Family factors and risk behavior in adolescent dating relationships: Heterosocial

competence as a mediator between interparental conflict and dating violence

BY

Heather L. Hunter, M.A.

Submitted to the graduate degree program in
Clinical Child Psychology and the graduate
faculty of the University of Kansas in partial
fulfillment of the requirements for the degree
of doctor of philosophy.

_____
Chairperson, Ric G. Steele, Ph.D.

* Committee members   _____*
Michael C. Roberts, Ph.D.

_____*
Yo Jackson, Ph.D.

_____*
Eric Vernberg, Ph.D.

_____*
Holly Storkel, Ph.D.

Date defended: July 23, 2009

The dissertation committee for Heather L. Hunter certifies
that this is the approved version of the following dissertation:

Family factors and risk behavior in adolescent dating relationships: Heterosocial

competence as a mediator between interparental conflict and dating violence

Committee:

_____
Chairperson, Ric G. Steele, Ph.D.

_____
Michael C. Roberts, Ph.D.

_____
Yo Jackson, Ph.D.

_____
Eric Vernberg, Ph.D.

_____
Holly Storkel, Ph.D.

Date approved: July 28, 2009

Acknowledgements

I would like to acknowledge the many people who have supported me throughout my graduate training and during the completion of this dissertation. First, I would like to thank the Clinical Child Psychology Program faculty for providing superb training opportunities. In addition, I would like to express gratitude to my dissertation chair, Dr. Ric Steele, and committee members, Dr. Michael Roberts, Dr. Yo Jackson, Dr. Eric Vernberg, Dr. Holly Storkel, and Dr. Todd Little, for the time and thoughtful suggestions that they devoted to this project. I also owe thanks to my co-investigators, Selby Conrad and Kerri Kim, whose collaboration proved to make this study richer and more enjoyable. Most importantly, thank you to my wonderful friends and family, who have provided endless encouragement, patience, and enthusiasm throughout this long journey. Thanks, especially, to Matthew, Mom, Dad, and Ashley. Your love and confidence have been a source of continual motivation and encouragement.

Table of Contents

List of Tables

List of Figures

Abstract

A growing body of literature has suggested that associations between interparental conflict and adolescent dating violence emerge in part due to social learning. Nevertheless, the mechanisms underlying links between interparental conflict and adolescent dating violence are not well understood. Theoretical rationales provided by researchers working with adolescents, as well as empirical evidence from studies with adult populations, suggest that heterosocial competence is a key social learning component associated with a risk for intimate partner violence. The purpose of the present study was to examine heterosocial competence as a mediating variable in the intergenerational transmission of violence. Participants included 172 adolescents recruited from two public high schools. Results indicated that conflict properties of interparental conflict did not predict adolescent dating violence but that interparental conflict resolution predicted adolescents' heterosocial competence and use of adaptive conflict resolution strategies within their most recent dating relationship. However, the hypothesized mediational relationships were not supported given that only a small proportion of variance in adolescent dating conflict was accounted for by heterosocial competence. Findings highlight important patterns of adolescent dating violence within a diverse public high school student population, further the literature regarding recurrence of violence across generations, provide measurement information about a new measure of adolescent heterosocial competence, and offer preliminary information about associations between heterosocial competence and conflict within intimate partnerships.

Family factors and risk behavior in adolescent dating relationships: Heterosocial

competence as a mediator between interparental conflict and dating violence

Adolescence can be a challenging time for many individuals, as it is during

this developmental period that youth often begin to take on new roles, test their

independence, and are first confronted with important, life-changing decisions

(Hanson, Christopher, & Nangle, 1992). A substantial body of medical,

psychological, and educational research suggests that youth may be at greater risk for

interpersonal conflict, risky behavior, and adjustment difficulties during adolescence

than at any other time in their development (e.g., Gutgesell & Payne, 2004; Kelley,

Schochet, & Landry, 2004; Nightingale & Fischhoff, 2002; Steinberg, 2004). Further,

some research has suggested that due to interpersonal difficulties, adolescents may be

in need of more health education, prevention and intervention programming, or

interpersonal supports than are currently available (e.g., Gutgesell & Payne, 2004;

Irwin, Burg, & Cart, 2002).

Dating relationships represent a particular area of risk for many teens because

it is during adolescence that most individuals are first confronted with issues of

romantic attraction, intimacy, and sexuality (Hanson et al., 1992; Montgomery, 2005;

Raymond, Catallozzi, Lin, Ryan, & Rickert, 2007). Conflict in dating relationships

(i.e., dating violence) may place adolescents at risk for negative physical and mental

health consequences (Foshee, 1996; Silverman, Raj, Mucci, & Hathaway, 2001).

Numerous studies have suggested that dating violence is related to a history of

familial violence, including interparental conflict (e.g., Arriage & Foshee, 2004;

Brendgen, Vitaro, Tremblay, & Wanner, 2002; Chapple, 2003; Doyle, Brendgen, Markiewicz, & Kamkar 2003). In fact, a history of familial or community violence has been argued by some to be the greatest risk factor for later dating violence among adolescents (Hines & Saudino, 2002).

Although associations between adolescent dating violence and interparental conflict have been repeatedly highlighted in previous research (e.g., Howard & Wang, 2003; Ehrensaft et al., 2003), the mechanisms underlying these associations have not been fully explored. Social learning theory is one paradigm that has been cited to explain these associations. In fact, both theoretical arguments and empirical evidence have been provided which support the role of social learning in the intergenerational transmission of violence (e.g., Fite et al., 2008; Hines & Saudino, 2002; Marcus, Lindahl, & Malik, 2001). However, the specific mechanism by which social learning impacts adolescents' behavior remains unclear. Identification of the particular components associated with a risk for relationship violence has the potential to aid investigators in designing targeted intervention programs capable of addressing problematic patterns of behavior, attitudes, and skills. The present study was designed to assess the role of heterosocial competence as a mediating variable in the intergenerational transmission of violence.

Dating Violence

Violence within adolescent dating relationships first appeared as a topic of investigation in the 1980s. Although initially vastly understudied, during the last several decades the number of publications within professional psychology journals

related to dating violence has risen dramatically, increasing awareness about the prevalence and impact of the phenomenon (Collins, Welsh, Furman, 2009; Munoz-Rivas, Grana, O'Leary, & Gonzalez, 2007). It is now generally accepted that dating violence affects a substantial proportion of youth and has markedly negative consequences for later development (e.g., Collins et al., 2009; Coker et al., 2000; Munoz-Rivas et al., 2007; Silverman et al., 2001). However, despite this increasing awareness, the mechanisms underlying the appearance of violence within adolescent relationships and the characteristics essential to effective treatment remain relatively new areas of study (Hickman, Jaycox, & Arnoff, 2004). A more clearly defined understanding of the mechanisms underlying the phenomenon would thus aid investigators in predicting those who are likely to be at risk for dating violence and preventing negative physical and mental health outcomes within that at-risk group.

Prevalence and Definition

Prevalence estimates of adolescent dating violence range from as low as 9% (Eaton, Davis, Barrios, Brener, & Noonan, 2007) to as high as 90% of youth surveyed (Munoz-Rivas et al., 2007). Historically, this wide variation in prevalence rates has been dependent on both the population demographics and operational definitions utilized in various studies (Hickman et al., 2004). For example, in a study conducted by Henton and colleagues (Henton, Cate, Koval, Llyod, & Christopher, 1983), 12.1% of high school participants (mean age 17.1 years) reported at least one incident of dating violence. Working with a more diverse population of white adolescents from rural and suburban environments and multiracial adolescents from inner-city schools,

Bergman (1992) found that approximately 20% of participants had experienced

violence in a dating relationship. Many other researchers report rates closer to 30%

or 40% (e.g., Jonson-Reid & Bivens, 1999; Sears, Byers, & Price, 2007; Silverman et

al., 2001), but definitions of dating violence within these studies vary dramatically.

Criteria used by researchers for inclusion in relationship violence statistics

range from very specific behaviors to broad and, sometimes, ambiguous definitions.

Some researchers have limited the type of violence measured to a specific definition

(e.g., CDC, 2005; Coker et al., 2000). For example, within the CDC's most recent

Youth Risk Behavior Survey (CDC, 2005), 9.2% of high school students reported

having been "hit, slapped, or physically hurt on purpose by a boyfriend or girlfriend"

(p. 28). Other studies have categorized behaviors depending on the severity of the

violence. For example, Molidor and Tolman (1998) distinguished between "moderate

dating violence" and "severe dating violence." Still other authors have focused on

differences between physical, sexual, and nonphysical violence (e.g., threats, verbal

abuse) when studying adolescent dating violence (e.g., Munoz-Rivas et al., 2007;

Silverman et al., 2001). For example, a study conducted by Munoz-Rivas and

colleagues found that while more than 90% of youth surveyed had experienced verbal

attacks within an adolescent dating relationship, 31.3% and 37.4% of the male and

female participants, respectively, had experienced a history of physical aggression.

Furthermore, some studies report the frequency of specific behaviors,

including psychological victimization, damaging possessions, threatening, slamming

against a wall, biting, choking, twisting arms, and forcing sex (James, West, Deters,

& Armijo, 2000; Symons, Groer, Kepler-Youngblood, & Slater, 1994). In work by Symons et al., 60% of study participants identified at least one violent episode in a dating context. Rather than relying on a measure of general dating violence, these researchers queried for specific behaviors consistent with verbal, physical, and sexual violence. Interestingly, although nearly two-thirds of these respondents reported violent incidents within a relationship, only 12.7% identified the incidents as "abuse," suggesting that recognition of abusive behavior within relationships is difficult for adolescents. Thus, it is evident that the identification strategies utilized by researchers in various projects directly impact the findings reported in each case.

Wolfe and colleagues have suggested that assessing adolescents' specific responses to conflict in dating relationships best captures the range of violent behaviors identified in previous studies (Wolfe, Scott, Reitzel-Jaffe et al., 2001). These researchers developed a scale designed to target specific adaptive and maladaptive responses to conflict in dating contexts, based on a measure commonly used with adult populations (Conflict Tactics Scales; Straus, 1979). Wolfe and colleagues' instrument (Conflict in Adolescent Dating Relationships Inventory; CADRI) generates several scales that measure patterns of both victimization and perpetration of violence in dating relationships (e.g., Physical Violence, Sexual Abuse, Threatening Behavior) as well as positive conflict resolution strategies (i.e., Adaptive Resolution). Such an approach provides researchers with an opportunity to query for specific behaviors, as done by Symons et al. (1994), while maintaining a standardized set of questions.

Consequences of Dating Violence

Considering the number of adolescents impacted by violence in dating relationships, the potential outcomes of dating violence are particularly troubling. Existing research suggests that interpersonal violence influences adolescent well-being on broad and pervasive levels (i.e., Banyard & Cross, 2008; Coker et al., 2000; DiClemente et al., 2001). Some research has shown that, compared to female teenagers with no history of relationship violence, female adolescents who reported experiencing violence within the context of a dating relationship also reported increased health risk behavior including unhealthy weight control, psychological distress, substance use, suicidality, and inconsistent condom use (DiClemente et al., 2001; Silverman et al., 2001; Teitelman, Ratcliffe, Morales-Aleman, Sullivan, 2008). In addition, Coker and colleagues (2000) found that females with a history of severe dating violence reported lower health-related quality of life, less life satisfaction, and higher risk for suicide attempts. Similarly, research has indicated that, among males, a history of severe dating violence was associated with lower health-related quality of life, less life satisfaction, and higher rates of suicide attempts (Coker et al., 2000) as well as sadness/hopelessness, physical fighting, carrying a weapon, and sexual risk behavior (Howard, Qi Wang, & Yan, 2008).

Presentation and Risk

Adolescent dating violence affects every demographic group, including individuals from all ethnicities, socioeconomic strata, geographic settings, and backgrounds (Cohall, Cohall, Bannister & Northridge, 1999). Research also indicates

that males and females are equally likely to perpetrate and experience violence in dating relationships; however, studies have identified gender differences in the types of violence involved (Averyleaf, Cascardi, O'Leary, & Cano, 1997; Cano, Averyleaf, Cascardi, & O'Leary, 1998; Foshee, 1996; Foshee, Linder, MacDougall, & Bangdiwala, 2001; Molidor & Tolman, 1998). There is some evidence that females are more likely to inflict minor physical injuries and nonsexual violence than are males (Foshee et al., 2001; Molidor & Tolman, 1998). However, studies have also suggested that male adolescents perpetrate more severe forms of violence, including more sexual violence, psychological abuse, and physical injury (Cohall et al., 1999; Molidor & Tolman, 1998; Foshee, 1996). For example, Foshee found that 69.9% of females who had been a victim of dating violence received at least one injury from the violence, compared to 51.6% of males. Similarly, Molidor and Tolman found that female adolescents were significantly more likely to be punched (17.4%) or forced to engage in sexual activity (17.8%) than were male adolescents but that males were more likely to be pinched (19.9%), slapped (26.4%), scratched (11.3%), or kicked (15.8%). Of note, despite similarities in the frequency of overall violence for males and females in this research, damaging consequences were more likely to be associated with severe violence. As a result, although a subset of both males and females experienced negative physical and emotional reactions associated with severe dating violence, girls were more likely to have experienced these negative outcomes.

Some research has also suggested that victimization-perpetration patterns differ for males and females. For example, Molidor and Tolman (1998) found that

male adolescents reported that their response to a physical altercation was most frequently "laughing" or "ignoring" whereas female adolescents reported most frequently having "fought back" or "obeyed their partner." Thus, these authors argued that females may be more likely than males to engage in violent acts out of self-defense. Indeed, when asked about the most serious abusive incident in their relationship, 70% of females in this study reported that their partner had initiated the incident, compared to 27% of males. However, patterns of gender differences in victimization-perpetration patterns are not consistent across all research. For example, a recent study by Munoz-Rivas and colleagues (2007) identified a contradictory pattern whereby male adolescents reported engaging in acts of violence out of self-defense more frequently than did female adolescents. This study found that 13% of males reported perpetrating dating violence in response to an act of aggression, compared to only 6% of females. In this study, females attributed their own acts of aggression to states of emotional distress, such as feelings of intense anger, more frequently than they did to self-defense. Similarly, in one study that asked specifically about dating violence that was not perpetrated in self-defense, Wolf and Foshee (2003) found that female adolescents reported perpetrating aggressive actions at rates nearly double those reported by male adolescents. Such patterns of female perpetration and male victimization are reported less frequently among adult populations (Robinson, 2003), constituting an important distinction between adolescent and adult intimate partnerships.

Many authors (e.g., Chen et al., 2006; Raymond et al., 2007; Smith & Donnelly, 2001; Werkle & Wolfe, 1999) have suggested that certain dynamics of adolescent dating violence are fundamentally different from those of adult domestic violence (e.g., gender differences, prevalence rates, victimization-perpetration patterns). For example, while within adult populations, gender roles and relationship power are commonly highlighted as an underlying cause of domestic violence, these patterns have not been supported in work with adolescent samples (Teitelman et al., 2008). In addition, Wekerle and Wolfe (1999) have suggested that mutually violent or coercive behavior is more typical than are victim-perpetrator role patterns in adolescence. This phenomenon, termed "date fighting" by other researchers, has been documented in numerous studies (e.g., Kreiter et al., 1999; Molidor & Tolman, 1998). For example, Molidor and Tolman found that as many as half of the conflicts reported by adolescents occurred within mutually violent contexts as opposed to the victimization-perpetration pattern typically discussed in adult populations. Within this study, females and males reported rates of mutually violent behavior between 22.0% and 56.4%, respectively.

In addition, some studies suggest that violence in intimate relationships during adolescence is more common than violence within intimate relationships during adulthood (e.g., Chen et al., 2006). Chen and colleagues examined patterns of conflict within romantic relationships over time using retrospective interviews and documented a cubic trend in rates of conflict, such that rates of violence reported by individuals were highest at age 17, decreased through age 19, spiked slightly between

19 and 25, and ultimately declined after age 25. The authors attributed these patterns to developmental capacity, suggesting that the decreases in rates of conflict between ages 17 and 19 could be attributed to individuals' development of dating and interpersonal skills. According to Chen and colleagues, the second peak could be explained by the novel demands placed on young adults during the early years of serious relationships and marriage. Thus, they argued that ebbs and flows in the relationship violence within the study corresponded to individuals' interpersonal experience at different developmental periods.

Developmental Context

Developmental context has been highlighted by numerous theoretical and empirical research papers on relationship violence during the past fifteen years (e.g., Chen et al., 2006; Hansen et al., 1992; Montgomery, 2005; Smith & Donnelly, 2001; Storey, Cornelius, & Bell, 2008; Wolfe & Feiring, 2000). According to Montgomery, the social context of adolescence places new and increased demands on individuals, particularly relative to functioning in intimate settings. Specifically, she conducted a study that found that behaviors and intimacy within relational settings were highly varied among adolescents but generally improved as individuals transitioned into young adulthood. Montgomery argued that the shifts observed over time in adolescents' behaviors and attitudes relative to intimacy could be attributed to youths' emerging maturity.

Consistent with these findings, a theoretical paper by Hansen and colleagues (1992) argued that adolescence is fraught with new challenges, including

inconsistencies that contribute to interpersonal conflict, particularly with other sex

peers. These authors highlight a number of dichotomies (e.g. abstract reasoning-

egocentrism) that may have an impact on adolescents' ability to negotiate

complicated relational situations. Hansen and colleagues have suggested that some

aspects of conflict within dating relationships may be explained via an examination of

adolescents' developmental capacity and level of experience. Consistent with this

premise, some researchers have suggested that adolescents may be less able to resolve

interpersonal conflict in healthy, non-abusive ways due to unsophisticated

relationship skills (Wekerle & Wolfe, 1999; Wolfe & Feiring, 2000). In fact, some

researchers view violence within adolescent relationships as part of a continuum of

normal relational development (Wekerle & Wolfe, 1999; Wolfe & Feiring, 2000). For

example, in a review article, Wekerle and Wolfe suggest that adolescent dating

violence is a lapse in social development, arguing that aggression emerges as a result

of immaturity and underdeveloped social competence. However, while these

researchers frame adolescent dating conflict in the context of developing romantic

relationships, they remain adamant in their call for effective identification strategies

and prevention programming given the increased risk of injury (e.g., Foshee, 1996)

and mental health consequences (e.g., Silverman et al., 2001) that have been

associated with dating violence.

Additionally, while for many individuals adolescent dating violence does not

serve as a precursor to adult domestic violence, evidence suggests that some

individuals will be at risk for later victimization or perpetration (Smith, White, &

Holland, 2003). For example, findings from a longitudinal study by Smith and colleagues indicated that as many as 41.7% of individuals who had experienced dating violence during adolescence were revictimized again while in college. Although this study did not provide a theoretical explanation for the patterns observed, the authors did note that seven out of eight of women who reported victimization in college also reported having been victimized in either childhood or adolescence. Smith and colleagues argued that an understanding of the common causes and contexts that apply to individuals who experience and reexperience violence is imperative.

