' emotional and cognitive development are particularly problematic in terms of adolescents' friendship intimacy because psychological control interferes with adolescents' ability to remain connected to parents and feel that parents are sources they can rely on for support. That this pathway was the only unique pathway in the model is particularly interesting given the debate surrounding whether attachment to parents is as important to adolescents' development as it is to younger children's development. Clearly, these results indicate that attachment security to parents during adolescence is important for developing intimate friendships.

The findings from this study indicated that parenting remains an important predictor of youths' adjustment in middle adolescence. Parental psychological control affected youths' friendship intimacy through insecure attachments to parents. Thus, parenting influences youths' cognitions about relationships that are applied to interactions with friends. This finding adds to a body of research that finds parents are still important influences during adolescence, as demonstrated in the current study by the strong

associations found between parenting behaviors and attachment insecurity and socioemotional problems (Dodge et al., 2006; Steinberg, 2008) In addition, parenting influences youths' relationships in social contexts indirectly through cognitive, affective and behavioral mechanisms.

Given theory and research that suggests attachment insecurity to parents is a critical element in the development of interpersonal relationships, the finding that attachment insecurity emerged as a unique element that explains the relationship between parenting and adolescents' first truly intimate relationship with age mates is not surprising (Ainsworth, 1989; Mayseless & Scharf, 2007; Rice, 1990). However, it was surprising to find that socioemotional problems no longer mediated the relationship between parenting behaviors and friendship conflict and that parental hostility no longer had an indirect relationship with friendship difficulties. Although there are benefits to testing unique and specialized pathways, multicollinearity in the model may have made it difficult to detect unique and significant associations between constructs. Thus, it is important to consider the results from all three indirect/mediating models in tandem when drawing conclusions.

*Summary of indirect/mediating effects models.* When taken together, the results supported both an attachment perspective and a social learning theory perspective but suggested that social learning theory better explained why parenting behaviors affected friendship conflict and attachment theory better explained why parenting behaviors affected friendship intimacy. Furthermore, when considering both intervening variables in the same model, results indicated that adolescents' perceptions of attachment

insecurity explained the relationship between psychological control and friendship competence better than the pathway through socioemotional problems. In this model, an attachment perspective only explained why parental psychological control was associated with friendship intimacy. Thus, both theories are needed to explain why parenting behaviors affect different aspects of friendship competence and highlight the importance of considering more than one theory when examining relationships between parenting behaviors and friendship competence during adolescence. Other researchers have recognized the importance of testing the specialized relationships that parenting predictors have on adolescents' adjustment but these studies have not considered the unique role that intervening variables might play in the relationship between parenting behaviors and friendship competence during adolescence (Barber et al., 2005). To advance the understanding of theory, further studies should consider other possible intervening variables that represent an attachment perspective (e.g., emotional security with parents, rejection sensitivity) and a social learning theory perspective (e.g., self-efficacy). Furthermore, given the findings reported here, further studies should continue to assess which theory best explains the relationship between specific parenting behaviors and other aspects of friendship competence in adolescents (e.g., avoidance of conflict, peer attachment). Findings from this line of research are helpful for informing intervention efforts that target different aspects of adolescents' friendship difficulties, such as problems with intimacy versus conflict features.

#### *Gender Moderation*

Gender differences between female and male adolescents were not found in either the direct or indirect/mediating models. These results are contrary to hypotheses and suggest that some processes through which parenting during early adolescence affects friendship competence during middle adolescence do not differ for girls and boys. Theoretically, gender intensification theory postulates that during early adolescence gender-differentiated socialization practices become more prominent and shape gender appropriate behavior for male and female adolescents. For girls, gender socialization more strongly encourages building and maintaining relationships with others and for boys independence and autonomy development are more strongly encouraged. In terms of family relationships, girls are thought to rely more on family relationships as aspects of support in early adolescence, which might make negative parenting a particularly salient risk factor for female adolescents' adjustment (Davies & Lindsay, 2004). Some research supports the theoretical assumption that female adolescents are particularly susceptible to negative parenting during adolescence (Helsen, Vollebergh, & Meeus, 2000; Rogers & Buchanan, 2003; Rothbaum & Weisz, 1994). However, the finding in the current study that gender was not a significant moderator also is supported by research that has suggested psychological control, parental hostility, and lower parental warmth are equally predictive of negative adjustment for female and male adolescents (Hair, Moore, Garrett, Ling, & Cleveland, 2008; Soenens, Vansteenkiste, Duriez, & Goossens, 2006; Soenens et al., 2008). Differential findings regarding the moderating effect of gender on parenting may vary based on developmental period and the specific aspects of adjustment assessed.

