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## Parent and Peer Predictors of Physical Dating Violence Perpetration in Early Adolescence: Tests of Moderation and Gender Differences

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### Abstract

This study examined parenting and peer predictors of physical dating violence perpetration during early adolescence and tested moderation among these predictors and gender. Participants were 2,824 ethnically diverse sixth-grade students with a recent boyfriend/girlfriend who was part of a multisite, longitudinal investigation of the development and prevention of violence among middle school students. Those students who reported having a boyfriend/girlfriend reported significantly more drug use and delinquent activity and were more likely to be male. Twenty-nine percent of youth with a boyfriend/girlfriend reported perpetrating physical aggression against their boyfriend/girlfriend. Parenting and peer variables were significant predictors of physical dating violence. However, gender moderated the association between parenting practices and physical dating violence, with parental monitoring inversely linked to dating violence for boys and parent support for nonaggression inversely linked to dating violence for girls. Parent support for aggression also moderated the association between peer deviancy and reported perpetration. Finally, gender moderated the interaction between peer deviancy and parent support for nonaggressive solutions.

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Dating and romantic relationships are central in the lives of many young adolescents (Collins, 2003). About 25% of 12-year-olds report having “a special romantic relationship” (Carver, Joyner, & Udry, 2003), with 40% to 50% reporting a current romantic relationship by the age of 15 (Feiring, 1996). Although these early romantic relationships are more fluid than adult dating, they play an important role in shaping the course of adolescent development (Cairns & Cairns, 1994). Adolescent dating relationships also provide a foundation for adult romantic relationships, including aggression and violence in these relationships (Capaldi & Gorman-Smith, 2003; Magdol, Moffitt, Caspi, & Silva, 1998).

Studies show that physical aggression toward partners during adolescence is not uncommon. Between 15% and 40% of dating teens report some sort of physical violence against their partner, including serious forms such as hitting a partner with an object, beating up a partner, and using a knife or gun (Avery-Leaf, Cascardi, O'Leary, & Cano, 1997; Foshee et al. 1996; Malik, Sorenson, & Anehensel, 1997; Wolfe, Scott, Wekerle, & Pittman, 2001). However, the average age of these samples ranged from 14 to 17. Thus, we know little about the factors associated with the perpetration of physical dating violence (PPDV) among young adolescents.

Until recently, research on adolescent dating relationships has been limited because of the false belief that adolescent romantic affiliations were superficial and transitory (Collins, 2003). More recent research suggests that these relationships are not necessarily transient and are intertwined with many aspects of development (Carver et al., 2003). Although sixth grade may appear quite young for studying dating, research suggests that romantic relationships emerge during this period (Feiring, 1999). Connolly, Craig, Goldberg, and Peplar (2004) identified a dating-stage model beginning in pre- and early adolescence whereby youth move from same-sex to mixed-gender peer groups that then provide opportunities for cross-gender affiliations. In their study of 1,375 fifth-through eighth-grade students, about one in five adolescents reported having a boyfriend or girlfriend, with the percentages not differing across the grades (19%, 17%, 22%, and 21%, respectively). Although clearly not the norm, these and other data suggest that a significant percentage of youth are involved in boyfriend/girlfriend relationships early in adolescence.

In addition to the fact that dating begins early for some adolescents, limited evidence suggests that these relationships tend to occur among the highest risk youth. Youth who date early have higher rates of antisocial behavior than those who begin dating later (Brendgen, Vitaro, Doyle, Markiewicz, & Bukowski, 2002). Risk may be further increased because aggressive youth often get involved with similarly deviant romantic partners (Capaldi & Crosby, 1997). The limited available data suggest that the risk for maladjustment may be particularly high among youth who already have poor same-sex friendships (Darling, Dowdy, Van Horn, & Caldwell, 1999; Neeman, Hubbard, & Masten, 1995).

Understanding youth who date early can be guided by a developmental-ecological model of risk and development (Bronfenbrenner, 1979; Szapocznik & Coats-worth, 1999). A central tenet of this theory is that individual development is influenced by the ongoing qualities of the child's social settings and the interactions between these settings (e.g., family, peers, schools, communities). Though set in this larger theoretical frame, the present study focuses on two aspects of the child's social ecology—parents and peers, and the interaction of the two—in predicting the perpetration of partner aggression. These two relational domains have consistently been shown to be among the strongest and most robust predictors of youth aggression generally (Gorman-Smith, Tolan, & Henry, 2000; Miller-Johnson, Coie, Maumary-Gremaud, Bierman, & Conduct Problems Prevention Research Group [CPPRC], 2002; Reese, Vera, Simon, & Ikeda, 2000). Furthermore, early adolescence presents challenges to parents and youth in navigating their relationship as influence shifts increasingly to peers (Miller-Johnson & Costanzo, 2004).