Theoretical Explanations for the Risk of Dating Violence

Despite the pervasiveness of dating violence across youth development, a number of warning signs and risk factors exist, most notably a history of prior victimization or family violence (Amato & Booth, 2001; Bernard & Bernard, 1983; Bryant & Conger, 2002; Conger, Cui, Bryant, & Elder, 2000; Foshee, Ennett, Bauman, Benefield, & Suchindran, 2005; Kingsfogel & Grych, 2004; Smith et al., 2003; Wolfe, Scott, Wekerle, & Pittman, 2001). A commonly cited risk factor identified within the research literature has been a history of interparental conflict (Delsol & Margolin, 2004; Hines & Saudino, 2002; Simons, Lin, & Gordon, 1998). In fact, some research suggests that individuals who witness domestic violence or who were abused by someone in their family of origin are twice as likely to later perpetrate violence in their own intimate partnerships (Bernard & Bernard, 1983), a finding that has been supported by subsequent investigations (e.g., Delsol &

Margolin, 2004; Ehrensaft et al., 2003). For example, Ehrensaft and colleagues reported that adolescents' risk of partner violence following childhood exposure to interparental conflict was nearly three times greater (OR= 2.96) than individuals who were not exposed to interparental conflict.

Patterns suggesting that exposure to interparental violence increases the likelihood of later engaging in violence against an intimate partner remain consistent when specific behaviors are examined as well (e.g., Murrell, Merwin, Christoff, & Henning, 2005). Murrell and colleagues identified significant associations between witnessing weapon use within one's family of origin and the use of or threatened use of a weapon against an intimate partner as an adult. Within this study, among a large sample (>1000) of adult men court-ordered to undergo a domestic violence recidivism assessment, 83% of men who reported witnessing the use of or threatened use of a weapon during childhood later reported engaging in those behaviors as an adult. Furthermore, although Murrell's research relied upon self-report data and retrospective recall, other research has documented associations between interparental conflict and conflict in adolescents' romantic relationships using longitudinal study design and observational measurement (e.g., Stocker & Richmond, 2007). Using both self-report measures and an observational coding scheme, Stocker and Richmond identified associations between interparental hostility and marital conflict at one assessment time point and subsequent hostility in adolescents' romantic relationships three years later.

The tendency for aggressive, conflictual, or violent behaviors to appear more frequently among youth raised in families where high levels of aggression, conflict, or violence were present has been termed "intergenerational transmission of violence" (e.g., Fite et al., 2008, p. 367; Kwong, Bartholomew, Henderson, & Trinke, 2003, p. 288). To examine trends of intergenerational transmission of violence, several meta-analyses have been conducted (e.g., Delsol & Margolin, 2004; Stith et al., 2000). According to Delsol and Margolin, approximately 60% of males who reported witnessing interparental violence within their family of origin later reported perpetrating violence within an adult romantic relationship, compared to only 20% of males who did not report witnessing interparental violence. Similarly, a meta-analysis by Stith and colleagues identified significant associations between violence within one's family of origin and later perpetration or experience of domestic violence as an adult. However, Stith and colleagues caution that effect sizes generally fell in the small to moderate ranges, suggesting that numerous additional variables contribute to the appearance of relational conflict later in life.

Theoretical Explanations for the Intergenerational Transmission of Violence

A variety of explanations have been proposed to explain the pattern of intergenerational transmission of violence. For example, Wolf and Foshee (2003) have suggested that youth learn strategies for addressing conflict and expressing anger within their family environment and that these learned behavioral patterns then translate into risk for violence in children and adolescents' own relationships. These authors identified a mediational relationship between anger expression style and

intergenerational relationship violence such that associations between witnessing interparental violence and perpetrating dating violence were mediated by direct anger expression among adolescent girls.

Similarly, links between intergenerational transmission of violence and conflict resolution strategies have been documented by numerous researchers (e.g., Choice, Lamke, Pittman, 1995; Fite et al., 2008). For example, Fite and colleagues (2008) examined the impact of social information processing on the intergenerational transmission of violence. Within this study, adolescents' tendency to generate aggressive responses to conflict and likelihood of favorably evaluating others' aggressive responses within hypothetical scenarios significantly mediated associations between conflict in their parents' and their own intimate relationships. Thus, the authors argued, adolescents who have witnessed interparental conflict may experience more conflict in their own dating relationships because they have learned a more limited set of conflict resolution strategies.

This conclusion is consistent with research by Choice and colleagues (1995), which documented associations between ineffective conflict resolution and intimate violence among adults. According to this study, ineffective conflict resolution strategies such as "refusing to talk" or "stomping out of the room" predicted both marital distress and battering among men who had witnessed interparental violence during adolescence. Such findings are consistent with social learning theory (SLT), which posits that through modeling and reinforcement, youth develop and display the patterns of violent behaviors observed in their social environments (Bandura, 1978).

Key to social learning theory is that youth are not only exposed to violence, but remember observing the violence, are able to reproduce the violent behavior, and are motivated to do so. Thus, children's perceptions of violence may be more fundamental than objective accounts in predicting later social behavior.

Peer, community, and family systems may each play a role in shaping youth behavioral patterns; however, the family system may have a particularly substantial impact on youth given that it is within the family environment that children are first exposed to social learning (Wolf & Foshee, 2003). Social learning theory is a commonly cited rationale argued to account for the reappearance of violence across family generations (e.g., Arriage & Foshee, 2004; Brendgen et al., 2002; Chapple, 2003; Doyle et al., 2003; Hines & Saudino, 2002; O'Leary, 1988; Sellers, Cochran, & Branch, 2005). According to SLT, exposure to interparental conflict may increase the likelihood of adolescents later being involved in violent dating relationships (Arriage & Foshee, 2004; Brendgen et al., 2002; Chapple, 2003; Doyle et al., 2003; O'Leary, 1988; Tontodonato & Crew, 1992).

While the majority of scholarship related to social learning theory and the intergenerational transmission of violence has been primarily theoretical in nature (e.g., Hines & Saudino, 2002; Sellers et al., 2005), several pivotal studies have examined associations between SLT and violence empirically as well (e.g., Marcus et al., 2001; Mihalic & Elliot, 1997; Wolf & Foshee, 2003; Wareham, Boots, & Chavez, 2009). For example, Mihalic and Elliot demonstrated support for the influence of social learning on the expression of aggression among both males and females, with

respect to both perpetration and victimization patterns. Using path analysis, these authors found that the self-reported witnessing of domestic violence was a strong predictor of adolescent violence and victimization. Similarly, Marcus and colleagues argue that, youth exposed to "frequent, intense, and unresolved marital conflict" are at-risk for poor social problem-solving skills (Marcus et al., 2001, p. 316). Using the Children's Perception of Interparental Conflict Scale (CPIC; Grych, Seid, & Fincham, 1992), these authors examined a mediational model of interparental conflict and child aggression among elementary and middle school-aged children. Consistent with social learning theory, Marcus and colleagues found that children's social problem-solving strategies mediated associations between perceptions of interparental conflict and aggression among children within the school context. Furthermore, use of the CPIC in this study to assess children's *perceptions* of interparental conflict was in line with the underlying assumption of SLT (Bandura, 1978) that exposure to violence be retained and interpreted by the observer.

Although fewer studies have examined parallels between adaptive parenting strategies and social skills, the influence of social modeling on positive behaviors has also been documented (e.g., Donnellan, Larsen-Rife, & Conger, 2005; Koblinsky, Kuvalanka, & Randolph, 2006). For example, Koblinksy and colleagues examined associations between children's social competence and family conflict as well as positive parental behavior. These researchers found that, consistent with previous studies, family conflict predicted anger, aggression, and hostility among children. However, results from the study also indicated that adaptive parenting behavior (e.g.,

nurturance, responsiveness, consistency, and control) predicted both the use of prosocial interpersonal skills and fewer behavior problems (including aggression) among children.

Similarly, Donnellan and colleagues (2005) have argued that positive parenting behaviors predict behavioral outcomes within the context of children and adolescents' later romantic relationships. In a longitudinal study, these researchers documented predictive associations between levels of warmth, nurturance, and supportiveness within parent-child and parent-parent interactions in participants' families of origin and more supportive, less hostile behavior within the individuals' intimate partnerships as young adults. Furthermore, despite the obvious potential for gene-environment interactions, associations between family variables and subsequent behavior in intimate partnerships remained significant in this study even after accounting for inheritable attributes, such as personality. As a result, the authors argued that individuals' approaches and behavior in romantic relationships develops at least in part due to social learning within the family context. Results from these studies (Koblinsky et al., 2006; Donnellan et al., 2005; Marcus et al., 2001; Mihalic & Elliot, 1997) suggest that both adaptive and maladaptive family factors influence youths' social and emotional development.

Intervention Programs for Adolescent Dating Violence

In addition to offering a model for identifying youth at risk for relational conflict, social learning theory also provides a model for treatment and has been commonly used as the foundation of intervention programming (Hines & Saudino,

2002). For example, the Youth Relationships Project was designed for adolescents who had been previously exposed to familial conflict (Wolfe et al., 2003). This intervention program was designed to teach adolescents how to make healthy choices and implement skills necessary for positive relationships by addressing characteristics of healthy and non-healthy relationships, including both those present in adolescents' families of origin as well as those within their own dating relationships. Wolfe and colleagues reported that data from both initial and two-year follow-up assessments have been successful at reducing dating abuse among participants.

However, some research has indicated that existing intervention programs are only partially effective, "demonstrating success with some groups under some conditions" (Dirks, Treat, & Weersing, 2007, p. 338). For example, the Youth Relationships Project was found to produce stronger effects for female adolescents than male adolescents (Wolfe et al., 2003). Additionally, many programs have documented changes in participants' attitudes but not behavior (e.g., Avery-Leaf et al., 1997) or for only particular types of aggression (e.g., physical violence but not psychological violence; Foshee et al., 2001). Furthermore, because existing intervention curricula have targeted a wide range of content, including interpersonal skills, technical skills, and community services (e.g., reducing threatening communication, increasing assertive communication, handling anger, accessing community resources for crisis; Semaan et al., 2002; Wekerle & Wolfe, 1999), quantifying which components are most critical to success has been difficult (Whitaker et al., 2006). According to a review paper by Wolfe and colleagues, the

social learning based intervention programs with the most promising results teach behavioral responses and conflict resolution skills specific to particular contexts (Wolfe, Jaffe, & Crooks, 2006).

Wolfe's most recent intervention, also designed from social learning perspective, the *Fourth R*, was designed to promote healthy relationships by equipping adolescents with developmentally specific interpersonal skills (Wolfe, 2005). Specific topics targeted within this intervention program included conflict resolution, the influence of gender- and sex-roles on relationship violence, and strategies to manage pressures related to health and safety (e.g., substance use and sexual behavior; Wolfe, 2005). Preliminary results have indicated that the *Fourth R* intervention successfully increases adolescents' knowledge related to the topics targeted by the intervention. Wolfe (2005) concluded that addressing behaviors specifically within the context of adolescents' peer and romantic relationships has been essential to producing the promising early findings of the intervention program.

Such conclusions are consistent with Dirks and colleagues (2005) who argued that one limitation of much previous intervention research has been a failure to specifically define the social learning components most critical to intervention programs, including those specific to adolescent dating relationships. According to Dirks and colleagues, social competence (i.e., effectiveness of interaction) is often situation dependent, termed "situation level" competence. Consistent with this premise, Sheridan and colleagues have argued that increasing the specificity of

intervention programming is necessary in order to produce desired outcomes within specific contexts (Sheridan, Hungelmann, & Maughan, 1999).

However, a critical review of dating violence intervention programs conducted by Whitaker and colleagues (2006) argued that the extent to which intervention curricula based on social learning theory have emphasized the development of new skills central to the theory has been unclear. These authors suggested that improved measurement of the specific skills targeted by intervention strategies will be necessary in order to discern the extent to which particular skills are responsible for behavior change. Thus, developing a clearer, and more targeted, definition of the aspects of social learning most central to adolescent risk, as well as effective assessment techniques of the skills related to social learning, will be of critical importance. As stated by Whitaker and colleagues, "The goal should be not only to find out which programs work, but to understand why" (p. 164).

Heterosocial Competence

Social competencies (e.g., communication strategies, expression of emotion, problem solving) have been associated with aggressive behavior in numerous previous studies (Feldman & Ridley, 2000; Marcus et al., 2001; Wolf & Foshee, 2003). For example, as highlighted previously, social problem-solving (Marcus et al., 2001) and anger expression style (Wolf & Foshee, 2003) have been shown to mediate relationships between interparental conflict and aggression among youth. In addition, research findings from a study by Feldman and Ridley indicated that adult couples with a history of relationship violence possessed poorer communication and problem-

solving skills than couples without a history of violence. Interestingly, although this study assessed only male to female perpetration of violence, both members of couples with a history of violence evidenced less constructive communication skills, poorer mutual problem solving, and less constructive conflict resolution strategies than members of couples within the control group. Such findings suggest that social competence is associated with both victimization and perpetration behaviors.

Work by Nangle and colleagues has provided additional information about how relational skills impact adolescent relationships, particularly relative to interactions with members of the other sex. A focus group study conducted by Grover and Nangle (2003) identified a broad range of areas of difficulty faced by adolescents in other-sex interactions. These authors documented discrete themes of problematic heterosocial interactions, including those within the context of friendships, casual relationships, working relationships, and romantic relationships. Dating and sexuality characterized a majority of discussions during these focus groups. Key social competences identified within the focus groups included communication skills, initiation of relationships, and facets related to negotiating for safe behavior (e.g., condom use, refusal of alcohol/ drugs).

In line with the recommendation that social learning based intervention programs specify and more narrowly define the social skills targeted (Dirks et al., 2007; Sheridan et al., 1999; Whitaker et al., 2006), Grover and colleagues created the Measure of Adolescent Heterosocial Competence (MAHC), a self-report paper and pencil questionnaire, to assess adolescents' heterosocial competence, or skill levels in

relating specifically to their other-sex peers (Grover, Nangle, & Zeff, 2005).

Developed using a behavioral analytical approach to understanding social

competence, the MAHC assesses behavioral responses across a range of situational

contexts but within the social context of other-sex interpersonal relationships. Such an

approach is consistent with the previously mentioned recommendations of Dirks and

colleagues (2007) and Sheridan and colleagues (1999) that studies assess social

competence in a highly targeted fashion.

Although heterosocial competence (HSC) shares numerous characteristics

with general social ability, including communication, initiation/maintenance of

relationships, and negotiation of conflict, Grover and colleagues (Grover, Nangle,

Serwick, & Zeff, 2007) have argued that some aspects of HSC are distinct from other

social skill constructs given the presence of greater anxiety, intimacy, and sexual

attraction within other-sex social interactions for many heterosexual teens. These

authors have further argued that because developing competence in heterosocial

settings is part of a normal developmental process during adolescence, distinguishing

between social competence in same-sex versus other-sex social situations is even

more important during adolescence than other stages of development.

Grover and colleagues (2005) have argued that the MAHC is ideally suited for

measuring adolescents' capacity to interact competently with other-sex peers when

faced with challenging situations. As a result, these authors have suggested that the

MAHC holds promise for identifying or preventing difficulties in romantic

relationships. As a new measure, and the first of its kind to measure heterosocial

competence among adolescents, little research is available utilizing the MAHC.

However, research within adult populations has documented associations between

deficits in heterosocial competence and interpersonal violence. For example, a meta-

analysis conducted by Emmers-Sommer and colleagues (2004) demonstrated a

consistent pattern indicating that sexual offenders possess fewer social skills than

non-offenders. In addition, a second meta-analysis, conducted by Dreznick (2003),

supported this finding. Results from this study also indicated that levels of

heterosocial competence (i.e., ability to successfully interact with members of the

other sex) were consistently lower among individuals convicted of a variety of sexual

offenses and violent crimes. Such findings within adult populations, combined with

the theoretical rationale provided by numerous researchers studying similar processes

among youth (e.g., Chen et al., 2006; Nangle & Hansen, 1998; Wekerle & Wolfe,

1999; Wolfe & Feiring, 2000), suggest that a closer examination of the impact of

heterosocial competence on adolescent dating behaviors may be important.

Rationale and Purpose of the Present Investigation

Associated with a broad range of negative outcomes (e.g., injury,

psychological distress, suicide, and health risk behavior), dating violence is a

pervasive and potentially devastating risk concern for adolescents (Coker et al., 2000;

DiClemente et al., 2001; Foshee, 1996, Munoz-Rivas et al., 2007; Silverman et al.,

2001). One factor associated with increased risk for both perpetration and

victimization of dating violence that is commonly highlighted within the existing

literature is exposure to interparental conflict (Fite et al., 2008; Hines & Saudino,

2002; Kwong et al., 2003; Stith et al., 2000). While associations between interparental conflict and adolescent dating violence have been well documented (e.g., Ehrensaft et al., 2003; Delsol & Margolin, 2004; Hines & Saudino, 2002; Howard, & Wang, 2003; Stith et al., 2000; Stocker & Richmond, 2007), the mechanisms underlying these associations are not well understood.

Both theoretical and empirical support exists suggesting that associations between interparental conflict and adolescent dating violence emerge due to learned patterns of conflict resolution, emotional expression, and other interpersonal skills (e.g., social learning; Marcus et al., 2001; Mihalic & Elliot, 1997; Wolf & Foshee, 2003). For example, poorer communication, problem-solving, and anger expression have been identified among both adolescents and adults with a history of relationship violence (Choice et al., 1995; Feldman & Ridley, 2000; Marcus et al., 2001; Mihalic & Elliot, 1997; Wolf & Foshee, 2003). As a result, many intervention programs have targeted these types of social skills (Hines & Saudino, 2002; Wolfe et al., 2003). However, empirical support for existing intervention programs has been mixed, demonstrating disparate effects across populations and target behaviors (Avery-Leaf et al., 1997; Dirks et al., 2007; Foshee et al., 2001; Wolfe et al., 2003). According to Whitaker and colleagues (2006), failure to clearly define and assess the skills targeted by intervention programs has made identification of the components most critical to successful prevention and intervention programs difficult. Thus, recent publications (e.g., Dirks et al., 2007; Whitaker et al., 2006) have called for the development of

clearer and more targeted definitions and measurement of the aspects of social learning most central to adolescent risk for dating violence.

Theoretical rationales provided by numerous researchers working with adolescent populations (e.g., Grover & Nangle, 2002; Grover et al., 2005; Nangle & Hansen, 1998; Wekerle & Wolfe, 1999; Wolfe & Feiring, 2000) as well as empirical evidence from studies with adult populations (e.g., Emmers-Sommer et al., 2004; Dreznick, 2003) suggest that heterosocial competence may be a key social learning component associated with a risk for relationship violence. If identified as a mediator between interparental conflict and adolescent dating violence, heterosocial competence has the potential to aid investigators in better identifying adolescents at risk for dating violence as well as designing effective intervention programs.

The purpose of the present study was to examine heterosocial competence as a mediating variable in the intergenerational transmission of violence. It was hypothesized that adolescent-reported interparental conflict would predict adolescent dating violence and that the associations between these constructs would be explained by adolescents' social competence relating to members of the other sex. Specifically, it was expected that adolescents' perceptions of their parents' use of maladaptive conflict resolution strategies (e.g., high frequency of conflict, high intensity of conflict, and low resolution of conflict) would predict less heterosocial competence and that low levels of heterosocial competence would in turn predict adolescent dating violence (e.g., Dating Violence Perpetration and Dating Violence Victimization). Similarly, it was expected that adolescents' perceptions of parents'

use of pro-social resolution strategies (e.g., low frequency of conflict, low intensity of conflict, and high resolution of conflict) would predict higher levels of heterosocial competence, ultimately resulting in adaptive conflict resolution strategies (e.g., total adaptive conflict resolution) within adolescents' dating relationships.