Gender may not have moderated the direct relationship between parenting behaviors and friendship competence due to the timing of measurement. Friendship competence in the current study was measured over a two-year period, when most youth were in 10<sup>th</sup> and 11<sup>th</sup> grade. The gender intensification hypothesis proposes that gender differences in the effects of parenting on adjustment may be particularly salient during early adolescence. Some research has suggested that by middle adolescence boys become more relationally oriented than they were previously and that girls begin to focus more importance on developing autonomy and independence than they did during early adolescence (Way & Green, 2006; Zimmer-Gembeck & Collins, 2003). Although gender differences might have been found had we examined the effect of parenting on friendship in early adolescence, by middle adolescence the differential effects of parenting on the development of girls' and boys' friendship competence may no longer be salient. Davies and Lindsay (2005) have called attention to the importance of accounting for developmental stage when examining gender differences in the effect of parenting on adjustment.

Gender differences also were not found for the indirect/mediating pathways that explained the relationship between parenting and friendship competence. These results are particularly interesting because results indicated that psychological control and parental warmth, which have been found to be risk factors differentially for boys and girls, respectively, affected boys' and girls' adjustment similarly (Ojanen & Perry, 2007). It is plausible that in the current study gender differences did not emerge in the indirect/mediating model because of the way in which constructs were defined.

Specifically, gender differences may not have been found in the relationship between parenting behaviors and socioemotional behaviors because both internalizing and externalizing behaviors were considered as indicators of socioemotional problems. Past research has suggested that because of gender expectations girls may channel expression of problems into internalizing symptoms and boys may channel expression of problems into externalizing problems (Davies & Lindsay, 2001). Factor loadings in the current study indicated that internalizing behaviors were a better indicator of socioemotional problems for girls and that externalizing behaviors were a better indicator of socioemotional problems for boys. Factor loading differences suggest that parenting behaviors may have been more aptly predicting internalizing behaviors for girls and externalizing behaviors for boys. Thus, gender differences may not have been found in the relationships between parenting behaviors and socioemotional problems because parents' effect on externalizing and internalizing behaviors were not estimated separately. It is important to note that gender differences also were not found in the extent to which socioemotional problems predicted friendship competence. These results suggest that even though girls and boys may differ in their socioemotional responses to negative parenting, there appears to be no gender differences in the extent to which these socioemotional problems affect friendship competence. To my knowledge, past research has not considered whether gender moderates the relationship between socioemotional problems and friendship competence.

The choice to measure friendship conflict with both frequency of relational aggression and frequency of overt conflict also might have prevented the uncovering of

significant gender differences between intervening variables and friendship conflict.

Relational aggression was a better indicator of friendship conflict for female adolescents than for male adolescents. Although differences were not found in the factor loading for frequency of overt conflict, past research has suggested that boys tend to engage in overt conflict in friendships more than girls (Black, 2000). Thus, representing friendship conflict with adolescents' report of relational aggression and overt conflict may have obscured gender differences in the current study.

#### *Alternative Models*

*Youth characteristics as an intervening variable.* Past research suggests that youths' maladaptive behaviors and youths' cognitions about relationships are related and similarly may affect adjustment (Buehler, Lange, & Franck, 2007). To examine if socioemotional problems and attachment insecurity worked conjointly to explain the relationship between parenting behaviors and friendship competence, a more parsimonious model was tested that included only one intervening variable (i.e., youth characteristics). Results indicated that significant relationships between constructs did not change and that a model with two intervening variables was a better fit to the data, although not significantly better, than a model with only one intervening variable. Two findings emerged that were not found in the model that considered separate intervening variables. First, parental hostility was indirectly associated with friendship intimacy through youth characteristics. Furthermore, the previously nonsignificant relationship found between the intervening variables and friendship conflict in the model with two intervening variables (Model 6) now reached a trend-level of significance for the

relationship between youth characteristics and friendship conflict. The results found in the model with youth characteristics as the sole intervening variable mirrored the significant results found when intervening variables were examined separately in different SEM models. Thus, the significant associations that emerged in the alternative model that considered only one intervening variable probably resulted from decreased multicollinearity.