Two important domains of parenting behavior have been found to be associated with child aggression: parental beliefs and attitudes about violence and parent involvement. Parents are key socializing agents, and one avenue of this socialization process is through the conveyance of beliefs and attitudes about the acceptance of behaviors (Baumrind, 1991; Maccoby & Martin, 1983). In this way, parents may impart their support for aggression or signal their disapproval for such behaviors. Parents' attitudes about the use of aggression have been linked with child aggression (Orpinas, Murray, & Kelder, 1999). Parental

attitudes about nonviolent discipline, such as verbal reasoning and discussion, also appear to protect children from risk-taking behaviors (Kaplow, Curran, Dodge, & CPPRC, 2002; Kosterman, Hawkins, Guo, Catalano, & Abbott, 2000). This study extends previous research by examining whether parental support for aggressive and nonaggressive responses to conflict extends to dating aggression in early adolescence. Such knowledge has implications for the design of parenting programs that target this potential proximal variable.

Related to parental attitudes are actual parenting practices. The relation between parenting practices and violence is well established, with previous research having identified discipline and monitoring as important environmental contributors to risk for aggression and violence (Capaldi & Patterson, 1994; Gorman-Smith et al., 2000), including aggression in dating relationships (Brendgen et al., 2002; Gorman-Smith, Tolan, Sheidow, & Henry, 2001). Although discipline practices tend to be most important early in development, the nature of parenting shifts as children move into early adolescence and focuses increasingly on continued involvement in their teen's life and monitoring. Knowledge of a child's whereabouts and friends helps parents limit opportunity for involvement in problem behavior, as well as limit exposure to deviant peers. Early romantic affiliations tend to emerge from existing peer networks (Connolly et al. 2004) and in this way, parents' continued involvement and oversight of young teens' friends and dating partners may contribute to whether a young teen is involved in dating aggression. However, the majority of studies on parenting and dating violence have focused on high school samples, and many have focused only on boys (Capaldi & Clark, 1998; Gorman-Smith et al., 2001; Simons & Gordon, 1998).

Peer relationships also play an important socializing role, particularly in early adolescence when susceptibility to peers is high (Fergusson, Swain-Campbell, & Horwood, 2002). In several studies, peer deviance was the strongest correlate of adolescents' own aggressive and delinquent behavior (Pratt & Cullen, 2000; Warr, 2003). However, less research has been conducted on associations between peer deviance and dating violence. Gwartney-Gibbs, Stockard, and Bohmer (1987) found that involvement with aggressive peers was associated with dating aggression among undergraduates. More recently, Kinsfogel and Grych (2004) found that the frequency and number of friends who engaged in dating violence was associated with self-reported dating violence. However, this study focused on older adolescents (ages 14–20). There is a need to better understand the potential influence of peers on dating violence in young teens when cross-gender relationships are beginning to emerge. Leff (2004) noted that the peer social context is largely ignored in most dating violence prevention programs that instead focus on didactic approaches that teach youth to reflect on individual behaviors in interpersonal contexts. Thus, understanding potential links between peer and parent influences and dating aggression in a sample of early adolescents may highlight key directions for prevention efforts.

Although there has been some limited investigation of peer and parenting domains in relation to dating aggression, studies have not examined the additive and interactive associations among these relational contexts. Both peers and parents are highly central in teens' lives, and it is important to examine peer and parenting relationships jointly in understanding their impact (Darling & Steinberg, 1993). Studies of problem behaviors more generally have suggested that parenting may moderate the association between peer relations and risk-taking behaviors (Henry, Tolan, & Gorman-Smith, 2001). For example, Dishion, Capaldi, and colleagues (1995) found that parental monitoring moderated the effect of peers' deviancy on adolescent substance use. Similarly, Kung and Farrell (2000) found that parenting moderated the association between peer pressure and substance use. These studies suggest that parenting practices may serve as a protective factor in buffering youth against the impact of peer influences on problem outcomes.