Method

Procedure

Participants were recruited for this study from two public high schools in large southeastern U.S. cities. The first high school consisted of approximately 1,700 students between the ages of 14 and 20 (61.9% European American, 18.9% African American, 13.2% Asian/Pacific Islander, and 5.4% Hispanic). Recruitment at this school targeted all students enrolled in the health education classes (n = 181 students) at the time of data collection. There were no mental or physical characteristics unique to the sample and no individuals were excluded on the basis of race, sex, or age. The second high school consisted of approximately 50 students, between ages 14 and 20. This school, a therapeutic school, served public high school students from the region whose neighborhood schools were unable to meet their educational needs within the mainstream classroom environment due to mental health or behavioral challenges. Recruitment at this site occurred during students' regular art classes. All students at the second high school who were enrolled in art classes had the opportunity to participate. Again, no individuals were excluded on the basis of race, sex, or age.

Although inclusion criteria for the larger project required only that the adolescents be enrolled in classes at one of the two high schools and willing to

participate, because a primary aim for the present study was to evaluate heterosocial competence within dating contexts, only data from adolescents who endorsed sexual attraction to members of the other sex or both sexes and who reported a history of having been in a dating relationship were included in analyses for the present study. All procedures involved in this study were approved by the University of Kansas Institutional Review Board as well as the principal, superintendent, and school board of the participating high schools.

Approximately two weeks prior to the start of the proposed study, letters describing the project were sent home to parents of all students enrolled in health classes (see Appendix A1 and A2). A waiver of the requirement for parental permission for participation was granted in accordance with the Human Subjects Committee of Lawrence (HSCL) policy 45 CFR 46.117 (b) (2) because data were collected as part of a curriculum-based exercise, participation presented minimal risk to students, and no identifying information was obtained. Students were provided with information about the project during their regularly scheduled classes. Verbal assent was obtained from students immediately prior to the collection of all study materials. At this time, the presenters/researchers assured students that their participation was voluntary and that their answers would remain confidential. A small percentage of students eligible for participation were not in attendance on the days of data collection. Nine students at the first school and five students at the second school were absent and therefore unable to participate. Of those in attendance, 100% of students (172 of 172) at the first high school and 96% of students (43 of 45) at the

second high school provided assent. The two students at the second high school who did not provide assent reported that their reason for declining participation was a preference to partake in regular art activities.

In conjunction with classroom teachers, investigators facilitated activities and researched health behaviors as part of regularly scheduled classes, over a three (school 1) to five (school 2) day period. On each day of data collection approximately one half of the class period was devoted to data collection. The remainder of the class period was dedicated to a health-related presentation, activity, or discussion. In order to minimize the risk that the presentations would contaminate participants' responses on the research measures, students were asked to complete all study questionnaires relevant to a particular topic prior to presentations on material related to that topic. For example, facilitated group discussions about relationships occurred after the collection of study measures about dating and family relationships. All questionnaires were read aloud by one researcher. Another researcher circulated throughout the room to answer questions and assist students as necessary.

Although a master list which paired students' names with study numbers was maintained during the data collection period, the list and all identifying information were destroyed immediately following data collection. No information about individual students was provided to students, their parents, or the teachers. However, a summary report containing aggregate information was provided to the schools at the conclusion of the study.

Participants

Participants included 215 students, including 172 students at the first school and 43 students at the second school. Twenty percent of participants in the sample reported having never been in a dating relationship and were thus excluded from further analyses. Of the remaining 172 individuals, 64% were male. The average age of the students participating was 16.33 years (*SD* = 1.32, range 14-20). Eight percent of the respondents were in the 9th grade, 47.7% were in the 10th grade, 22.7% were in the 11th grade, and 21.5% were in the 12th grade. Adolescents within the study sample identified as European American (47.1%), African American (23.3%), Hispanic (8.1%), Biracial (7.6%), Other (7.0%), Asian or Pacific Islander (5.8%), and Multiracial (1.2%). Approximately ninety-five percent of respondents reported being sexually attracted to members of the other sex, 4.8% reported sexual attraction to members of both sexes, and no individuals reported sexual attraction exclusively to members of the same sex. On average, students reported starting to date at age 12.5 (range 6-17 years; *SD* = 2.5).

Measures

Study participants completed several measures of their social interactions, psychosocial functioning, health behaviors, and background information. These measures included a demographic form designed for the present study, the adolescent self-report form of the Behavioral Assessment System for Children- Second Edition (Reynolds & Kamphaus, 2004), which evaluates psychosocial functioning, the Youth Risk Behavior Survey (CDC, 2005), which assesses risk behaviors such as sexual

activity and substance use, the Adolescent Invincibility Tool (Crook, 2005), which

evaluates risk perception, the Children's Perception of Interparental Conflict Scale

(Grych et al., 1992), which measures perceived parental conflict, the Conflict in

Adolescent Dating Relationships Inventory (Wolfe, Scott, Reitzel-Jaffe et al., 2001),

which measures adolescents' history of responses to dating conflict, and the Measure

of Adolescent Heterosocial Competence (MAHC; Grover et al., 2005), which

assesses adolescents' social competence relating to members of the other sex. Data

from five measures (the Demographic Form, Children's Perception of Interparental

Conflict Scale, Conflict in Adolescent Dating Relationships Inventory, Measure of

Adolescent Heterosocial Competence, Behavioral Assessment System for Children-

Second Edition) were examined as part of the substantive analyses for the present

study.

Demographic Form: Information about participants' background information

was collected via a brief, self-report demographic form which contained questions

regarding sex/gender, age, grade, race, height, weight, and sexual attraction. A copy

of these background questions is contained in Appendix B.

Children's Perception of Interparental Conflict Scale (CPIC; Grych et al.,

1992): Adolescents completed a 49-item paper and pencil instrument that measured

perceptions of conflict within their parents' relationship. Participants rate their

responses on a three- point scale whereby 2 corresponded to "true," 1 corresponded to

"sort of true" and 0 corresponded to "false." Students were asked to describe conflict

within their primary caregivers' (e.g., mothers, fathers, or other relatives) relationship, regardless of whether their caregivers were married or cohabiting.

Within the present study, 62% of participants reported living with both biological parents, 10% reported living with one biological parent and one step-parent, 22% reported living with one biological parent, and 6% reported living with someone other than a biological parent. Based on instructions provided by the measure developers, in instances when the respondents' parents did not live together, adolescents were told, "If your parents don't live together in the same house with you, think about the times that they are together when they don't agree or about times when both of your parents lived in the same house, when you answer these questions." Participants who lived with someone other than their two biological parents were instructed to think about their primary caregiver(s) when completing the CPIC.

The CPIC yields numerous scales including three subscales, Frequency, Intensity, and Resolution, and one composite scale, Conflict Properties, which were used within the present study. The Frequency subscale was comprised of six items related to adolescents' perceptions of how often conflicts arose within their parents' relationship (e.g., "I never see my parents arguing or disagreeing" – reverse scored item), with higher scores reflecting more frequent conflict. Scores for the Frequency subscale within the present study ranged from 1 to 10 ($M = 5.92$), out of a possible range of 0 to12. The second subscale, Intensity, included seven items related to adolescents' perceptions of the intensity of their parents' arguments/disagreements

during times of conflict (e.g., "My parents have broken or thrown things during an

argument"), with higher scores reflecting more intense conflict. Within the present

study, scores on the Intensity subscale ranged from 0 to 12 (M = 6.49), out of a

possible range of 0 to 14. Resolution, the third subscale, was made up of six items

related to adolescents' perceptions of how well their parents' resolved conflict within

their relationship (e.g., "When my parents have an argument they usually work it

out"), with higher scores reflecting better conflict resolution. Scores on the

Resolution subscale ranged from 0 to 11 in the present study (*M* = 7.33), out of a

possible range of 0 to 12. Finally, the Conflict Properties composite scale, is

calculated by summing items within the Frequency and Intensity subscales with

reverse-scored items from the Resolution subscale. Within the present study, scores

on the Conflict Properties subscale ranged from 9 to 28 (*M* = 17.06, *SD* = 2.95). This

mean value and standard deviation differed from those reported by other authors (e.g.,

Marcus et al., 2001; *M* = 12.64, *SD* = 7.71).

The CPIC has demonstrated adequate internal consistency, test-retest

correlations, and validity (Grych et al., 1992). In a two-part study conducted by

Grych and colleagues to assess the psychometric properties of the measure, alpha

values ranged from .68-.83. Within the present project, the Cronbach's α coefficient

for the scale was found to be .82.

Conflict in Adolescent Dating Relationships Inventory (CADRI; Wolfe, Scott,

Reitzel-Jaffe et al., 2001): The CADRI is a 76-item self-report survey of students' use

of a variety of strategies to resolve conflict within their most recent dating

relationship. The CADRI measures both perpetration and victimization behaviors. The instrument yields six scales (Physical Violence, Sexual Abuse, Relational Aggression, Threatening Behaviors, Emotional Abuse, and Adaptive Resolution) and a total value of dating violence or Dating Violence Perpetration within dating relationships. Each of the items within the scales are calculated relative to the respondent's own behavior (e.g., perpetration) and their partner's behavior (e.g., victimization) on a four point scale (0 = never, 1 = seldom, 2 = sometimes, 3 = often).

For the purposes of the current study, the total Dating Violence Perpetration and Adaptive Conflict Resolution scores were utilized, including respondents' ratings of both their own behavior (i.e., "Self") and their partner's behavior (i.e., "Partner"). The Dating Violence Perpetration scale encompassed 25 items related to adolescents' report of their own aggressive responses towards a partner (i.e., dating violence perpetration), including physically violent, sexually abusive, relationally aggressive, threatening, and emotionally abusive behaviors. Within the present study, scores ranged from 0 to 46 ($M = 10.71$), out of a possible range of 0 to 75. Similarly, the Dating Violence Victimization scale encompassed 25 items related to adolescents' report of their partners' physically violent, sexually abusive, relationally aggressive, threatening, and emotionally abusive responses (i.e., dating violence victimization). Scores for this scale ranged from 0 to 52 ($M = 12.55$) out of a possible range of 0 to 75. The Adaptive Conflict Resolution- Self and Adaptive Conflict Resolution- Partner scales were comprised of 10 items related to adolescents' report of their own or their partner's constructive responses to conflict (e.g., "I gave reasons for my side of the

argument" or "She/he discussed the issue calmly"), with higher score reflecting more adaptive conflict resolution. Scores ranged from 0 to 27 (M = 14.02) and 0 to 27 (M = 12.77) out of a possible range of 0 to 30 for the Adaptive Conflict Resolution- Self and Adaptive Conflict Resolution- Partner scales, respectively.

Results from previous investigations of the measure showed acceptable test-retest reliability and validity (Wolfe, Scott, Reitzel-Jaffe et al., 2001). Wolfe and colleagues reported alpha values ranging from .83 to .87 during the initial development and validation of the CADRI. The CADRI has been used in numerous recent studies of adolescent dating violence (e.g., Kinsfogel & Grych, 2004; Schiff & Zeira, 2005; Teitelman et al., 2008) and has demonstrated acceptable rates of agreement between dating partners regarding the existence of conflict in relationships (Wolfe, Scott, Reitzel-Jaffe et al., 2001). The Cronbach's α coefficient for the CADRI within the present study was .96.

Measure of Adolescent Heterosocial Competence (MAHC; Grover et al., 2005): Students' heterosocial competence was evaluated via the MAHC, a 40-item paper and pencil measure of adolescents' effectiveness interacting with peers of the other sex in a variety of situations. The MAHC measures numerous types of other-sex interactions, including those which occur in romantic relationships, working relationships, casual relationships, and friendships. Although Grover and colleagues theorized that the MAHC taps several specific types of heterosocial skills (e.g., initiation of relationships; Grover & Nangle, 2002; Grover et al., 2005), preliminary

investigations of the instrument's factor structure did not support the existence of sub-scales within the measure (Grover et al., 2005).

Initial investigations have suggested that the questionnaire possesses adequate internal consistency and validity. Specifically, Grover and colleagues (2005) have reported significant associations between heterosocial competence, as measured by the MAHC, and measures of other social competence (i.e., $r = .63$, $p < .001$ with the Measure of Adolescent Social Performance; Cavell & Kelley, 1992) as well as social anxiety (i.e., $r = .15$, $p < .05$ with the Survey of Heterosexual Interactions; Twentyman & McFall, 1975). In addition, preliminary findings suggest that the measure is able to distinguish other-sex social competence from other types of social skills (Grover et al., 2005). Cronbach's α for the scale within the present study was found to be identical to the alpha value reported by Grover and colleagues (.73). Scores ranged from 74 to 138 ($M = 113.86$) out of a possible range of 40 to 160, with higher values reflecting greater heterosocial competence. Upon visual inspection of a histogram for the measure, the values appeared normally distributed.

Behavioral Assessment System for Children, Second Edition (BASC-2; Reynolds & Kamphaus, 2004): The BASC-2 is a 176-item self-report questionnaire commonly used to assess the behavioral and emotional characteristics of children. When completing the measure, respondents are asked to provide a true/false response for a subset of questions and ratings on a 4-point scale (i.e., 0 = never, 1 = sometimes, 2 = often, 3 = almost always) for the remaining items. Within the present study, the

BASC-2 Assist scoring program was used to calculate T-Scores and percentile

rankings based on participants' responses.

The BASC-2 consists of sixteen scales, including four adaptive scales (e.g.,

social skills) and twelve clinical or maladaptive scales (e.g., depression). In addition,

the BASC-2 offers several composite scores (i.e., Internalizing, Externalizing,

Adaptive) and an index of participants' overall psychosocial well-being (i.e., the

Emotional Symptoms Index). Across the clinical scales, scores on BASC-2 are

considered to be within a typical/healthy range if they fall between 40 and 59,

whereas scores between 60 and 69 are considered "At-risk" and scores 70 or higher

are considered "Clinically significant."

High internal consistency (α = .79 to .90) and test-retest reliability (r = .75 to

.82) have been documented for the BASC-2. In addition, validity for the measure has

been established via comparison with other self-report measures of child adjustment

(i.e., Conners-Wells' Adolescent Self-Report Scale; Conners, 1997). Means for

BASC-2 scores of the students who participated in this study are summarized below.

Missing Data

A small proportion of data were found to be missing at the conclusion of the

data collection. In the majority of cases, single items were left blank on

questionnaires. No systematic patterns were discernable that would have suggested

problems with any particular items on the questionnaires. Thus, it was concluded that

those data were most likely missing at random. Additionally, because the five study

measures were collected on separate days, in a few instances entire questionnaires

were missing due to absenteeism. Seventy-seven percent of respondents completed all questionnaires and 14.5% of respondents completed three of the questionnaires. The remaining 8.1% of respondents were missing data for two (7.0%) or three questionnaires (1.2%). Specifically, data were complete for 99.4% of the Demographic forms, 92.4% of the CADRI, 86.6% of the CPIC, 89.5% of the MAHC, and 85.2% of the BASC.

In order to minimize the negative impact of missingness on a study results, missing values were estimated using EM imputation. Unlike methods such as listwise deletion or mean substitution, which have the potential to bias the dataset or limit power, EM imputation statistically estimates missing values using information available within the entire dataset while maintaining error and variances (Buhi, Goodson, & Neilands, 2008). Missing data were imputed at the item level, allowing for the maximum amount of true data to be utilized in the statistical estimation of missing values.

Results

First, preliminary analyses were conducted to assess sample characteristics, including participants' demographic information, psychosocial functioning, family composition, dating characteristics, and heterosocial competence. Table 1 contains a correlation matrix representing associations between study variables. Of note, demographic characteristics were significantly correlated with numerous other variables of interest. Thus, Age, Race, Gender, and School were controlled for in subsequent analyses.

Table 1: Correlation Matrix

	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Age	1								
2. Race	.238*	1							
3. Gender	-.042	-.141	1						
4. School	.279*	.509*	-.370*	1					
5. Conflict Properties	.001	.118	.002	.090	1				
6. Perpetration of Dating Violence	.265*	.276*	.069	.215*	.165*	1			
7. Victimization of Dating Violence	.247*	.298*	-.101	.380*	.091	.843*	1		
8. Adaptive Conflict Resolution- Self	.117	-.005	.141	-.065	-.071	.413*	.373*	1	
9. Adaptive Conflict Resolution- Partner	.079	-.032	.150*	-.136	-.029	.397*	.291*	.898*	1
10. Heterosocial Competence	.048	-.160	.166*	-.066	-.008	-.083	-.074	.198*	.179*

*Correlation is significant at *p*<.05.

The mean Emotional Symptoms Index (ESI) on the BASC-2, a self-report measure of overall psychosocial functioning, was found to be in the average range for students participating in this study (*M* = 51.67, *SD* = 10.28), despite inclusion of students from both mainstream and therapeutic high schools. According to this index, 82% of participants' psychosocial functioning fell within the non-clinical range (ESI of less than 60), 12.8% fell within the at-risk range (ESI between 60 and 69), and 5.2% fell within the clinically significant range (ESI of 70 or greater). An independent samples t-test indicated that no significant differences existed between students at the two schools [*t* (170) = .208, *p* = .836] with respect to overall psychosocial functioning, as measured by the ESI.

Mean scores for individual BASC-2 scales ranged from 50.09 (Anxiety) to 55.37 (Attitude Towards School). These values indicate that, on average, students who participated in this study were found to be within typical ranges for adolescent psychosocial functioning. Nevertheless, a percentage of students fell within the at-risk or clinically significant range for each of the BASC-2 scales and many students scored within the at-risk or clinically significant range on one or more scales. Students recruited from the therapeutic school were significantly more likely than students recruited from the mainstream high school to have at least one clinically significant BASC-2 scale score [t (99.12) = -2.623, p = .010]. Given associations between adolescent dating violence and mental health risks, adolescents with scores in the at-risk or clinically significant range on BASC-2 scales were not excluded from analyses. Inclusion of all dating adolescents was expected to capture the greatest range of outcomes, as well as preserve generalizability to high school students with a history of a dating relationship.

Given the number of students (38%) living in homes without two biological parents present, characteristics of Interparental Conflict, according to the CPIC, were evaluated based on family composition. An independent samples t-test indicated that no significant differences existed between students living with both biological parents compared to those not living with both biological parents relative to overall Conflict Properties of Interparental Conflict [t (128) = 1.452, p = .149], or the Frequency [t (128) = .369, p = .713], Intensity [t (128) = .927, p = .356], or Resolution [t (128) = -.806, p = .422] of Interparental Conflict, specifically. Thus, results from preliminary

analysis of the CPIC supported inclusion of all participants, regardless of family composition.