It is important to recognize that parental hostility had an indirect effect on friendship competence when attachment insecurity and socioemotional problems were considered as an integrated construct. Parental hostility, unlike psychological control, may be more of a risk factor for adolescents who experience both maladaptive cognitions and maladaptive behavior patterns. Psychological control may be a unique predictor of adjustment difficulties for youth who report attachment insecurity to parents and for youth who report more socioemotional problems but not for youth who report both attachment insecurities and socioemotional problems. Furthermore, an integrated approach that takes into account youth who express both socioemotional problems and attachment insecurity might better explain friendship conflict and friendship intimacy as opposed to a unique model, which considers intervening variables conjointly. From a prevention standpoint, adolescents who experience both attachment insecurity and socioemotional problems may be more at-risk for developing multiple difficulties in friendships. Adolescents who experience just one of these negative adjustment outcomes may only manifest problems with certain aspects of friendship competence. Results from this model underscore the importance of examining both the unique relationship and



combined relationship that socioemotional problems and attachment insecurities have with parenting and friendship competence.

*Reconsidering the friendship construct.* Although differential predictors were found for friendship intimacy and friendship conflict, the two constructs are highly related and thus indicators of friendship intimacy and conflict were combined to form one latent friendship construct in follow-up analyses. Results from the direct and indirect models suggested that combining friendship indicators into an integrated construct may be more applicable when assessing the direct effect of parenting on friendship competence as opposed to assessing the indirect/mediating effect of parenting on friendship competence. Specifically, although no significant differences were found in model fit when comparing direct models with one versus two friendship outcomes, results did suggest that the direct model with one friendship outcome was a better fit for the data than a model that examined the effect of parenting on two friendship outcomes. For the indirect/mediating model, a model that considered two friendship outcomes provided a significantly better fit for the data. Furthermore, the relationship between attachment insecurity and friendship intimacy was no longer significant in this model, probably due to the increase in the direct effect that parental psychological control had on friendship difficulties. These results suggest that psychological control does not differentially affect indicators of friendship competence but that mediators may have differential associations with friendship intimacy and conflict features. This is an important finding in regards to theory because it highlights that explanations from an attachment perspective and explanations from a social learning perspective may better

account for the effect that parenting has on different aspects of friendship competence. Taken together, results suggest that intervening variables may have unique effects on different aspects of friendship but that parenting behaviors do not differentially predict different friendship outcomes, and direct relationships between parenting and friendship competence may be explained better from an overarching theory on parental socialization.

#### Limitations and Suggestions for Future Research

This study makes an important contribution to the literature focusing on the effects of parenting behaviors on adolescents' friendship competence. Nevertheless, several limitations should be addressed in further studies.

The current study relied on prospective data and was unable to draw conclusions about causality or direction of effects. Specifically, socioemotional problems, attachment insecurity, and friendship competence were not controlled for at the beginning of the study, which represents a threat to internal validity. It is plausible that parenting behaviors during early adolescence did not predict socioemotional problems and attachment insecurity, but that instead parenting behaviors were a response to adolescents' socioemotional problems and attachment insecurity. Research and theory do suggest that bidirectional relationships may exist between parenting behaviors and both socioemotional problems and attachment insecurity (Burt et al., 2005; Karavasilis et al., 2003) Furthermore, friendship intimacy and friendship conflict could have preceded socioemotional problems and perceptions of attachment insecurity (Bagwell & Coie, 2003; Rubin et al., 2005). Theoretically, bidirectional relationships may exist among

variables but the fact that the current effort did not test an auto-regressive model does not alter conclusions drawn from the results. Results still suggested that adolescents who have problematic relationships with friends might benefit from interventions that address parenting behaviors, as well as youths' socioemotional problems and attachment insecurities. Furthermore, findings are consistent with theories suggesting that parenting, youths' socioemotional problems, and attachment insecurities during early adolescence impair adolescents' ability to form competent friendships in middle adolescence.