The role of gender and adolescent dating violence is complex. Noteworthy are consistent findings showing that girls are as or more likely than boys to report physical aggression toward dating partners (Magdol et al., 1998; Moffitt, Caspi, Rutter, & Silva, 2001). For example, Arriaga and Foshee (2004) found that 17% of the girls and 6% of the boys reported perpetration of moderately violent behaviors, and 11% of the girls and 5% of the boys reported serious violent behaviors in their sample of eighth- and ninth-grade students. The lack of sex differences in reported rates of physical dating violence is incongruous with well-established findings showing that boys are more physically aggressive than girls (Dodge, Coie, & Lynam, 2006).

Furthermore, some studies have suggested that girls may be relatively more influenced by these relationships than boys (Amaro, Blake, Schwartz, & Flinchbaugh, 2001; Barber & Bolithol, 1999). Compared to boys, girls evidence greater relational concerns and may be more motivated by interpersonal issues (Pepler & Craig, 1999). Girls also show more connection-oriented social goals and are more likely than boys to experience and be affected by the stresses of others (Rose & Rudolph, 2006). Finally, compared to boys, the nature of girls' peer and parent relations may differ, and these variations may reflect gender differences in relationship development, norms and values, and social control (Zahn-Waxler, Crick, Shirtcliff, & Woods, 2006).

Findings on whether gender is a moderator of links between peer and parenting domains and dating aggression have been inconsistent across investigations. Foshee and colleagues (Foshee, Linder, MacDougall, & Bangdiwala, 2001) found associations between having friends who perpetrated dating aggression toward their partners and dating violence for boys but not for girls. Similarly, parental supervision and monitoring predicted dating violence only for boys. However, other studies have failed to find gender differences in associations between peer deviance and dating violence (Gwartney-Gibbs et al., 1987; Kinsfogel & Grych, 2004). In terms of parenting practices, Foshee et al. (2001) also found that the association between parental monitoring dating violence was significant only for boys. Conversely, other investigations have shown associations between parenting and dating aggression for both genders, with stronger relations for boys than for girls (Foo & Margolin, 1995; Gwartney-Gibbs et al., 1987). Thus, although negative parenting and peer experiences are likely important risk factors for dating violence, the specific relations and the nature of the relations by gender are unclear.

The present study builds on previous research by extending the study of physical dating aggression to include the early emergence of romantic affiliations. First, we compared daters and nondaters on demographic and risk-taking activity to characterize those young adolescents with early romantic affiliations. Second, we examined whether gender moderated the associations between parenting and peer variables and dating aggression. The next question evaluated whether parenting behaviors moderated links between peer deviancy and physical dating aggression. Finally, we examined whether gender moderated the peer deviancy by parenting interactions. We hypothesized that, although the parenting and peer variables would be related to physical dating violence for both genders, the associations would be stronger for girls. We further hypothesized that the parenting factors would moderate the association between peer deviancy and dating violence such that poor parenting would exacerbate the association of peer deviance with dating aggression. Given the dearth of research, we did not have hypotheses about whether gender moderated the interactions of peer deviance and parenting behaviors.

## METHOD

### Participants

The participants were part of the Multisite Violence Prevention Project (MVPP), a longitudinal investigation of the development and prevention of violence among middle school students (MVPP, 2004). Thirty-seven schools across four diverse geographical sites (Durham, NC; Richmond, VA; Chicago, IL; northeast GA) participated in an experimental study of the impact of universal and targeted violence prevention interventions for sixth-grade students. In Chicago, the schools served students in kindergarten through Grade 8. At the other sites, middle schools served students in Grades 6 to 8. Within each site, the schools were randomly assigned to one of four conditions: universal only, targeted only, universal plus targeted, or control (for information on the interventions, see Meyer, Allison, Reese, Gay, & MVPP, 2004; Orpinas, Horne, & MVPP, 2004; Smith et al., 2004). This study is based on the baseline assessment from two successive cohorts of sixth graders.

From each school, a random sample of approximately 100 students within each cohort was invited to participate ( $n = 7,361$ ; Cohort 1 = 3,459; Cohort 2 = 3,902).<sup>1</sup> Participation rates ranged from 68% to 84% across schools. Data were omitted from nine students because of patterned responses (e.g., 1,2,3,2,1,2,3) and from 112 students from the second cohort who were retained in sixth grade and were randomly selected again in the second cohort. Thus, 5,404 students completed the baseline assessment (49% boys; 48% African American, 18% Caucasian, 21% Latino, and 13% other ethnicity or multiracial). The sample for this study primarily consists of the 2,824 students (52.6%) who reported having had a boyfriend/girlfriend in the previous 3 months and who provided dating violence ratings.<sup>2</sup>