Preliminary analysis of the CADRI was conducted to assess the descriptive characteristics of participants' dating relationships, including conflict within their most recent relationship. The types of dating relationships participants reported having in the past included "going out in male/female groups" (18.9%), "dating different people" (3.8%), "dating one person without a definite commitment" (5.3%), "dating one person exclusively" (6.1%), and a combination of more than one type of relationship (65.9%). Thirty-five percent of participants completed the CADRI with a current boyfriend or girlfriend in mind, while the remaining participants responded based on the characteristics of a recent relationship. Sixty-seven percent of participants reported seeing their dating partner daily, 20.7% reported seeing their partner two or three times a week, and 12.4% reported seeing their partner once a week or less.

Relative to conflict within participants' dating relationships, 76.8% of participants reported that they "argue or disagree" with their partner at least once a week, with a range of 0-22 times per week ($M = 2.20$, $SD = 3.08$). Most participants (93.6%) reported that they or their partner had previously used at least one adaptive strategy for resolving conflict within their relationship, for example "discussing an issue calmly" or "leaving the room to cool off." However, a considerable number of students also reported some degree of aggression or abusive behavior within their relationship, including Sexual Aggression (61.4%), Relational Aggression (35.9%),

Emotional/Verbal Abuse (91.3%), Threatening Behavior (41.2%), or Physical

Violence (36.8%). Mean item values, represented in Table 2, were calculated by

dividing each participant's scale score by the number of items within the scale to

estimate how frequently behaviors within each scale occurred. Findings indicated that

aggressive/abusive behaviors occurred "Never" or "Seldom" for participants overall.

However, a wide range of mean scores was identified, indicating that some

participants experienced each type of aggression/abuse "Sometimes" or "Often."

Table 2. CADRI Item Mean Scores

	Mean	Range	SD
Perpetration			
Sexual Aggression	.2209	0-2.25	.36358
Relational Aggression	.1841	0-2.33	.39861
Emotional/Verbal Abuse	.7371	0-2.44	.57062
Threatening Behavior	.2049	0-2.50	.41860
Physical Violence	.2108	0-2.50	.47862
Total Dating Violence	.4284	0-1.84	.38219
Victimization			
Sexual Aggression	.3590	0-2.25	.43440
Relational Aggression	.2578	0-2.33	.49701
Emotional/Verbal Abuse	.7997	0-2.67	.63079
Threatening Behavior	.2645	0-2.50	.44730
Physical Violence	.2616	0-2.75	.50423
Total Dating Violence	.5019	0-2.08	.41741
Adaptive Conflict Resolution			
Self	1.4023	0-2.70	.68629
Partner	1.2773	0-2.70	.63228

T-test analyses identified no gender differences with respect to overall Dating

Violence Victimization [t (166) = 1.623, p = .106] or Perpetration [t (166) = -.192, p

= .848]. However, males reported significantly more perpetration of Sexual

Aggression [t (159) = 3.923, p <.001] and victimization of Physical Violence [t (166)

= 3.880, p <.001]. In addition, girls reported greater use of Adaptive Conflict

Resolution by their partners [t (166) = -2.114, p = .036]. T-test analyses were also

utilized to determine whether adolescent dating conflict differed based on

participants' family composition. No significant differences were identified between

adolescents living with both biological parents, compared to those not living with

both biological parents, with respect to Dating Violence Perpetration [t (128) = -.716,

p = .475], Dating Violence Victimization [t (128) = -.143, p = .887], Adaptive

Conflict Resolution- Self [t (128) = -.604, p = .547], or Adaptive Conflict Resolution-

Partner [t (128) = -1.162, p = .247].

Finally, preliminary analysis of the MAHC was performed in order to inform

the manner in which this measure was to be structured in later analyses. A

confirmatory factor analysis (CFA) of the MAHC was conducted using structural

equation modeling (SEM). Unlike exploratory factor analysis, a data driven approach,

CFA utilizes theory and previous research to predict and evaluate the factor structure

of a measure. Within the present project, SEM was employed to examine the

theoretical factor structure described by the measure developers in their initial

presentations of the MAHC (Grover & Nangle, 2002; Grover et al., 2005). Based on

the rationale provided by Grover and colleagues and visual inspection of items within

the measure, a six-factor structure was expected for the 40-item measure.

Specifically, it was hypothesized that the MAHC encompassed factors related to

Initiation of Relationships, Casual Relationships, Dating Relationships, Sexuality,

Substance Use, and Harassment.

Within the initial solution evaluated, lambda loadings for six items were found

to be non-significant. Thus, these items were pruned from the model. Confirmatory

factor analysis of the remaining 34 items within the 6-factor model yielded an

RMSEA value of .048. However, additional fit indices ($\chi^2 = 714.98$, $p < .001$; NNFI =

0.744; CFI = 0.766) suggested poor fit. Visual inspection of the correlation matrix

identified universally small correlations between items, typically ranging from .1 to

.4, suggesting that the promising RMSEA value was due to the model's ability to

closely reproduce zero correlations. Consistent with this conclusion, lambda loadings

ranged from .18 to .70, indicating that, although significant, the variance explained by

each individual item was small. The 34-item CFA is depicted in Figure 1.
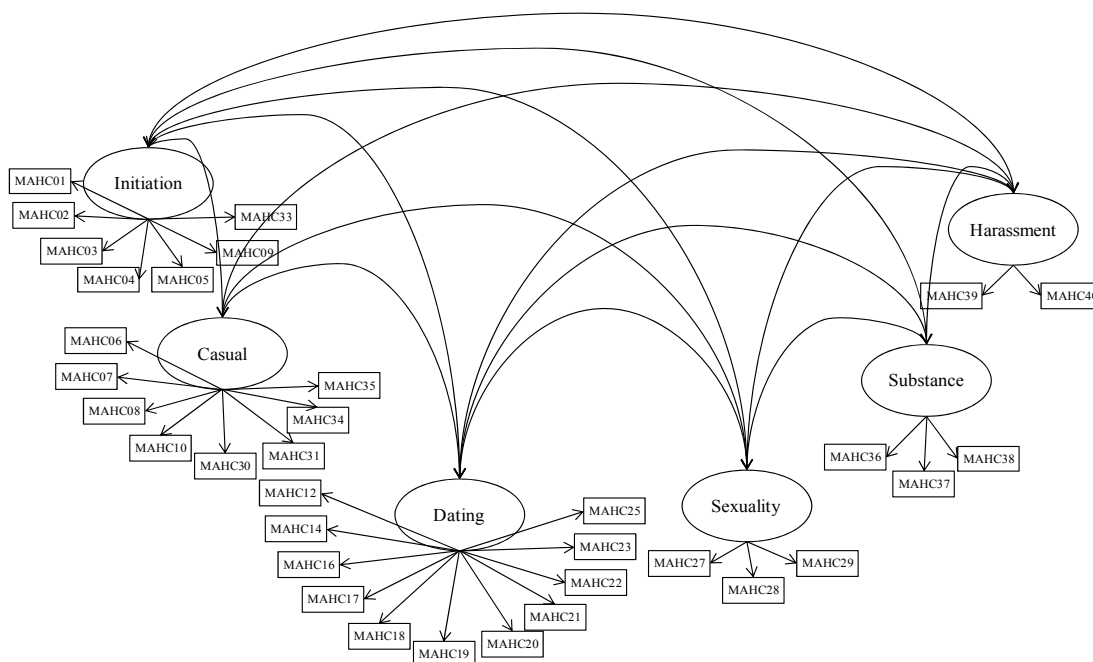
Figure 1. 34-item CFA of the MAHC.

An alternative model, utilizing parceling, was explored next. Parceling involves averaging items in order to create an aggregate measure of a construct. In addition to offering greater parsimony and requiring fewer parameter estimates, this method reduces sampling error and the likelihood of correlated residuals. Within this analysis, six facet representative parcels were created by averaging items theorized to belong to the factors described above (i.e., Initiation of Relationships, Casual Relationships, Dating Relationships, Sexuality, Substance Use, and Harassment). After allowing one correlated residual, the fit indices for Model 2 ($\chi^2 = 4.16$, $p = .385$; RMSEA = .015; NNFI = 0.997; CFI = 0.999) suggested close model fit. Lambda loadings for each of the six parcels were again weak (.17-.44), but universally significant. Thus, although confirmatory factor analysis did not support the existence of scales within the MAHC, preliminary analysis supported the use of either facet representative parcels, within an SEM framework, or a total score within regression analyses. The covariance matrix for Model 2 is contained in Appendix C. Figure 2 depicts this alternative model of the MAHC.
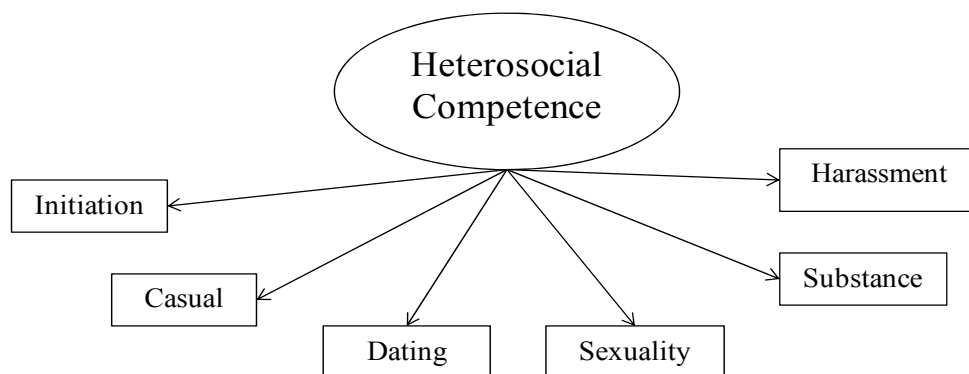
Figure 2. Alternative model of the MAHC utilizing facet representative parcels.

CFAs were not conducted within the present study to investigate the structure

of scales within the CADRI and CPIC because the factor structures of these measures

have been reported elsewhere (e.g., Grych et al., 1992; Wolfe, Scott, Reitzel-Jaffe et

al., 2001) and found to be consistent across samples (e.g., Hokoda et al., 2006; Reese-

Weber & Hesson-McInnis, 2008).

In order to address the primary aim of the current study, several methods of

data analysis were considered, including Structural Equation Modeling (SEM) and

Multiple Regression. Because both analytical methods were capable of addressing the

present study's hypotheses, strengths and weaknesses of each method were closely

evaluated. For example, SEM, a form of latent variable regression, is able to correct

for measurement error, evaluate multiple Y variables simultaneously, parsimoniously

test for mediation, and set few limitations relative to the complexity of the model

tested (aside from requiring stability).

Initially, SEM was selected as an ideal analytical tool to test the substantive

study hypotheses, using the conceptual framework depicted in Figure 3. This model,

Model 3, contained three latent constructs, Heterosocial Competence, Interparental

Conflict, and Adolescent Dating Conflict, corresponding to the foci of investigation

within the present study. The first construct, Heterosocial Competence, was created

based on information gathered via the CFA described above. Specifically, the

Heterosocial Competence construct contained six facet representative parcels,

Initiation of Relationships, Casual Relationships, Dating Relationships, Sexuality,

Substance Use, and Harassment. The second and third Constructs, Interparental

Conflict and Adolescent Dating Conflict, were created based on rationales provided within previous research (i.e., Grych et al., 1992; Marcus et al., 2001; Wolfe, Scott, Reitzel-Jaffe et al., 2001).

The Interparental Conflict construct was designed in line with the Conflict Properties composite scale described by Grych and colleagues (1992) and Marcus and colleagues (2001). This construct was created from three manifest variables: Frequency, Intensity, and Resolution of Interparental Conflict, the subscales which comprise the Conflict Properties composite. Similarly, the Adolescent Dating Conflict construct was comprised of four manifest variables, consistent with research by Wolfe and colleagues (Wolfe, Scott, Reitzel-Jaffe et al., 2001). The manifest variables used to create the Adolescent Dating Conflict construct included: Total Dating Violence Perpetration, Total Dating Violence Victimization, Adaptive Conflict Resolution- Self and Adaptive Conflict Resolution- Partner.
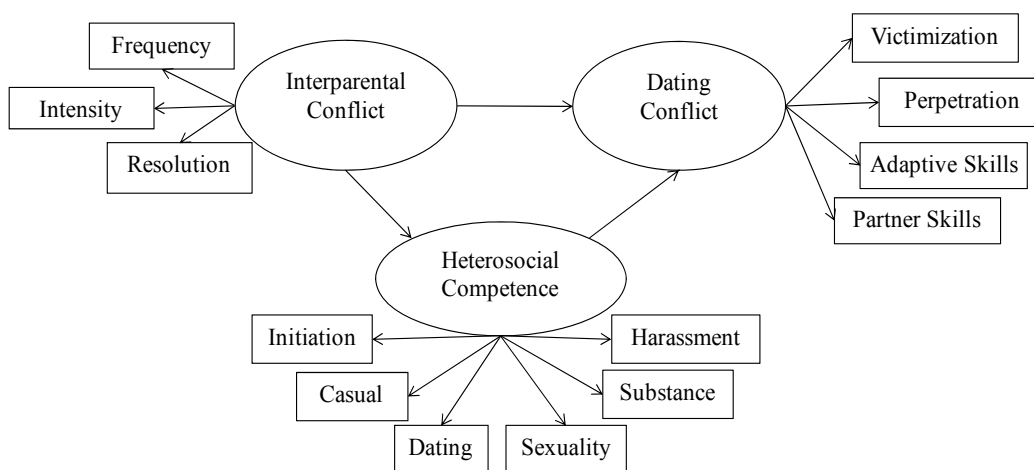
Figure 3. Conceptual framework of the proposed mediational model.

Model fit could not be established for Model 3, or a simplified variation of the model (i.e., the measurement model depicted in Figure 4), as each of the models tested resulted in inadmissible results. On each occasion, out of bound values or a solution that was not positive definite resulted. Numerous strategies (e.g., use of a start value) were employed in an attempt to stabilize the models. However, interpretable findings could not be obtained.
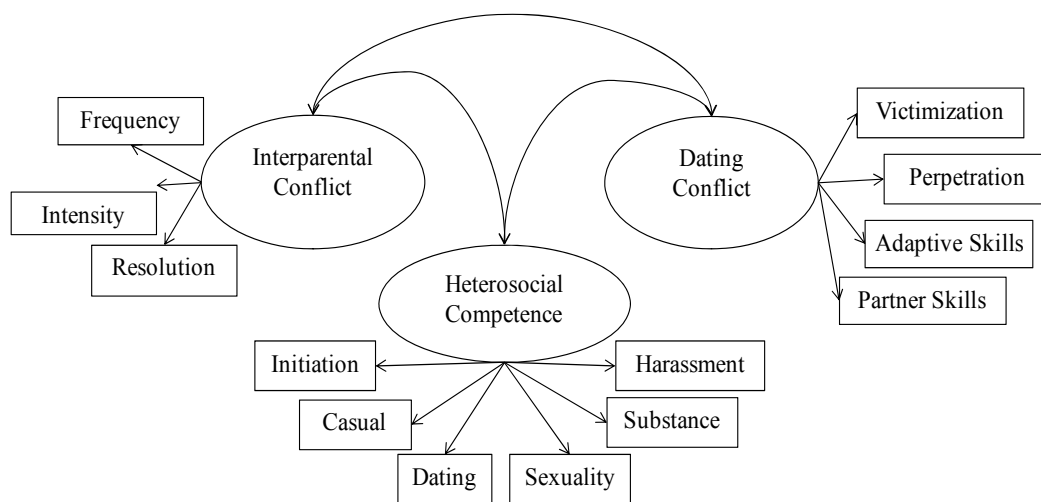
Figure 4. Measurement model of constructs within the investigation.

Failure to obtain model fit may have been related to the measurement challenges identified when conducting the initial CFA of the MAHC (i.e., small correlations between variables, borderline significant Lambda loadings). In addition, model instability may have been due to power constraints. Despite initial power analysis suggestive of adequate power, the sample size within the current project was notably smaller than those within many previous investigations that have used SEM (e.g., 457 participants, Kitamura & Hasui, 2006; 1300 participants, Mejia, Kliewer, & Williams, 2006; 797 participants, Mihalic & Elliot, 1997). Alternatively, it is possible

that the variables measured within the current project would have been better utilized individually, as manifest variables, rather than combined as three latent constructs. In such a case, a series of Multiple Regression Analyses or Path Analysis would have been better suited to evaluate associations between variables. Fit indices for each of the models, as well as the CFA models described within the preceding section, are represented in Table 3.

Table 3. Model Fit Indices

Model	χ^2	df	p	RMSEA	NNFI	CFI
1. Initial CFA	714.98	513	<.001	.048	.744	.766
2. Facet Parcel	4.16	4	.385	.015	.997	.999
3. Mediational Model*	353.81	63	<.001	.164	.460	.564
4. Measurement Model*	348.42	63	<.001	.163	.470	.572

*Inadmissible solution

Given the inability to obtain interpretable findings using SEM, a series of multiple regression analyses were used as an alternative. The mediational model depicted in Figure 5 was evaluated using the analytical procedure recommended by Baron and Kenny (1986).
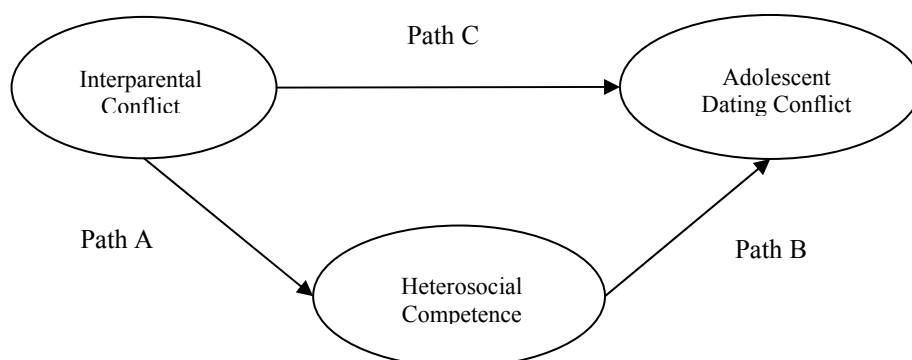
Figure 5. Analytical procedure described by Baron and Kenny (1986).

The goal within Baron and Kenny's (1986) mediational analysis procedure was to better understand associations between the predictor and outcome variables in a model. Specifically, associations were examined between the independent variable and the outcome variable (i.e., path C), between the independent variable and the mediator variable (i.e., path A), and between the mediator variable and the outcome variable, after controlling for the independent variable (path B).

Within the present study, interparental conflict, as measured by the Conflict Properties scale on the CPIC (sum of the subscales Intensity, Frequency, and reverse-scored Resolution), comprised the independent variable. Dating conflict, as measured by the total Dating Violence and Adaptive Conflict Resolution scales on the CADRI, comprised the outcome variables. In order to account for both victimization and perpetration patterns of dating violence as well as patterns of prosocial conflict resolution utilized by both partners within adolescents' relationships, adolescent-report of the maladaptive and adaptive strategies that they used during an argument, as well as those that their partner used, were included in analyses (Dating Violence Perpetration, Dating Violence Victimization, Adaptive Conflict Resolution-Self, Adaptive Conflict Resolution- Partner). Heterosocial Competence, measured using the total score on the MAHC, served as the mediator variable.