Although it remains important to sort out the temporal ordering of constructs, the current study examined associations between parenting behaviors and friendship competence prospectively over a six-year period, which marks an improvement over the majority of past studies that relied on cross-sectional data. Furthermore, the current study examined the effect of parenting during early adolescence on youth's friendship competence during middle adolescence. During early and middle adolescence, youth are developing new skills needed for friendships. Measuring parenting during this time allowed for the examination of the effect of parenting behaviors on the development of new skills needed in friendships. Further studies should use auto-regressive designs so that change over time can be assessed.

The time ordering of constructs also might have resulted in detection of significant intervening effects but few direct effects from parenting to friendship competence. Intervening variables may have had a stronger association with friendship competence simply because intervening variables measured at W3 and W4, were more proximal predictors of friendship competence than parenting behaviors measured at W1

and W2. Thus, it is plausible that parenting behaviors were associated significantly with intervening variables but not with friendship competence because parenting was a more proximal predictor of attachment insecurity and socioemotional problems than it was of friendship competence. Past research has found that when parenting behaviors are proximal predictors of adolescents' adjustment, significant relationships are more likely to be found when compared to research that examines parenting as a non-proximal predictor of youths' adjustment (Conger et al., 2003). Furthermore, intervening variables may have had a stronger association with friendship competence than parenting behaviors because intervening variables were more proximal predictors of friendship competence. Ad-hoc analysis revealed that although this threat was plausible, parenting behaviors as measured by parent self-report (all that was available) at W3 and W4 were not more predictive of friendship competence than parenting measures from W1 and W2. Attachment insecurity was not available at W1 or W2, thus relationships between intervening variables at W1 and W2 and friendship competence at W5 and W6 could not be tested. Fully auto-regressive models will be important in future studies to have more confidence that the relationship between parenting and friendship competence is valid and not a function of methodological choices.

Every attempt was made to employ multiple methods and maximally dissimilar methods to increase content validity and reduce shared error variance due to measurement. Original models contained parents' reports and observers' ratings as manifest indicators of parental warmth and parental hostility. When parents' reports of hostility and parents' reports of warmth were used as manifest indicators, the covariance

between parenting predictors was high resulting in multicollinearity and non-identification of the SEM model. Thus, the decision was made to represent parental warmth and parental hostility using only observers' ratings of warmth and hostility by trained coders. This decision may be problematic for two reasons. First, because parent report was not used, the sampling domain of the construct decreased, thus decreasing content validity of the construct. Future research should attempt to use both parents' reports and observers' ratings of parenting because observers' ratings are thought to have more construct validity and parents' ratings may have more real life credibility (Melby et al., 1995; Noller & Callan, 1988).

Second, the latent construct of parental psychological control was based on parents' reports of the construct as opposed to parental warmth and parental hostility, which were based on observers' ratings. Past research has shown that observers' ratings of behaviors differ from parents' reports of those same behaviors and researchers have argued that these methods may be capturing two different constructs (Lorenz et al., 2007; Noller & Callan, 1988). Specifically, parents may tend to rate their parenting more positively than trained observers rate participants' parenting. Based on these past findings, in the current study I would have expected parents to have underreported their use of psychological control. The only significant unique predictor was psychological control. Thus, it is impressive that significant effects were found for psychological control in light of the fact that parents may have been underreporting this behavior. In the current study, relying on different reporters to inform the three parenting behaviors was a possible threat to validity but it did not affect inferences made regarding the results.

Mono-method bias results from using only one method to assess constructs in a study and threatens construct validity because the method used to measure the construct inflates the relationships among variables (Shadish et al., 2002). In the current study, both adolescents' reports of intervening variables and adolescents' reports of friendship competence were used and thus the relationship between mediators and outcomes may have been inflated due to shared method variance. Unfortunately, a lack of dissimilar methods for attachment insecurity and friendship competence were not available. Furthermore, adolescents may be the most accurate reporters of socioemotional problems and feelings of attachment insecurity, thus it was important to use self-report of these constructs. Researchers can address shared method variance by correlating error terms on measures using the same reporter. Unfortunately, in the current study it was not possible because of the already complicated model to correlate error terms. Thus, shared method variance is a plausible threat to validity in the current study and may have inflated the magnitude of the relationship between intervening variables and friendship outcomes.