Because four outcome variables were present, four sets of mediational analyses were required in order to test the study hypotheses. Each mediational analysis included the same independent variable (Conflict Properties) and mediator variable (Heterosocial Competence). However, four different outcome variables were

utilized: Dating Violence Perpetration, Dating Violence Victimization, Adaptive Conflict Resolution-Self, and Adaptive Conflict Resolution- Partner. Additionally, given associations between the demographic variables and other variables of interest identified during preliminary analyses, Age, Gender, Race, and School were added to each analysis as control variables (i.e., Step 1 of each model).

In order for the mediational models to be supported, several conditions needed to be satisfied. First, regression analyses testing path C must be significant. Specifically, the independent variable (Conflict Properties) must have accounted for a significant proportion of the variance the outcome variables (Dating Violence Perpetration, Dating Violence Victimization, Adaptive Conflict Resolution-Self, Adaptive Conflict Resolution- Partner). In addition, the independent variable must have accounted for a significant proportion of the variance in the mediator variable (Heterosocial Competence). Stated differently, regression analyses testing path A must have been significant. Next, the mediator must have accounted for a significant proportion of the variance in the outcome variable. In order for this condition to be satisfied, regression analyses testing path B must have been significant. The final condition required that the associations between the independent variable and the outcome variable (path C) be reduced after controlling for paths A and B. Full mediation would be achieved if the associations between the independent and outcome variables were reduced to zero, whereas partial mediation would be demonstrated if the association between the two variables were significantly reduced but did not reach zero. In order to determine whether the inclusion of a mediator

variable significantly decreased the impact of the independent variables on the

outcome variable, a method known as the Sobel significance test was applied (Sobel,

1982). A diagram depicting the components of the Sobel test is presented in Figure 6.

Within this diagram s(a) and s(b) represented the standard error values associated

with paths A and B, respectively. Baron and Kenny (1986) have reported that the

exact formula of the standard error of the indirect effect is: $\sqrt{(b^2 s_a{}^2 + a^2 s_b{}^2 + s_a{}^2 s_b{}^2)}$.
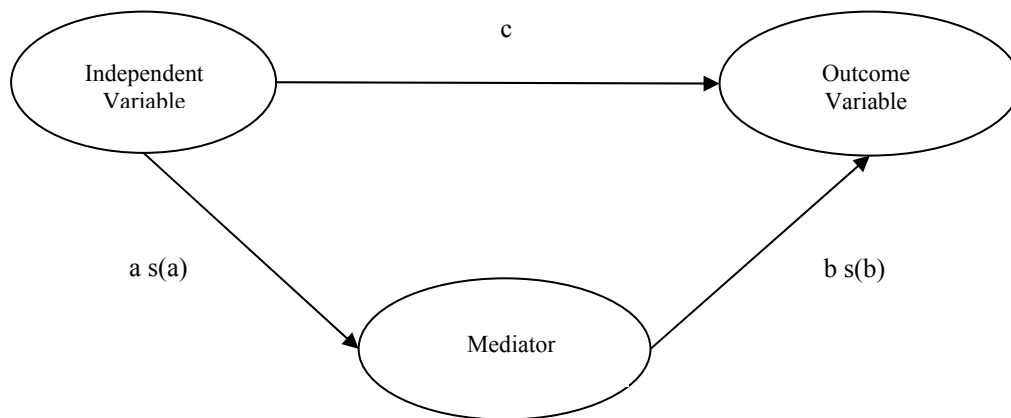
Figure 6. Components of the Sobel significance test.

Consistent with Baron and Kenny's (1986) recommendations, each of the four

mediational analyses conducted within the present study consisted of four steps:

evaluation of associations between the independent variables and outcome variable

(i.e., path C), examination of associations between the independent variables and

mediator variable (i.e., path A), analysis of associations between the mediator

variable and outcome variables (i.e., path B) after controlling for the independent

variable, and interpretation of the Sobel significance test.

Baron and Kenny's mediational analysis procedure was first applied to

examine associations between Conflict Properties (i.e., the independent variable),

Heterosocial Competence (i.e., the mediator variable), and Dating Violence

Perpetration (i.e., the outcome variable). The first step of this analysis, examination of

Path C, yielded non-significant findings, indicating that Conflict Properties did not

predict a significant proportion of the variance in Dating Violence Perpetration after

controlling for Age, Race, Gender, and School. Specifically, while demographic

characteristics accounted for 13.9% of the variance in Dating Violence Perpetration,

Conflict Properties accounted for only an additional 1.7% of variance. Analyses

identified significant associations between Dating Violence Perpetration and Age ($ß =$

.198, t (172) = 2.640, p = .009) and Race ($ß$ = .177, t (172) = 2.108, p = .037), but no

significant associations between Dating Violence Perpetration and Conflict Properties

($ß$ = .133, t (172) = 1.855, p = .065). Self-reported Dating Violence Perpetration was

greatest among older and non-white participants. Given the absence of significant

associations between the independent and outcome variables, interpretation of the

remaining three steps within the mediational model was not necessary. However, a

detailed summary of beta weights and regression coefficients from each step of this

model is contained in Table 4.

Table 4. Mediational analyses: Dating Violence Perpetration

Path A

DV: Heterosocial Competence	R^2	$R^2Δ$	Sig FΔ	B	SE B	ß	*P*
Step 1:	.058	.058	.040				
Age				.659	.647	.080	.310
Race				-4.144	1.898	-.192	.030
Gender				3.796	1.820	.169	.039
School				1.819	2.382	.073	.446

	R²	R²Δ	Sig FΔ	B	SE B	ß	P
Step 2:	.058	<.001	.914				
Age				.661	.650	.081	.310
Race				-4.162	1.910	-.193	.031
Gender				3.789	1.826	.169	.040
School				1.806	2.393	.072	.452
Conflict Properties				.030	.278	.008	.914

Path B
DV: Dating Violence

Perpetration	R²	R²Δ	Sig FΔ	B	SE B	ß	P
Step 1:	.139	.139	<.001				
Age				1.399	.548	.193	.012
Race				3.626	1.605	.190	.025
Gender				2.927	1.540	.148	.059
School				2.637	2.015	.119	.193
Step 2:	.146	.007	.260				
Age				1.447	.549	.199	.009
Race				3.319	1.627	.174	.043
Gender				3.208	1.558	.162	.041
School				2.772	2.017	.125	.171
Heterosocial Competence				-.074	.065	-.084	.260

Path C

DV: Dating Violence

Perpetration	R²	R²Δ	Sig FΔ	B	SE B	ß	P
Step 1:	.139	.139	<.001				
Age				1.399	.548	.193	.012
Race				3.626	1.605	.190	.025
Gender				2.927	1.540	.148	.059
School				2.637	2.015	.119	.193

					B	SE	β	p
Step 2:	.157	.017	.065					
Age					1.436	.544	.198	.009
Race					3.372	1.600	.177	.037
Gender					2.827	1.529	.142	.066
School					2.447	2.004	.110	.224
Conflict Properties					.432	.233	.133	.065
Step 3:	.163	.007	.250					
Age					1.486	.545	.205	.007
Race					3.060	1.621	.160	.061
Gender					3.112	1.547	.157	.046
School					2.583	2.005	.116	.199
Conflict					.434	.232	.134	.064
Heterosocial Competence					-.075	.065	-.085	.250

Similarly, associations between Conflict Properties and the additional outcome variables (i.e., Dating Violence Victimization, Adaptive Conflict Resolution-Self, and Adaptive Conflict Resolution- Partner) within the remaining three models tested were found to be non-significant after controlling for participants' Age, Gender, Race, and School. Demographic characteristics accounted for 17.8% of the variance in Dating Violence Victimization while Conflict Properties accounted for only an additional .3% of variance. Self-reported Dating Violence Victimization was greatest among adolescents from the therapeutic high school (ß = 6.951, t (172) = 3.222, p = .002). With respect to Adaptive Conflict Resolution- Self, neither demographic characteristics (i.e., Age, Gender, Race, School) nor Conflict Properties were significant predictors, with demographic characteristics accounting for 3.8% of variance and Conflict Properties accounting for .5% of variance. Similarly, Age,

Gender, Race, School, and Conflict Properties did not predict a significant proportion of the variance in Adaptive Conflict Resolution- Partner, with demographic characteristics and Conflict Properties accounting for 4.4% and less than .1% percent of variance, respectively.

The absence of significant associations between Conflict Properties and Dating Violence Victimization, Adaptive Conflict Resolution-Self, and Adaptive Conflict Resolution- Partner, precluded interpretation of the remaining three steps within these mediational models. However, a detailed summary of beta weights and regression coefficients from each step of the three models is contained in Table 5, Table 6, and Table 7.

Table 5. Mediational analyses: Dating Violence Victimization

Path A

DV: Heterosocial Competence	R²	R²Δ	Sig FΔ	B	SE B	ß	*P*
Step 1:	.058	.058	.040				
Age				.659	.647	.080	.310
Race				-4.144	1.898	-.192	.030
Gender				3.796	1.820	.169	.039
School				1.819	2.382	.073	.446
Step 2:	.058	<.001	.914				
Age				.661	.650	.081	.310
Race				-4.162	1.910	-.193	.031
Gender				3.789	1.826	.169	.040
School				1.806	2.393	.072	.452
Conflict Properties				.030	.278	.008	.914

Path B

DV: Dating Violence

Victimization	R²	R²Δ	Sig FΔ	B	SE B	ß	*P*
Step 1:	.178	.178	<.001				
Age				1.095	.585	.138	.063
Race				2.532	1.713	.121	.141
Gender				.635	1.643	.029	.700
School				7.030	2.151	.290	.001
Step 2:	.180	.002	.491				
Age				1.127	.587	.142	.057
Race				2.332	1.741	.112	.182
Gender				.818	1.667	.038	.624
School				7.118	2.158	.294	.001
Heterosocial Competence				-.048	.070	-.050	.491

Path C

DV: Dating Violence

Victimization	R²	R²Δ	Sig FΔ	B	SE B	ß	*P*
Step 1:	.178	.178	<.001				
Age				1.095	.585	.138	.063
Race				2.532	1.713	.121	.141
Gender				.635	1.643	.029	.700
School				7.030	2.151	.290	.001
Step 2:	.180	.003	.473				
Age				1.111	.586	.140	.060
Race				2.427	1.722	.116	.161
Gender				.593	1.647	.027	.719
School				6.951	2.157	.287	.002
Conflict				.180	.251	.051	.473

	R²	R²Δ	Sig FΔ	B	SE B	ß	P
Step 3:	.183	.002	.488				
Age				1.143	.589	.144	.054
Race				2.224	1.749	.107	.205
Gender				.777	1.670	.036	.642
School				7.039	2.164	.291	.001
Conflict				.181	.251	.051	.471
Heterosocial Competence				-.049	.070	-.050	.488

Table 6. Mediational analyses: Adaptive Resolution- Self

Path A

DV: Heterosocial Competence	R²	R²Δ	Sig FΔ	B	SE B	ß	P
Step 1:	.058	.058	.040				
Age				.659	.647	.080	.310
Race				-4.144	1.898	-.192	.030
Gender				3.796	1.820	.169	.039
School				1.819	2.382	.073	.446
Step 2:	.058	<.001	.914				
Age				.661	.650	.081	.310
Race				-4.162	1.910	-.193	.031
Gender				3.789	1.826	.169	.040
School				1.806	2.393	.072	.452
Conflict Properties				.030	.278	.008	.914

Path B

DV: Adaptive Resolution- Self	R²	R²Δ	Sig FΔ	B	SE B	ß	P
Step 1:	.038	.038	.168				
Age				.715	.416	.137	.087
Race				.162	1.219	.012	.894
Gender				1.778	1.169	.125	.130
School				-1.009	1.531	-.063	.511

	R²	R²Δ	Sig FΔ	B	SE B	ß	P
Step 2:	.068	.030	.022				
Age				.640	.412	.123	.122
Race				.634	1.220	.046	.604
Gender				1.346	1.169	.094	.251
School				-1.216	1.513	-.076	.423
Heterosocial Competence				.114	.049	.179	.022

Path C

DV: Adaptive

Resolution- Self	R²	R²Δ	Sig FΔ	B	SE B	ß	*P*
Step 1:	.038	.038	.168				
Age				.715	.416	.137	.087
Race				.162	1.219	.012	.894
Gender				1.778	1.169	.125	.130
School				-1.009	1.531	-.063	.511
Step 2:	.042	.005	.376				
Age				.701	.416	.134	.094
Race				.255	1.224	.019	.835
Gender				1.814	1.171	.127	.123
School				-.939	1.533	-.059	.541
Conflict Properties				-.158	.178	-.068	.376
Step 3:	.073	.030	.021				
Age				.626	.412	.120	.131
Race				.730	1.225	.053	.552
Gender				1.382	1.170	.097	.239
School				-1.146	1.516	-.072	.451
Conflict				-.161	.176	-.069	.360
Heterosocial Competence				.114	.049	.180	.021

Table 7. Mediational analyses: Adaptive Resolution- Partner

Path A

DV: Heterosocial Competence	R²	R²Δ	Sig FΔ	B	SE B	ß	*P*
Step 1:	.058	.058	.040				
Age				.659	.647	.080	.310
Race				-4.144	1.898	-.192	.030
Gender				3.796	1.820	.169	.039
School				1.819	2.382	.073	.446
Step 2:	.058	<.001	.914				
Age				.661	.650	.081	.310
Race				-4.162	1.910	-.193	.031
Gender				3.789	1.826	.169	.040
School				1.806	2.393	.072	.452
Conflict Properties				.030	.278	.008	.914

Path B

DV: Adaptive Resolution- Partner	R²	R²Δ	Sig FΔ	B	SE B	ß	*P*
Step 1:	.044	.044	.110				
Age				.564	.382	.117	.142
Race				.358	1.119	.028	.750
Gender				1.383	1.074	.105	.199
School				-2.120	1.406	-.144	.133
Step 2:	.068	.024	.039				
Age				.502	.379	.104	.188
Race				.748	1.124	.059	.507
Gender				1.026	1.077	.078	.342
School				-2.291	1.394	-.156	.102
Heterosocial Competence				.094	.045	.161	.039

Path C

DV: Adaptive

Resolution- Partner	R²	R²Δ	Sig FΔ	B	SE B	ß	*P*
Step 1:	.044	.044	.110				
Age				.564	.382	.117	.142
Race				.358	1.119	.028	.750
Gender				1.383	1.074	.105	.199
School				-2.120	1.406	-.144	.133
Step 2:	.044	<.001	.791				
Age				.560	.383	.117	.146
Race				.383	1.127	.030	.734
Gender				1.393	1.077	.106	.198
School				-2.101	1.411	-.143	.138
Conflict				-.044	.164	-.020	.791
Step 3:	.069	.024	.039				
Age				.498	.381	.104	.193
Race				.775	1.131	.061	.494
Gender				1.036	1.080	.079	.339
School				-2.271	1.400	-.155	.107
Conflict				-.046	.162	-.022	.775
Heterosocial Competence				.094	.045	.161	.039

Given the failure of findings to support the first condition of Baron and Kenny's (1986) mediational analysis procedure, as well as the discrepancy between findings from the present analyses and results presented in previous research, exploratory regression analyses were conducted to evaluate associations between the subscales that comprise the larger Conflict Properties scale (i.e., Frequency, Intensity, and Resolution) and the outcome variables of interest (i.e., Dating Violence

Perpetration, Dating Violence Victimization, Adaptive Conflict Resolution-Self,

Adaptive Conflict Resolution- Partner).

Within the first two exploratory models evaluated, significant associations

were not identified between the independent and outcome variables of interest (i.e.,

Dating Violence Perpetration, Dating Violence Victimization). Specifically,

Frequency ($ß = .038$, t (172) $= .513$, $p = .609$), Intensity ($ß = .084$, t (172) $= 1.156$, p

$= .249$), and Resolution ($ß = -.101$, t (172) $= -1.356$, $p = .177$) of Interparental

Conflict did not significantly predict Dating Violence Perpetration. Collectively,

these variables (i.e., Frequency, Intensity, and Resolution of Interparental Conflict)

accounted for only 1.9% of variance in Dating Violence Perpetration after controlling

for participants' Age, Race, Gender, and School. Similarly, Frequency ($ß = -.034$, t

(172) $= -.467$, $p = .641$), Intensity ($ß = .052$, t (172) $= .719$, $p = .473$), and Resolution

($ß = -.050$, t (172) $= -.689$, $p = .492$) of Interparental Conflict together accounted for

less than 1% of variance in Dating Violence Victimization after controlling for

demographic characteristics.

However, significant associations were identified within the exploratory

regression models predicting the adaptive conflict resolution strategies that

participants reported using. After accounting for demographic characteristics,

Frequency ($ß = -.067$, t (172) $= -.876$, $p = .382$), Intensity ($ß = .060$, t (172) $= .778$, p

$= .438$), and Resolution ($ß = .184$, t (172) $= 2.365$, $p = .019$) of Interparental Conflict

accounted for 3.4% of variance in Adaptive Conflict Resolution- Self. Resolution of

Interparental Conflict was the only significant predictor within this model, indicating

that adolescents who perceived higher rates of conflict resolution within their parents'
relationship also reported greater use of adaptive conflict resolution strategies within
their own dating relationship.

The final exploratory regression model, which examined associations between
Frequency, Intensity, and Resolution of Interparental Conflict and Adaptive Conflict
Resolution- Partner, yielded similar findings. After accounting for demographic
characteristics, Frequency ($ß = -.035$, t (172) = -.457, $p = .648$), Intensity ($ß = .105$, t
(172) = 1.373, $p = .172$), and Resolution ($ß = .184$, t (172) = 2.373, $p = .019$) of
Interparental Conflict accounted for 3.9% of variance in Adaptive Conflict
Resolution- Partner. Again, Resolution of Interparental Conflict was the only
significant predictor within the model, indicating that adolescents who perceived
higher Resolution of Interparental Conflict also reported that their partners used more
adaptive conflict resolution strategies.

Baron and Kenny's (1986) meditational analysis procedure cannot be applied
to a model using three independent variables simultaneously. However, given the
significant associations identified between Resolution of Interparental Conflict and
Adaptive Conflict Resolution (Self and Partner), Baron and Kenny's mediational
analysis procedure could be utilized to examine associations between Conflict
Properties (i.e., independent variable), Heterosocial Competence (i.e., mediator
variable), and the outcome variables (i.e., Adaptive Conflict Resolution- Self and
Adaptive Conflict Resolution- Partner) individually.

Thus, associations were next examined between Resolution of Interparental Conflict, Heterosocial Competence, and Adaptive Conflict Resolution-Self. Demographic characteristics and Resolution of Interparental Conflict accounted for 3.8% and 2.7% of the variance in Adaptive Conflict Resolution-Self, respectively. Resolution of Interparental Conflict was found to be the only predictor within the model with a significant beta weight (ß =.167, t (172) = 2.192, p = .030). This model was significant (F(5, 166) = 2.298 p = .047), thus satisfying the first condition of Baron and Kenny's (1986) meditational analytic procedure.

Path A within this model was also significant (F(5, 166) = 4.313 p = .001), supporting relationships between Resolution of Interparental Conflict and Heterosocial Competence, after controlling for Age, Race, Gender, and School. Within this model, participants' demographic characteristics and perceptions of Resolution accounted for 5.8% and 5.7% of the variance in Heterosocial Competence, respectively. Higher levels of Heterosocial Competence were associated with being white/European American (ß =-.184, t (172) = -2.154, p = .033) and female (ß =.174, t (172) = 2.205, p = .029), as well as with perceptions of higher Resolution (ß =.242, t (172) = 3.271, p = .001) of Interparental Conflict.

Next path B was evaluated, controlling for the independent variables. Overall, this model was significant, with demographic characteristics, Interparental Conflict, and Heterosocial Competence together accounting for 8.4% of the variance in Adaptive Conflict Resolution- Self (F(6, 165) = 2.510 p = .024). Furthermore, with the inclusion of the mediator variable (i.e., Heterosocial Competence), Resolution of

Interparental Conflict was no longer significant within the model (ß =.132, t (172) =

1.686, p = .094). However, Heterosocial Competence independently accounted for

only 1.9% of the variance in Adaptive Conflict Resolution- Self (ß =.146, t (172) =

1.845, p = .067). The Sobel Significance Test was found to be non-significant (Sobel

test statistic = .487, p = .627). A complete summary of beta weights and regression

coefficients from this mediational model is contained in Table 8.

Table 8. Exploratory analyses: Adaptive Conflict Resolution- Self

Path A

DV: Heterosocial Competence	R^2	$R^2\Delta$	Sig FΔ	B	SE B	ß	P
Step 1:	.058	.058	.040				
Age				.659	.647	.080	.310
Race				-4.144	1.898	-.192	.030
Gender				3.796	1.820	.169	.039
School				1.819	2.382	.073	.446
Step 2:	.115	.057	.001				
Age				.529	.631	.064	.403
Race				-3.976	1.845	-.184	.033
Gender				3.902	1.769	.174	.029
School				2.823	2.336	.113	.229
Resolution				1.614	.493	.242	.001

Path B

DV: Adaptive Resolution- Self	R^2	$R^2\Delta$	Sig FΔ	B	SE B	ß	P
Step 1:	.038	.038	.168				
Age				.715	.416	.137	.087
Race				.162	1.219	.012	.894
Gender				1.778	1.169	.125	.130
School				-1.009	1.531	-.063	.511

	R²	R²Δ	Sig FΔ	B	SE B	ß	P
Step 2:	.068	.030	.022				
Age				.640	.412	.123	.122
Race				.634	1.220	.046	.604
Gender				1.346	1.169	.094	.251
School				-1.216	1.513	-.076	.423
Heterosocial Competence				.114	.049	.179	.022

Path C

DV: Adaptive Resolution- Self	R²	R²Δ	Sig FΔ	B	SE B	ß	*P*
Step 1:	.038	.038	.168				
Age				.715	.416	.137	.087
Race				.162	1.219	.012	.894
Gender				1.778	1.169	.125	.130
School				-1.009	1.531	-.063	.511
Step 2:	.065	.027	.030				
Age				.658	.412	.126	.112
Race				.236	1.206	.017	.845
Gender				1.824	1.156	.128	.117
School				-.569	1.527	-.036	.710
Resolution				.706	.322	.167	.030
Step 3:	.084	.019	.067				
Age				.609	.410	.117	.139
Race				.606	1.214	.044	.619
Gender				1.462	1.165	.103	.211
School				-.832	1.522	-.052	.586
Resolution				.557	.330	.132	.094
Heterosocial Competence				.093	.050	.146	.067

A similar pattern of results existed with respect to associations between Resolution of Interparental Conflict, Heterosocial Competence, and Adaptive Conflict Resolution-Partner. Demographic characteristics and Resolution of Interparental Conflict accounted for 4.4% and 2.7% of the variance in Adaptive Conflict Resolution-Partner, respectively. Resolution of Interparental Conflict was the only significant predictor within the model ($\beta = .168$, $t (172) = 2.216$, $p = .028$). This model was significant ($F(5, 166) = 2.551$ $p = .030$), thus satisfying the first condition of Baron and Kenny's (1986) meditational analytic procedure.

Consistent with the analysis presented above, Path A was significant within this model ($F(5, 166) = 4.313$ $p = .001$), indicating significant associations between Resolution of Interparental Conflict and Heterosocial Competence, after controlling for Age, Race, Gender, and School. Thus, Path B was evaluated next, controlling for the independent variables (i.e., Path C). Overall, this model was significant, with demographic characteristics, Interparental Conflict, and Heterosocial Competence together accounting for 8.5% of the variance in Adaptive Conflict Resolution- Partner ($F(6, 165) = 2.570$ $p = .021$). Again, with the inclusion of the mediator variable (i.e., Heterosocial Competence), Resolution of Interparental Conflict was no longer significant within the model ($\beta = .138$, $t (172) = 1.765$, $p = .079$). However, Heterosocial Competence independently accounted for only 1.4% of the variance in Adaptive Conflict Resolution- Partner ($\beta = .126$, $t (172) = 1.596$, $p = .112$). The Sobel Significance Test was also found to be non-significant for this model (Sobel test

statistic = .486, *p* = .626). A complete summary of beta weights and regression

coefficients from this mediational model is contained in Table 9.

Table 9. Exploratory analyses: Adaptive Conflict Resolution- Partner

Path A

DV: Heterosocial Competence	R²	R²Δ	Sig FΔ	B	SE B	ß	*P*
Step 1:	.058	.058	.040				
Age				.659	.647	.080	.310
Race				-4.144	1.898	-.192	.030
Gender				3.796	1.820	.169	.039
School				1.819	2.382	.073	.446
Step 2:	.115	.057	.001				
Age				.529	.631	.064	.403
Race				-3.976	1.845	-.184	.033
Gender				3.902	1.769	.174	.029
School				2.823	2.336	.113	.229
Resolution				1.614	.493	.242	.001

Path B

DV: Adaptive Resolution- Partner	R²	R²Δ	Sig FΔ	B	SE B	ß	*P*
Step 1:	.044	.044	.110				
Age				.564	.382	.117	.142
Race				.358	1.119	.028	.750
Gender				1.383	1.074	.105	.199
School				-2.120	1.406	-.144	.133
Step 2:	.068	.024	.039				
Age				.502	.379	.104	.188
Race				.748	1.124	.059	.507
Gender				1.026	1.077	.078	.342
School				-2.291	1.394	-.156	.102
Heterosocial Competence				.094	.045	.161	.039

Path C

DV: Adaptive Resolution- Partner	R²	R²Δ	Sig FΔ	B	SE B	ß	*P*
Step 1:	.044	.044	.110				
Age				.564	.382	.117	.142
Race				.358	1.119	.028	.750
Gender				1.383	1.074	.105	.199
School				-2.120	1.406	-.144	.133
Step 2:	.071	.027	.028				
Age				.511	.378	.106	.178
Race				.426	1.107	.034	.701
Gender				1.426	1.061	.109	.181
School				-1.712	1.401	-.117	.224
Resolution				.656	.296	.168	.028
Step 3:	.085	.014	.112				
Age				.472	.377	.098	.213
Race				.720	1.117	.057	.520
Gender				1.138	1.072	.087	.290
School				-1.921	1.401	-.131	.172
Resolution				.536	.304	.138	.079
Heterosocial Competence				.074	.046	.126	.112

Discussion

Building upon a growing body of literature that has suggested associations between interparental conflict and adolescent dating violence emerge in part due to social learning (e.g., Marcus et al., 2001; Mihalic & Elliot, 1997; Wareham et al., 2009; Wolf & Foshee, 2003), the present study hypothesized that heterosocial competence was a mediating variable in the intergenerational transmission of

violence. Specifically, it was expected that adolescents' perceptions of high frequency of conflict, high intensity of conflict, and low resolution of conflict in their parents' relationships (i.e., Conflict Properties of Interparental Conflict) would predict less adolescent Heterosocial Competence, and that low levels of Heterosocial Competence would in turn predict high rates of adolescent dating violence (i.e., Dating Violence Perpetration, Dating Violence Victimization). Similarly, it was expected that adolescents' perceptions of greater Conflict Properties would predict lower levels of Heterosocial Competence, ultimately resulting in poorer adaptive conflict resolution strategies within their own dating relationships (e.g., lower Adaptive Conflict Resolution- Self, Adaptive Conflict Resolution- Partner). Although study results failed to support these hypothesized mediational relationships, a number of important findings were identified.

Consistent with previous research (e.g., Collins et al., 2008; Munoz-Rivas et al., 2007; Silverman et al., 2001), results from the present study suggested that dating conflict is a significant area of concern among high school students. A staggering proportion of participants within the present study reported the existence of maladaptive conflict resolution strategies within their most recent dating relationship, including behaviors consistent with adolescent dating violence victimization and perpetration. Specifically, while most students reported Adaptive Conflict Resolution behaviors within their dating relationships, a majority also reported that behaviors within the Dating Violence Perpetration and Dating Violence Victimization scales had occurred at least occasionally. With respect to particular types of violence,

behaviors consistent with Emotional/Verbal Abuse were most commonly endorsed by participants, while Physical Violence and Relational Aggression were endorsed least commonly. These prevalence rates are consistent with those reported within prior research (e.g., Kinsfogel & Grych, 2004; Munoz-Rivas et al., 2007; Schiff & Zeira, 2005; Teitelman et al., 2008), suggesting that the study sample was similar to the adolescent populations previously described in the literature. Furthermore, these patterns support arguments offered by previous authors (e.g., Collins et al., 2009; Coker et al., 2000; Munoz-Rivas et al., 2007; Silverman et al., 2001) that a closer examination of factors that place adolescents at-risk for dating violence is a critical area of focus for a significant proportion of youth.

Demographic patterns within this study also supported previous research (e.g., Averyleaf et al., 1997; Cano et al., 1998; Foshee, 1996; Foshee et al., 2001; Molidor & Tolman, 1998) relative to gender effects. Consistent with prior studies, no gender differences were identified with respect to overall Dating Violence Victimization or Perpetration, but perpetration of Sexual Aggression and victimization of Physical Violence were found to be greatest among males. These findings support the inclusion of both males and females in dating violence prevention and intervention efforts, but reiterate the importance of attending to gender differences in the presentation of particular types of aggressive behavior.

Furthermore, patterns of mutual aggressiveness (i.e., "date fighting") within this study were similar to those described within previous research (e.g., Kreiter et al., 1999; Molidor & Tolman, 1998), adding support to theoretical arguments offered by

Wolfe and colleagues (Wekerle & Wolfe, 1999; Wolfe & Feiring, 2000) that

fundamental differences exist between dating violence in adolescent relationships,

compared to patterns of domestic violence described within the adult literature.

Adolescents' reports of Dating Violence Victimization and Dating Violence

Perpetration were highly correlated within the current study, suggesting that

participants perceived similar rates of aggression within their own and their partners'

behavior, a finding not typically identified among adult populations (e.g., Molidor &

Tolman, 1998). Distinctions between adult and adolescent relationship violence have

recently reemerged as a focus of empirical emphasis (e.g., Chen et al., 2006; Storey et

al., 2008; Teitelman et al., 2008). The present study, in conjunction with work by

Teitelman, Chen, Storey, and others (e.g., Hansen et al., 1992; Montgomery, 2005;

Smith & Donnelly, 2001; Wolfe & Feiring, 2000), provides additional justification

for attending to developmental context when investigating dating violence.

Similarly, the present study extended upon previous investigations with

respect to patterns of intergenerational transmission of violence. Many previous

investigations (e.g., Delsol & Margolin, 2004; Fite et al., 2008; Kwong et al., 2003;

Stith et al., 2000; Wareham, Boots, & Chavez, 2009) have demonstrated links

between reports of witnessing domestic violence and adolescent dating violence,

including a few (e.g., Marcus et al., 2001) that have utilized the CPIC specifically.

Scant research, however, has attempted to delineate the specific aspects of

interparental conflict (i.e., resolution, frequency, intensity) that contribute to the

development of aggressive dating behaviors during adolescence. In addition, virtually

no research has previously explored links between perceptions of interparental conflict resolution and adolescent adaptive conflict resolution. The current study addressed these empirical gaps by evaluating Conflict Properties of Interparental Conflict, collectively, and Frequency, Intensity, and Resolution of Interparental Conflict, specifically.

Results indicated that Conflict Properties collectively did not predict adolescent dating violence but that one particular characteristic of IPC, Resolution of Interparental Conflict, predicted Adaptive Conflict Resolution in adolescent relationships. Specifically, adolescents who reported witnessing adaptive inteparental conflict resolution strategies were more likely to utilize adaptive strategies when addressing conflict within their own relationships. Furthermore, greater Resolution of Interparental Conflict predicted higher levels of Heterosocial Competence. These findings are consistent with the social learning perspective (e.g., Bandura, 1978; Marcus et al., 2001; Mihalic & Elliot, 1997; Wolf & Foshee, 2003) and suggest that adolescents benefit from observing their parents successfully resolving disputes. Specifically, this result supports prior research that has suggested patterns of intimate partner violence are associated with learned conflict resolution strategies (i.e., Choice et al., 1995; Fite et al., 2008).

While numerous previous investigations have suggested that adolescents who have witnessed interparental conflict are at increased risk for experiencing difficulties within their own relationships (e.g., Arriage & Foshee, 2004; Brendgen et al., 2002; Chapple, 2003; Doyle et al., 2003; O'Leary, 1988; Tontodonato & Crew, 1992),

results from the current study contribute to the literature by suggesting that not all

interparental conflict is detrimental to adolescent functioning. That is, if the conflict is

resolved, interparental conflict may assist adolescents in developing adaptive conflict

resolution strategies via social learning. Thus, although numerous investigations have

documented social learning of maladaptive behavior (e.g., Arriage & Foshee, 2004;

Brendgen et al., 2002; Chapple, 2003; Doyle et al., 2003; O'Leary, 1988;

Tontodonato & Crew, 1992), the present investigation is one of few (e.g., Donnellan,

Larsen-Rife, & Conger, 2005; Koblinsky, Kuvalanka, & Randolph, 2006) that have

identified parallels between the prosocial conflict resolution strategies utilized by

parents and their children. The finding that social modeling of positive behaviors may

be transmitted across generations is an important extension of existing knowledge.

It is unclear why the present study failed to replicate findings from previous

research consistent with broader patterns of intergenerational transmission of

violence. It is possible that associations between domestic violence and adolescent

dating violence are partially dependent upon the level of severity of aggression

measured. For example, associations may have been more likely to emerge between

study variables if the hypothesized model had been applied to a population of

adolescents previously identified as having been exposed to domestic violence.

Unlike approaches utilized by other authors that provide a categorical rating of

whether or not domestic violence had occurred (e.g., Delsol & Margolin, 2004;

Foshee et al., 2005; Kwong et al., 2003), the CPIC provided information about

adolescents' perceptions of interparental conflict along a continuum, including both

prosocial conflict resolution behaviors (e.g., "When my parents have a disagreement they discuss it quietly") and behaviors consistent with domestic violence (e.g., "My parents have pushed or shoved each other during an argument").

One advantage of using the CPIC is that it provided information about associations between specific characteristics of interparental conflict (i.e., Frequency, Intensity, Resolution). However, it measured relatively few extreme responses to conflict, such as behaviors typically used to define domestic violence. Thus, it is unknown how many participants would have been identified as having a history of domestic violence exposure according to measures utilized by other researchers (e.g., Delsol & Margolin, 2004; Foshee et al., 2005; Kwong et al., 2003). Given that findings from the present project differed from general trends within the literature, it is possible that having a history of domestic violence moderates associations between interparental conflict and adolescent dating conflict. However, the data available within this study did not allow for exploration of this possibility.

Similarly, because the measures utilized within the present study relied exclusively on proxy-report of interparental conflict, specifically, adolescents' perceptions of their parents' conflict behavior, the possibility remains that results would have differed had interparental conflict been measured via another method, such as parent self-report, observational measurement, or public record (e.g., police reports of domestic violence calls). Prior studies that have utilized the CPIC have documented high correlations (.4 range; Marcus et al., 2001) between the Conflict Properties scale of the CPIC and parent-report measures of relationship conflict using

the Conflict Tactics Scale (Straus, 1979), suggesting that the CPIC should be a reasonably valid measure of IPC. However, methods utilized within this project do not allow for evaluation of differences between participants' *perceptions* of interparental conflict and *actual* interparental conflict. Nevertheless, for the purpose of exploring study variables from a social learning perspective, measurement of adolescents' perceptions of IPC satisfied one of the central components of Bandura's (1978) theory, that social learning occurs when youth are not only exposed to a behavior, but *remember* observing it.

Relative to measurement of heterosocial competence, findings from this project support the conclusions of Grover and colleagues (Grover & Nangle, 2002; Grover et al., 2005) that total scores for the measure be used in lieu of scale or factor scores. Furthermore, within the current study, the use of facet representative parcels provided a close fitting measurement model, supporting the use of parceling within an SEM framework. However, the overall utility of the MAHC remains questionable as model fit was found to be unstable across the subsequent structural models tested. These findings may be due to differences in the population demographics of participants in this study, compared to Grover and colleagues' (2005) initial work. While Grover and colleagues sampled nearly 900 adolescents, predominantly from European American backgrounds, the sample for the present study included fewer than 200 adolescents, from diverse ethnic backgrounds.

Nevertheless, the sample size, demographic characteristics, and dating behaviors of participants within the current study compared to other recent

investigations (e.g., Kinsfogel & Grych, 2004; Munoz-Rivas et al., 2007; Schiff & Zeira, 2005; Teitelman et al., 2008) suggest that the current sample was largely typical of American high school students. Given the measurement challenges encountered within the present investigation, prior to comparison of the MAHC with other constructs in experimental research, further evaluation of the measure with a larger population of adolescents from diverse backgrounds is warranted to discern whether the MAHC is a reliable, valid, and generalizable measure for use among the general population.

In addition to providing preliminary information about the structural properties of the MAHC, the present study was one of the first to examine heterosocial competence empirically following Grover and colleagues' (2002, 2005) initial measurement papers. Previous work about adolescent heterosocial competence has been largely theoretical in nature. Thus, this study offers an important contribution to the growing body of literature about heterosocial competence, particularly the MAHC. Using a regression framework, heterosocial competence was not found to be associated with the maladaptive conflict resolution strategies adolescents reported about themselves (i.e., Dating Violence Perpetration, Dating Violence Victimization) or their parents (i.e., Conflict Properties). However, heterosocial competence was associated with Resolution of Interparental Conflict and appeared to predict adaptive methods of adolescent conflict resolution (i.e., Adaptive Conflict Resolution- Self, Adaptive Conflict Resolution- Partner). Still, the present study utilized extremely broad definitions of heterosocial competence, thus raising

the question of whether a narrower definition would have yielded similar findings. Future studies should address whether subsets of heterosocial skills (rather than a global competence rating) would better predict violence within relationships.