Relying on adolescents' self-report of friendships also may not be the ideal way to assess this construct. Researchers have found that when adolescents with socioemotional problems report on their own friendships (as in the current study) they report friendships as higher in quality as opposed to observers' reports which classify those friendships as lower in quality (Bagwell & Coie, 2003; Rubin et al., 2005). Thus, adolescents who report more socioemotional problems may not be the best reporters of friendship intimacy. In the current study, this might explain why socioemotional problems were associated with friendship conflict but not with friendship intimacy. To avoid potential

method confounds future studies should consider self-report, friend-report, and observers' ratings of friendship competence.

Both mothers' and fathers' parenting behaviors were considered as manifest indicators of parenting in analyses. Considering both mothers' and fathers' parenting marks an improvement over past-studies that only accounted for the effect of one parent's behavior on adolescent friendship competence. Despite the fact that the current study considered both parents' reports, mothers' and fathers' parenting were not considered as unique predictors of friendship competence. Mothers' and fathers' influence on development may differ with some studies finding that mothers are more predictive of social competence with peers (Laible & Carlo, 2004), some studies finding that fathers have a stronger effect on social behaviors of children and adolescents (Parke et al, 2006), and other studies not finding differential associations (Paley et al., 2000). Although the strength of the associations between different parents' behavior and adolescents' adjustment outcomes may differ, overall parents are very consistent in the parenting behaviors they employ (Baumrind, 1991), and averaging mothers and fathers parenting in the current study likely did not change the results that were found. In order to take into account the effect of both mothers' and fathers' parenting behaviors on friendship competence, further studies should employ dominance analysis so that the independent and combined effects of parents can be assessed (Stolz et al., 2005)

The generalizability of findings may be influenced by characteristics of the sample. Participants represented married families of largely European American descent. Thus, these results may not be applicable to adolescents from different ethnic groups and

family structures. To date, few studies have examined whether adolescents' friendship processes differ based on ethnicity or family structure. Tangential research suggests that the effect of parenting behaviors on adolescents' adjustment varies by ethnicity (Avenevoli, Sessa, & Steinberg, 1999; Collins & Laursen, 2004). Given that psychological control emerged as the only significant direct predictor of adolescents' friendship competence, it will be especially important to examine whether this parenting behavior is as detrimental to the friendship competence of youth of other ethnicities. Psychological control might be less of a risk factor for certain ethnicities because ethnic minority adolescents in comparison to white adolescents are more likely to be socialized to value interdependence as opposed to autonomy and independence (Demo & Cox, 2001; Wang, Pomerantz, & Chen, 2007) The effect of family structure on the relationship between parenting and friendship competence is less clear. Furthermore, there is little research to suggest that the effect of socioemotional problems and attachment insecurity to parents varies based on ethnicity or family structure. It is plausible that different process variables might be important to examine in studies with minority youth. Thus, results should be replicated with diverse samples to test whether attachment insecurity and socioemotional problems provide as sound an explanation for the relationship between parenting behavior and friendship competence in different populations of youth.

### Conclusion

Findings highlight the importance of considering and testing specialized pathways between parenting behaviors and aspects of adolescents' adjustment. Results suggested that parental psychological control may be the most important parenting predictor of



whether or not adolescents can form competent relationships with peers. In regards to practical application of findings, results suggested that effective interventions that address interpersonal relationships during adolescence must target more than negative parenting to be effective. Interventions for youth who are already experiencing problems with peers might want to focus on changing adolescents' beliefs and expectations about relationships based on the attachments they have formed with parents. Results also contributed to theory development by providing a direct test of two of the most posited explanations of why parenting behaviors might be important predictors of friendship competence during adolescence. Given the salience of developing friendship competence during adolescence, further studies should continue to examine the processes mechanisms by which different parenting behaviors affect multiple aspects of adolescents' friendship competence.

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