Limitations

Despite the aforementioned study strengths and findings, a number of study limitations were identified, thus setting the stage for future research within this area. For example, the present study relied upon self-report data from a single reporter. Although assessing adolescents' perceptions of conflict within their own and their parents' relationships captured an important dimension of conflict resolution behaviors and is the most commonly used method currently employed within the literature on intimate partner violence, collateral information would have provided a rich complement to the data obtained from the CADRI and CPIC. This issue has been highlighted in a number of recent critiques of dating violence and domestic violence research (e.g., Fowler & Chanmugam, 2007; Storey et al., 2008). These authors' recommendations include inclusion of behavioral measures (e.g., observational data, legal/medical records) and proxy reporters (e.g., parent-report, partner-report) in research about intimate partner violence.

Second, while the CADRI represents an improvement over single-item measures utilized by earlier investigations and effectively captures a wide range of responses to conflict within adolescent relationships (Wolfe, Scott, Reitzel-Jaffe et al., 2001), it does not appraise the seriousness of the conflict that occurred. Because scoring information for the measure does not provide specific thresholds to indicate

the value at which Dating Violence Perpetration or Dating Violence Victimization would be associated with outcomes identified by previous research such as psychological distress, suicide, or health risk behavior (Coker et al., 2000; DiClemente et al., 2001; Foshee, 1996, Munoz-Rivas et al., 2007; Silverman et al., 2001), it is unclear how many participants would be at risk for these subsequent negative outcomes. Furthermore, participants were not asked whether they perceived the conflict within their relationships to be problematic.

Thus, measurement of dating conflict on a continuous scale allowed for evaluation of study hypotheses among a broad sample of high school students, allowing for the greatest degree of generalizability. However, one limitation of the study was that scores on the Dating Violence Perpetration and Dating Violence Victimization scales did not provide ratings of violence severity. In fact, the CADRI scales precluded classification of "dating violence," instead simply allowing for assessment of differences in behavior along a continuum. Future research might examine whether a threshold effect exists, below which maladaptive behavior would be considered normative but above which negative outcomes would be found to result. Self-report measures such as the BASC (Reynolds & Kamphaus, 2004) provide T-Scores and percentile rankings of participants' responses relative to a standardization sample. A similar type of comparison threshold would improve the interpretability of the CADRI within research investigations and improve the clinical utility of the measure.

Similarly, the present study did not ask participants to identify whether or not they had been exposed to domestic violence and did not restrict inclusion criteria to adolescents whose parents had been identified as having a domestic violence history. Rather, this study assessed adolescents' perceptions of interparental conflict, more generally. Measurement of interparental conflict on a continuous scale using the CPIC offered numerous advantages, such as inclusion of adolescents who had witnessed a broad range of parental behaviors, including both prosocial and problematic responses to conflict, as well as assessment of adolescents' perceptions of the conflict. However, one limitation is that the CPIC did not classify behaviors as "domestic violence" and, in fact, measured relatively few behaviors consistent with serious aggression. Thus, although the distribution of scores across items within the CPIC suggested that the psychometric properties of the measure were strong with respect to mildly aggressive or conflictual behavior, the tool may have failed to capture the full frequency and range of violent behavior.

In addition, the present study was unable to examine the consistency of findings for adolescents who provided reports based on their biological parents, compared to those whose parents were divorced/separated or remarried. Mean differences were not identified based on overall levels of interparental conflict or adolescent dating conflict across intact or nonintact families, but moderating effects could not be explored given the inability to stabilize even simpler variations of the model. Had model fit been achieved using SEM for the larger model, the structural invariance test would have allowed for comparison of model structure across

adolescents from both types of families. However, failure to obtain model stability within the larger dataset prevented this level of group analysis within the present study. Little existing literature exists regarding the impact of family composition on patterns of intergenerational transmission of violence; thus, this would be an interesting area of emphasis for future research.

In fact, that stable structural equation models could not be obtained or assessed within the present study is an additional limitation. SEM would have offered a more parsimonious procedure for testing study hypotheses and allowed for correction of measurement error. As discussed in detail above, measurement issues associated with the MAHC and the comparatively small sample size within this study, relative to others that have used SEM (e.g., Kitamura & Hasui, 2006; Mejia et al., 2006; Mihalic & Elliot, 1997), likely accounted for this weakness.

Finally, given the cross-sectional nature of the study design, the current project was unable to address the stability of adolescent dating conflict over time or across relationships and it remains unknown how adolescent heterosocial competence develops over time. Longitudinal investigations will be necessary to address these research questions. Similarly, experimental study design within future research will be necessary in order to inform issues of causality. For example, it remains unknown if increasing adolescents' heterosocial competence would decrease dating violence. If such connections were to be identified, heterosocial competence has the potential to be a promising target for future intervention and prevention programming.

Summary

In summary, the present study offers numerous important insights regarding patterns of adolescent dating violence within a diverse public high school student population and furthers the literature regarding recurrence of violence across generations. Given the rates of aggressive behavior identified within analyses, and the finding that more than three quarters of participants reported that they argue or disagree with their partner at least once a week, results from this study reiterate the conclusion that dating conflict an issue of both pervasive and frequent concern for adolescents. In addition, as one of the few studies (Donnellan et al., 2005; Koblinsky et al., 2006) to address prosocial responses to partner conflict among adolescents and parents, this study offers important information about the role that adaptive family functioning plays in shaping adolescents social development. Furthermore, as one of the first empirical investigations to utilize the MAHC, this study provides important measurement information regarding the instrument with respect to assessing adolescent heterosocial competence. Finally, the present study was the first to examine associations between heterosocial competence and conflict within intimate partnerships, a premise with much theoretical (Chen et al., 2006; Nangle & Hansen, 1998; Wekerle & Wolfe, 1999; Wolfe & Feiring, 2000), but little empirical, emphasis within the literature. Thus, despite study limitations, this research extends upon existing knowledge in important ways and highlights a number of promising directions for future research.

References

Amato, P.R., & Booth, A. (2001). The legacy of parents' marital discord: Consequences for children's marital quality. *Journal of Personality and Social Psychology, 81*, 627-638.

Arriage, X.B., & Foshee, V.A. (2004). Adolescent dating violence: Do adolescents follow in their friends' or their parents' footsteps? *Journal of Interpersonal Violence, 19*, 162-184.

Averyleaf, S.A., Cascardi, M., O'Leary, D., & Cano, A. (1997). Efficacy of a dating violence prevention program on attitudes justifying aggression. *Journal of Adolescent Health, 21,* 11-17.

Bandura, A. (1978). Social learning theory of aggression. *Journal of Communication, 28,* 12-29.

Baron, R.M., & Kenny, D.A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173-1182.

Banyard, V.L., & Cross, C.C. (2008). Consequences of teen dating violence: Understanding intervening variables in ecological context. *Violence Against Women, 14*, 998-1013.

Bergman, L. (1992). Dating violence among high school students. *Social Work, 37*, 21-27.

Bernard, M.L., & Bernard, J.L. (1983). Violent intimacy: The family as a model or love relationships. *Family Relations, 32,* 283-286.

Brendgen, M., Vitaro, F., Tremblay, R.E., & Wanner, B. (2002). Parent and peer effects on delinquency-related violence and dating violence: A test of two mediational models. *Social Development, 11*, 225-244.

Bryant, C.M., & Conger, R.D. (2002). An intergenerational model of romantic relationship development. In A.L. Vangelisti, H.T. Reis, & M.A. Fitzpatrick (Eds.), *Stability and change in relationships. Advances in personal relationships*. (pp. 57-82). New York: Cambridge University Press.

Buhi, E. R., Goodson, R., & Neilands, T. B. (2008). Out of sight, not out of mind: Strategies for handling missing data. *American Journal of Health Behavior, 32*, 83-92.

Cano, A., Averyleaf, S., Cascardi, M., & O'Leary, K.D. (1998). Dating violence in two high school samples: Discriminating variables. *The Journal of Primary Prevention, 18*, 431-446.

Cavell, T.A., & Kelley, M.L. (1992). The measure of adolescent social performance: Development and initial validation. *Journal of Clinical Child Psychology, 21,* 107-114.

Centers for Disease Control. (2005). 2005 YRBS results: Injury and violence (including suicide). Retrieved August 11, 2007, from www.cdc.gov/HealthyYouth/yrbs/slides/2005YRBS slides-Injury.

Chapple, C.L. (2003). Examining intergenerational violence: Violent role modeling or weak parental controls? *Violence and Victims, 18*, 143-162.

Chen, H., Cohen, P., Kasen, S., Johnson, J.G., Ehrensaft, M., & Gordon, K. (2006). Predicting conflict within romantic relationships during the transition to adulthood. *Personal Relationships, 13,* 411-427.

Choice, P., Lamke, L.K., & Pittman, J.F. (1995). Conflict resolution strategies and marital distress as mediating factors in the link between witnessing interparental violence and wife battering. *Violence and Victims, 10,* 107-119.

Cohall A., Cohall R., Bannister H., & Northridge, M. (1999). Love shouldn't hurt: Strategies for health care providers to address adolescent dating violence. *Journal of the American Women's Medical Association 54,* 144-148.

Coker, A.L., McKeown, R.E., Sanderson, M., Davis, K.E., Valois, R.F., & Huebner, E.S. (2000). Severe dating violence and quality of life among South Carolina high school students. *American Journal of Preventive Medicine, 19,* 220-227.

Collins, W.A., Welsh, D.P., & Furman, W. (2009). Adolescent romantic relationships. *Annual Review of Psychology, 60,* 631-652.

Conger, R.D., Cui, M., Bryant, C.M., & Elder, G.H. (2000). Competence in early adult romantic relationships: A developmental perspective on family influences. *Journal of Personality and Social Psychology, 79,* 224-237.

Conners, C.K. (1997). *Conners' rating scales- Revised user's manual.* North Tonawanda, NY: Multi-Health Systems, Inc.

Delsol, C., & Margolin G. (2004). The role of family-of-origin violence in men's marital violence perpetration. *Clinical Psychology Review, 24,* 99-122.

DiClemente, R.J., Wingood, G.M., Crosby, R.A., Sionean, C., Brown, L.K., Rothbaum, B., et al., (2001). A prospective study of psychological distress and sexual risk behavior among black adolescent females. *Pediatrics, 108*, E85.

Dirks, M.A., Treat, T.A., & Weersing, V.R., (2007). Integrating theoretical, measurement, and intervention models of youth social competence. *Clinical Psychology Review, 27,* 327-347.

Donnellan, M.B., Larsen-Rife, D., & Conger, R.D. (2005). Personality, family history and competence in early adult romantic relationships. *Journal of Personality and Social Psychology, 88*, 562-576.

Doyle, A.B., Brendgen, M., Markiewicz, D., & Kamkar, K. (2003). Family relationships as moderators of the association between romantic relationships and adjustment in early adolescence. *Journal of Early Adolescence, 23*, 316-340.

Dreznick, M.T. (2003). Heterosocial competence of rapists and child molesters: A meta analysis. *The Journal of Sex Research, 40*, 170-178.

Eaton, D.K., Davis, K.S., Barrios, L., Brener, N.D., & Noonan, R.K. (2007). Associations of dating violence victimization with lifetime participation, co-occurrence, and early initiation of risk behaviors among U.S. high school students. *Journal of Interpersonal Violence, 22,* 585-602.

Ehrensaft, M.K., Cohen, P., Brown, J., Smailes, E., Chen, H., & Johnson, J.G. (2003). Intergenerational transmission of partner violence: A 20-year prospective study. *Journal of Counseling and Clinical Psychology, 71*, 741-753.

Emmer-Sommers, T.H., Allen, M., Bourhis, J., Sahlstein, E., Laskowski, K., Falato, W.L., et al. (2004). A meta-analysis of the relationship between social skills and sexual offenders. *Communication Reports, 17*, 1-10.

Feldman, C.M., & Ridley, C.A. (2000). The role of conflict-based communication responses and outcomes in male domestic violence against female partners. *Journal of Social and Personal Relationships, 17,* 552-573.

Fite, J.E., Bates, J.E., Holtzworth-Munroe, A., Dodge, K.A., Nay, S.Y., & Pettit, G.S. (2008). Social information processing mediates the intergenerational transmission of aggressiveness in romantic relationships. *Journal of Family Psychology, 22,* 367-376.

Foshee, V.A. (1996). Gender differences in adolescent dating abuse prevalence, types and injuries. *Health Education Research, Theory, and Practice, 11*, 275-286.

Foshee, V.A., Ennett, S.T., Bauman, K.E., Benefield, T., & Suchindran, C. (2005). The association between family violence and adolescent dating violence onset: Does it vary by race, socioeconomic status, and family structure? *The Journal of Early Adolescence, 25*, 317-344.

Foshee, V.A., Linder, F., MacDougall, J.E., & Bangdiwala, S. (2001). Gender differences in the longitudinal predictors of adolescent dating violence. *Preventative Medicine, 32*, 128-141.

Fowler, D.N., & Chanmugam, A. (2007). A critical review of quantitative analyses of children exposed to domestic violence: Lessons learned for practice and research. *Brief Treatment and Crisis Intervention, 7*, 322-344.

Grover, R.L., & Nangle, D.W. (2003). Adolescent perceptions of problematic heterosocial situations: A focus group study. *Journal of Youth and Adolescence, 32,* 129-139.

Grover, R.L., Nangle, D.W., Serwick, A., & Zeff, K.R. (2007). Girl friend, boy friend, girlfriend, and boyfriend: Broadening our understanding of heterosocial competence. *Journal of Clinical Child and Adolescent Psychology, 36*, 491-502.

Grover, R.L., Nangle, D.W., & Zeff, K.R. (2005). The measure of adolescent heterosocial competence: Development and initial validation. *Journal of Clinical Child and Adolescent Psychology, 34*, 282-291.

Grych, J.H., Seid, M., & Fincham, F.D. (1992). Assessing marital conflict from the child's perspective: The Children's Perception of Interparental Conflict Scale. *Child Development, 63*, 558-572.

Gutgesell, M., & Payne, N. (2004). Issues of adolescent psychological development in the 21st century. *Pediatrics in Review, 25,* 79-84.

Hanson, D.J., Christopher, J.S., & Nangle, D.W. (1992). Adolescent heterosocial interactions and dating. In V.B. Van Hasselt & M. Herson (Eds.), *Handbook of social development: A lifespan perspective* (pp. 371-394). New York: Plenum Press.

Henton, J., Cate, R., Koval, J., Llyod, S., & Christopher, S. (1983). Romance and violence in dating relationships. *Journal of Family Issues, 4,* 467-82.

Hickman, L.J., Jaycox, L.H., & Arnoff, J. (2004). Dating violence among adolescents: Prevalence, gender distribution, and prevention program effectiveness. *Trauma, Violence, and Abuse, 5*, 123-142.

Hines, D.A., & Saudino, K.J. (2002). Intergenerational transmission of intimate partner violence: A behavioral genetic perspective. *Trauma, Violence, & Abuse, 3*, 210-225.

Hokoda, A., Ramos-Lira, L., Celaya, P., Vilhauer, K., Angeles, M., Ruiz, S. et al. (2006). Reliability of translated measures assessing dating violence among Mexican American adolescents. *Violence and Victims, 21*, 117-127.

Howard, D.E., Qi Wang, M., & Yan, F. (2008). Psychosocial factors associated with reports of physical dating violence victimization among U.S. adolescent males. *Adolescence, 43,* 449-460.

Howard, D.E., & Wang, M.Q. (2003). Risk profiles of adolescent girls who were victims of dating violence. *Adolescence, 38,* 1-14.

Irwin, C.E., Burg, S.J., & Cart, C.U. (2002). America's adolescents: Where have we been, where are we going? *Journal of Adolescent Health, 31*, 91-121.

James, W.H., West, C. Deters, K.E., & Armijo, E. (2000). Youth dating violence. *Adolescence, 35*, 455-465.

Jonson-Reid, M., & Bivens, L. (1999). Foster youth and dating violence. *Journal of Interpersonal Violence, 14*, 1249-1262.

Kelley, A.E., Schochet, T., & Landry, C.F. (2004). Risk taking and novelty seeking in adolescence: Introduction to part I. In R.E. Dahl & L.P. Spear (Eds.), *Adolescent brain development: Vulnerabilities and opportunities* (pp. 27-32). New York: New York Academy of Sciences.

Kingsfogel, K.M., & Grych, J.H. (2004). Interparental conflict and adolescent dating relationships: Integrating cognitive, emotional, and peer influences. *Journal of Family Psychology, 18*, 505-515.

Kitamura, T., & Hasui, C. (2006). Anger feelings and anger expression as a mediator of the effects of witnessing family violence on anxiety and depression in Japanese adolescents. *Journal of Interpersonal Violence, 21*, 843-855.

Koblinsky, S.A., Kuvalanka, K.A., & Randolph, S.M. (2006). Social skills and behavior problems of urban, African American preschoolers: Role of parenting practices, family conflict, and maternal depression. *American Journal of Orthopsychiatry, 76,* 554-563.

Kreiter, S.R., Krowchuk, D.P., Woods, C.R., Sinal, S.H., Lawless, M.R., & Durant, R.H. (1999). Gender differences in risk behaviors among adolescents who experience date fighting. *Pediatrics, 104,* 1286-1292.

Kwong, M.J., Bartholomew, K., Henderson, A.J.Z., & Trinke, S.J. (2003). The intergenerational transmission of relationship violence. *Journal of Family Psychology, 17*, 288-301.

Marcus, N.E., Lindahl, K.M., & Malik, N.M. (2001). Interparental conflict, children's social cognitions, and child aggression: A test of a mediational model. *Journal of Family Psychology, 15*, 315-333.

Mejia, R., Kliewer, W., & Williams, L. (2006). Domestic violence exposure in Columbian adolescents: Pathways to violent and prosocial behavior. *Journal of Traumatic Stress, 19*, 257-267.

Mihalic, S.W., & Elliot, D. (1997). A social learning theory model of marital violence. *Journal of Family Violence, 12,* 21-47

Molidor, C., & Tolman, R.M. (1998). Gender and contextual factors in adolescent dating violence. *Violence Against Women, 4*, 180-194.

Montgomery, M.J. (2005). Psychosocial intimacy and identity: From early adolescence to emerging adulthood. *Journal of Adolescent Research, 20,* 346-374.

Munoz-Rivas, M.J., Grana, L.J., O'Leary, K.D., & Gonzalez, M.P. (2007). Aggression in adolescent dating relationships: Prevalence, justification, and health consequences. *Journal of Adolescent Health, 40*, 298-304.

Murrell, A.R., Merwin, R.M., Christoff, K.A., & Henning, K.R. (2005). When parental model violence: The relationship between witnessing weapon use as a child and later use as an adult. *Behavior and Social Issues, 14*, 128-133.

Nangle, D.W., & Hansen, D.J. (1993). Relations between social skills and high-risk sexual interactions among adolescents. Current issues and future directions. *Behavior Modification, 17,* 113-135.

Nightingale, E.O., & Fischhoff, B. (2002). Adolescent risk and vulnerability: Overview. *Journal of Adolescent Health, 31,* 3-9.

O'Leary, K.D. (1988). Physical aggression between spouses: A social learning theory perspective. In R.D. Peters & R.J. McMahon (Eds.), *Social learning and systems approaches to marriage and the family* (pp. 104-127). Philadelphia: Brunner/Mazel.

Raymond, M., Catallozzi, M., Lin, A.J., Ryan, O., & Rickert, V.I. (2007). Development of intimate relationships in adolescence. *Adolescent Medicine, 18*, 449-459.

Reese-Weber, M., & Hesson-McInnis, M. (2008). The Children's Perception of Interparental Conflict Scale: Comparing factor structures between

developmental periods. *Education and Psychological Measurement, 68*, 1008-1023.

Reynolds, C.R., & Kamphaus, R.W. (2004). *Behavior assessment system for children* (2nd ed.): Manual. Circle Pines, MN: AGS Publishing.

Robinson, G.E. (2003). Current concepts on domestic violence. *Primary Psychiatry, 10,* 48-52.

Schiff, M., & Zeira, A. (2005). Dating violence and sexual risk behaviors in a sample of at-risk Israeli youth. *Child Abuse and Neglect, 29,* 1249-1263.

Sears, H.A., Byers, E.S., & Price, E.L. (2007). The co-occurrence of adolescent boys' and girls' use of psychologically, physically, and sexually abusive behaviors in their dating relationships. *Journal of Adolescence, 30,* 487-504.

Semaan, S., Kay, L., Strouse, D., Sogolow, E., Mullen, P.D., Neumann, M.S., et al. (2002). A profile of U.S.-based trials of behavioral and social interventions for HIV risk reduction. *Journal of Acquired Immune Deficiency Syndromes, 30,* S30-50.

Sellers, C.S., Cochran, J.K., & Branch, K.A. (2005). Social learning theory and partner violence: A research note. *Deviant Behavior, 26,* 379-395.

Sheridan, S.M., Hungelmann, A., & Maughan, D.P. (1999). A contextualized framework for social skills assessment, intervention, and generalization. *The School Psychology Review, 28*, 84-103.

Silverman, J.G., Raj, A., Mucci, L.A., & Hathaway, J.E. (2001). Dating violence

    against adolescent girls and associated substance use, unhealthy weight

    control, sexual risk behavior, pregnancy, and suicidality. *The Journal of the*

    American Medical Association, 286, 572-579.

Simons, R.L., Lin, K.H., & Gordon, L.C. (1998). Socialization in the family of origin

    and male dating violence: A prospective study. *Journal of Marriage and the*

    Family, 60, 467-478.

Smith, D.M., & Donnelly, J. (2001). Adolescent dating violence: A multi-systemic

    approach of enhancing awareness in educators, parents, and society. *Journal*

    of Prevention and Intervention in the Community, 21, 53-64.

Smith, P.H., White, J.W., & Holland, L.J. (2003). A longitudinal perspective on

    dating violence among adolescent and college-age women. *American Journal*

    of Public Health,93, 1104-1109.

Sobel, M.E. (1982). Asymptotic confidence intervals for indirect effects in structural

    equation models. In S. Leinhart (Ed.), *Sociological methodology* (pp. 290-

    312). San Francisco: Jossey-Bass.

Steinberg, L. (2004). Risk taking in adolescence: What changes, and why? In R.E.

    Dahl & L.P. Spear (Eds.), *Adolescent brain development: Vulnerabilities and*

    opportunities (pp. 51-58). New York: New York Academy of Sciences.

Stith, S.M., Rosen, K.H., Middleton, K.A., Busch, A.L., Lundeberg, K., & Carlton, R.P. (2000). The intergenerational transmission of spouse abuse: A meta-analysis. *Journal of Marriage and the Family, 62*, 640-654.

Stocker, C.M., & Richmond, M.K. (2007). Longitudinal associations between hostility in adolescents' family relationships and friendships and hostility in their romantic relationships. *Journal of Family Psychology, 21*, 490-497.

Storey, R.C., Cornelius, T.L., & Bell, K.M. (2008). A critical review of theoretical frameworks for dating violence: Comparing dating and marital fields. *Aggression and Violent Behavior, 13,* 185-194.

Straus, M.A. (1979). Measuring intrafamily conflict and violence: The Conflict Tactics Scales. *Journal of Marriage and the Family, 41*, 75-88.

Symons, P.Y., Groer, M.W., Kepler-Youngblood, P., & Slater, V. (1994). Prevalence and predictors of adolescent dating violence. *Journal of Child and Adolescent Psychiatric Nursing, 7*,14-23.

Teitelman, A.M., Ratcliffe, S.J., Morales-Aleman, M.M., & Sullivan, C.M. (2008). Sexual relationship power, intimate partner violence, and condom use among minority urban girls. *Journal of Interpersonal Violence, 23*, 1694-1712.

Tontodonato, P., & Crew, B.K. (1992). Dating violence, social learning theory, and gender: A multivariate analysis. *Violence and Victims, 7*, 3-14.

Twentyman, C.T., & McFall, R.M. (1975). Behavioral training of social skills in shy males. *Journal of Consulting and Clinical Psychology, 43,* 384-395.

Wareham, J., Boots, D.P., & Chavez, J.M. (2009). A test of social learning and intergenerational transmission among batterers. *Journal of Clinical Justice, 37*, 163-173.

Wekerle, C., & Wolfe, D. (1999). Dating violence in mid-adolescence: Theory, significance, and emerging prevention initiatives. *Clinical Psychology Review, 19,* 435-456.

Whitaker, D.J., Morrison, S., Lindquist, C., Hawkins, S.R., O'Neil, J.A., Neisus, A.M., et al. (2006). A critical review of interventions for the primary prevention of perpetration of partner violence. *Aggression and Violence Behavior, 11,* 151-166.

Wolf, K.A., & Foshee, V.A. (2003). Family violence, anger expression styles, and adolescent dating violence. *Journal of Family Violence, 18*, 309-316.

Wolfe, D.A. (2005). Preventing violence in relationships: Psychological science addressing complex social issues. *Canadian Psychology, 47*, 44-50.

Wolfe D.A., & Feiring, C. (2000). Dating violence through the lens of adolescent romantic relationships. *Child Maltreatment, 5*, 360-363.

Wolfe, D.A., Jaffe, P., & Crooks, C. (2006). The Blueprint: Best practices for program design. In D.A. Wolfe, P. Jaffe, & C. Crooks. (Eds.), *Adolescent risk behaviors: Why teens experiment and strategies to keep them safe* (pp. 152-175). New Haven: Yale University Press.

Wolfe, D.A., Scott, K., Wekerle, C., & Pittman, A.L. (2001). Child maltreatment: Risk of adjustment problems and dating violence in adolescence. *Journal of the American Academy of Child and Adolescent Psychiatry, 40*, 282-289.

Wolfe, D.A., Scott, K., Reitzel-Jaffe, D., Wekerle, C., Grasley, C., & Straatman, A.L. (2001). Development and validation of the Conflict in Adolescent Dating Relationships Inventory. *Psychological Assessment, 13,* 277-293.

Wolfe, D.A., Wekerle, C., Scott, K., Straatman, A., Grasley, C., & Reitzel-Jaffe, D. (2003). Dating violence prevention with at-risk youth: A controlled outcome evalution. *Journal of Consulting and Clinical Psychology, 71,* 279-291.

Appendix A1

Dear Parent or Guardian:

Later this month, visitors from the University of Kansas will be coming to East Chapel Hill High School to work with students in health class over a three day period. During this time, the visitors will be providing information about health behaviors such as substance abuse and relationships. They will also be asking students to answer questions about their health behaviors, peer relationships and parents' relationships as part of a study about adolescent health. These survey questions are designed to provide information about the connection between relationships and health behaviors. In addition to answering questions about these topics, students will be asked some background questions and will be involved in an art activity.

The visitors have been working with health teachers at our school to select topics for these presentations. While the presentations will be part of regularly scheduled health classes, answering the visitors' study questions about health behavior and relationships is completely voluntary. Your child may choose not to provide this information for any reason. If your child would not like to participate, he or she may choose to complete a regularly scheduled health activity provided by his or her teacher. Regardless of what your child chooses, his or her grade will not be affected. If your child does answer questions about his or her health behavior and relationships, all information will remain completely confidential. In fact, materials with information provided by your child will not contain his or her name.

Information collected will be used to learn more about students at your child's school and to help plan future activities within the health classes. Additionally, the information will help professionals better understand adolescents in general and help develop better intervention programs in the future. If you have any questions, would like additional information, or would like to view the surveys your child will be invited to complete, you may contact me, Mark Kadlecik, in the health department at your child's school by calling (913) 969-2482. In addition, you may feel free to contact the presenters by calling (785) 864-4416 or the University of Kansas Human Subjects Protection Office at (785) 864-7429.

We are looking forward to these activities and believe that students will benefit from participation.

Sincerely,

Mark Kadlecik
Health Department Chair
East Chapel Hill High School

Appendix A2

Dear Parent or Guardian:

Later this month, visitors from the University of Kansas will be coming to Leary School to work with students in health class over a five day period. During this time, the visitors will be providing information about health behaviors such as substance abuse and relationships. They will also be asking students to answer questions about their health behaviors, including questions related to substance use, sexual behaviors and other general health behaviors. Additional questions will be asked about peer relationships and parents' relationships as part of a study about adolescent health. These survey questions are designed to provide information about the connection between relationships and health behaviors. In addition to answering questions about these topics, students will be asked some background questions and will be involved in an art activity.

The visitors have been working with the teachers and principal at our school to select topics for these presentations. While the presentations will be part of regularly scheduled classes, answering the visitors' study questions about health behavior and relationships is completely voluntary. Your child may choose not to provide this information for any reason. If your child would not like to participate, he or she may choose to complete a regularly scheduled art activity provided by his or her teacher. Regardless of what your child chooses, his or her grade will not be affected. If your child does answer questions about his or her health behavior and relationships, all information will remain completely confidential. In fact, materials with information provided by your child will not contain his or her name.

Information collected will be used to learn more about students at your child's school and to help plan future activities within classes and other therapeutic contexts. Additionally, the information will help professionals better understand adolescents in general and help develop better intervention programs in the future. If you have any questions, would like additional information, or would like to view the surveys your child will be invited to complete, you may contact me, Ms. Simpson, at your child's school by calling (703) 941-4237. In addition, you may feel free to contact the presenters by calling (785) 864-4416 or the University of Kansas Human Subjects Protection Office at (785) 864-7429.

We are looking forward to these activities and believe that students will benefit from participation.

Sincerely,

Leigh Simpson, Principal
Leary School

Appendix B

Demographic Form

Age: _____

Are you Female or Male?

What grade are you in? _____

How do you describe yourself?

    a. White - not Hispanic
    b. Black - not Hispanic
    c. Hispanic
    d. Asian or Pacific Islander
    e. Native American or Alaskan Native
    f. Other

Approximately how tall are you? _____

Approximately how much do you weigh? _____

Please circle the letter that corresponds to the sex/gender of the people you are sexually or romantically attracted to.

    a. Females (Girls/Women)
    b. Males (Boys/Men)
    c. Both Females and Males (Girls/Women and Boys/Men)

APPENDIX C

SEM Model Covariance Matrix

	MAHC1	MAHC2	MAHC3	MAHC4	MAHC5	MAHC9
MAHC1	0.770					
MAHC2	0.252	1.246				
MAHC3	0.146	0.312	1.090			
MAHC4	0.090	0.318	0.280	1.203		
MAHC5	0.207	0.362	0.333	0.160	1.018	
MAHC9	0.171	0.338	0.301	0.317	0.309	1.528
MAHC33	0.074	0.483	0.106	0.152	0.380	0.104
MAHC6	0.011	-0.016	-0.097	-0.037	-0.056	0.049
MAHC7	0.156	0.013	-0.064	0.057	0.032	0.294
MAHC8	0.013	0.091	0.125	0.081	0.247	0.180
MAHC10	0.084	-0.149	-0.007	0.006	-0.102	0.021
MAHC30	-0.004	-0.119	0.021	0.006	0.016	-0.007
MAHC31	0.068	0.154	0.077	0.011	0.128	0.037
MAHC34	0.069	-0.029	-0.067	-0.049	-0.019	0.021
MAHC35	0.087	-0.049	-0.095	-0.085	-0.109	0.034
MAHC12	0.081	-0.082	-0.040	-0.056	-0.173	-0.016
MAHC14	0.100	0.300	0.212	0.096	0.302	0.211
MAHC16	0.116	-0.114	0.102	0.018	-0.082	0.099
MAHC17	0.189	0.014	-0.096	-0.102	-0.046	0.160
MAHC18	0.046	0.008	-0.012	0.114	0.010	0.094
MAHC19	0.150	0.001	0.114	0.017	-0.113	0.059
MAHC20	-0.079	-0.093	0.014	0.123	-0.070	0.039
MAHC21	0.007	0.141	0.169	0.174	0.013	0.145
MAHC22	-0.033	-0.048	0.023	0.060	0.050	0.145
MAHC23	0.033	-0.119	-0.101	0.052	-0.154	0.135
MAHC25	0.123	-0.020	0.255	0.176	-0.017	0.173
MAHC27	0.075	-0.071	0.075	0.116	0.099	0.037
MAHC28	0.038	-0.038	-0.020	-0.032	-0.125	0.093
MAHC29	0.138	-0.027	0.110	0.009	0.048	0.009
MAHC36	0.075	-0.067	0.010	-0.074	0.110	0.180
MAHC37	0.114	0.096	0.103	0.074	0.045	0.151
MAHC38	0.047	-0.003	0.038	0.094	0.015	0.026
MAHC39	0.018	-0.038	0.044	0.006	-0.085	0.073
MAHC40	-0.043	-0.129	0.004	-0.053	-0.073	0.081

SEM Model Covariance Matrix (continued)

	MAHC33	MAHC6	MAHC7	MAHC8	MAHC10	MAHC30
MAHC33	1.348					
MAHC6	0.068	0.835				
MAHC7	-0.085	0.136	1.014			
MAHC8	0.133	-0.001	0.236	1.447		
MAHC10	-0.101	0.155	0.203	0.038	0.777	
MAHC30	-0.128	0.003	-0.080	0.117	0.145	0.977
MAHC31	0.162	0.063	0.037	0.128	0.058	0.001
MAHC34	-0.030	0.047	0.139	-0.037	0.106	0.094
MAHC35	-0.071	0.047	0.142	-0.033	0.107	0.129
MAHC12	-0.246	0.085	0.219	0.174	0.117	0.202
MAHC14	0.264	-0.036	0.220	0.542	-0.019	-0.012
MAHC16	-0.083	0.025	-0.011	-0.081	0.004	0.224
MAHC17	0.029	0.199	0.060	-0.007	0.150	0.130
MAHC18	0.034	0.113	0.070	0.012	0.134	0.062
MAHC19	-0.050	0.063	0.052	0.008	0.093	0.169
MAHC20	-0.162	-0.024	0.137	-0.018	0.190	0.038
MAHC21	0.067	0.048	0.026	0.174	0.018	0.137
MAHC22	-0.002	0.051	0.103	0.039	0.095	0.075
MAHC23	-0.086	0.071	0.240	0.103	0.155	0.008
MAHC25	-0.065	-0.020	0.023	0.196	0.159	0.126
MAHC27	0.035	0.109	0.036	0.098	0.037	0.145
MAHC28	-0.055	0.022	0.112	-0.055	0.077	0.061
MAHC29	0.054	0.079	-0.017	0.002	0.067	0.214
MAHC36	0.043	0.055	0.190	0.221	0.147	0.269
MAHC37	-0.026	-0.089	0.124	0.079	0.094	0.213
MAHC38	-0.126	-0.012	-0.012	0.070	0.047	0.190
MAHC39	0.026	-0.001	0.111	0.135	0.123	0.161
MAHC40	0.013	-0.065	0.189	0.023	0.058	0.162

SEM Model Covariance Matrix (continued)

	MAHC31	MAHC34	MAHC35	MAHC12	MAHC14	MAHC16
MAHC31	1.004					
MAHC34	0.090	0.491				
MAHC35	0.135	0.114	0.771			
MAHC12	-0.104	-0.006	-0.002	1.052		
MAHC14	0.216	0.009	0.006	0.013	1.204	
MAHC16	-0.022	0.052	0.120	0.064	0.032	1.280
MAHC17	0.057	0.101	0.144	0.024	-0.038	0.056
MAHC18	0.196	0.149	0.142	-0.040	0.104	0.084
MAHC19	-0.027	-0.004	0.060	0.133	0.010	0.190
MAHC20	-0.117	-0.025	-0.009	0.075	0.009	0.081
MAHC21	0.094	0.056	0.011	0.010	0.135	0.013
MAHC22	0.185	0.100	0.197	-0.002	0.031	0.151
MAHC23	0.039	0.031	0.099	0.203	0.071	0.149
MAHC25	0.069	0.003	0.112	0.069	0.168	0.243
MAHC27	0.149	0.190	-0.003	0.001	0.208	0.101
MAHC28	-0.006	0.054	0.050	0.036	-0.014	0.276
MAHC29	0.048	0.049	0.055	0.165	0.074	0.180
MAHC36	0.115	0.023	0.200	0.134	0.081	0.219
MAHC37	0.024	-0.004	0.050	0.200	0.103	0.194
MAHC38	0.056	0.029	0.050	-0.035	0.091	0.079
MAHC39	0.009	0.041	0.061	0.064	0.173	0.190
MAHC40	0.030	0.002	0.056	0.159	0.132	0.256

SEM Model 1 Covariance Matrix (continued)

	MAHC17	MAHC18	MAHC19	MAHC20	MAHC21	MAHC22
MAHC17	0.729					
MAHC18	0.162	0.686				
MAHC19	0.142	0.045	0.698			
MAHC20	-0.008	-0.057	0.088	1.048		
MAHC21	0.049	0.125	0.064	0.016	1.081	
MAHC22	0.045	0.129	0.083	0.132	0.097	0.769
MAHC23	0.087	0.053	0.052	0.227	-0.040	0.094
MAHC25	0.143	0.229	0.126	0.143	0.153	0.123
MAHC27	0.059	0.095	-0.024	0.025	0.093	-0.001
MAHC28	0.140	0.070	0.110	-0.036	0.104	-0.019
MAHC29	0.020	0.024	0.084	0.070	0.030	0.117
MAHC36	0.112	-0.025	0.045	-0.094	0.089	0.050
MAHC37	0.041	-0.059	-0.007	0.045	0.139	0.081
MAHC38	-0.029	0.032	0.029	0.035	0.026	-0.041
MAHC39	0.088	0.114	0.082	0.018	0.026	-0.041
MAHC40	-0.153	0.012	0.079	0.070	-0.014	0.074

	MAHC23	MAHC25	MAHC27	MAHC28	MAHC29	MAHC36
MAHC23	0.768					
MAHC25	0.089	0.973				
MAHC27	0.019	0.106	0.948			
MAHC28	0.058	0.142	0.081	0.879		
MAHC29	0.064	0.083	0.214	0.068	0.748	
MAHC36	0.118	-0.063	0.001	0.103	0.223	1.093
MAHC37	0.210	0.020	0.175	0.095	0.150	0.360
MAHC38	-0.108	0.155	0.164	0.108	0.175	0.099
MAHC39	-0.003	0.085	0.111	0.161	0.111	0.287
MAHC40	-0.028	0.142	0.043	0.202	0.078	0.244

	MAHC37	MAHC38	MAHC39	MAHC40
MAHC37	1.253			
MAHC38	0.143	0.930		
MAHC39	0.015	0.228	0.766	
MAHC40	0.155	0.143	0.284	1.109