### Procedures

The Institutional Reviews Boards of all participating universities and the Centers for Disease Control approved all recruitment and assessment procedures. Active parent consent and student assent were obtained for all participants. Research staff met with the students who were randomly selected to be potential participants in small groups to explain the purpose of the study, thoroughly review the student assent forms and answer questions. Students were asked to take the student assent form and parental consent form home to review with their parent(s) and to return the consent forms to school. Contact information was provided in the consent forms so parents could contact research staff with any questions and follow-up calls were made to parents as needed to discuss the study and answer questions. Students received a small incentive for returning the consent form, regardless of consent status (e.g., coupon for local movie or store; approximate value \$5–\$7). Student data were collected in small groups via a computer-assisted survey instrument using laptop computers. Students received a small incentive (coupon/card for a local movie or store; approximate value of \$5–\$7) for completing the survey.<sup>3</sup>

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<sup>1</sup>Many Chicago schools were small neighborhood schools with less than 100 students, and in these cases, all students were recruited. For the second cohort of students, more than 100 participants were initially recruited in some schools based on the prior participation rates.

<sup>2</sup>For the 112 students with duplicate data in both cohorts, there were no significant differences between their Cohorts 1 and 2 scores. We chose to include the Cohort 1 data, that is, the students' first administration of the survey. An additional 13 students did not complete the scale on dating violence perpetration and 84 participants did not complete one or more of the remaining study variables. Thus, the sample sizes vary somewhat across the results. Of these 97 participants, the missing data were dispersed across all of the measures.

<sup>3</sup>At the northeast Georgia site, the schools were not permitted to provide incentives to the students in Cohort 1. This decision was subsequently reversed by the schools, and all sites provided a student incentive in Cohort 2.



## Measures

**Parental involvement**—This 12-item scale assessed students' perceptions of parental involvement in their life (e.g., "In the past 30 days, how often did you and a parent do things together at home"; Gorman-Smith, Tolan, Zelli, & Huesmann, 1996). Exploratory factor analysis showed the scale to be unidimensional, with good internal consistency ( $\alpha = .85$ ). The items were rated on a 5-point scale and a mean score was derived. Evidence for its validity comes both from prevention and developmental risk studies. Tolan, Gorman-Smith, and Henry (2004) reported that a family intervention designed to increase parental involvement had significant positive effects on scale scores. The measure also correlates significantly and negatively with individual violence, property crime, and gang involvement (Henry et al., 2001).

**Parental support for aggressive and nonaggressive solutions**—This 10-item measure assessed students' perception of their parents' support for aggressive and nonaggressive solutions to conflict (Orpinas et al., 1999). The students responded *yes* or *no* to indicate whether the item was something they had heard from their parent(s). Using baseline data from the first cohort, confirmatory factor analyses compared one- and two-factor structures using tau-equivalent models where all item loadings were constrained to 1. Summary fit indices indicated that the two-factor model provided a better fit to the data based on a significant chi-square difference test ( $\chi^2 = 1248.28$ ) and lower root mean square error of approximation (RMSEA; one-factor RMSEA = .16, two-factor RMSEA = .11) and comparative fit index (CFI; one-factor CFI = .88, two-factor CFI = .94; MVPP, 2006). The scale composites had a moderate, negative correlation of  $-.45$ . The two 5-item sub-scales tapped parent support for verbal and physical aggressive solutions ( $\alpha = .63$ ; e.g., "If someone asks you to fight, hit them first") and parent support for nonaggressive solutions ( $\alpha = .66$ ; e.g., "If someone calls you names, ignore them."). In a sample of almost 9,000 middle school students, the scale evidenced good external validity in terms of expected correlations with physical aggression and weapon carrying (Orpinas et al., 1999). A mean score was derived.

**Peer deviancy**—This 10-item measure assessed student involvement with deviant peers by asking how many of their friends had engaged in 10 delinquent behaviors in the last 3 months (e.g., skipped school, stolen property, used alcohol). The scale was adapted from a similar measure used in the Fast Track project (CPPRG, 1998). Two items pertaining to delinquency and physical aggression were added (stolen something worth less than \$100, been in a gang fight). One item pertaining to partner aggression (hit or slapped a boyfriend/girlfriend) had been added to the original scale by the MVPP but was excluded for this study. The students responded to each item on a 5-point scale, ranging from 0 (*none of them*) to 4 (*all of them*). A sum score was derived; the internal consistency of the scale was very good ( $\alpha = 0.86$ ). Measures of peer deviance have been used extensively in many large-scale studies and have evidenced high correlations with delinquent and antisocial activity (Elliot, Ageton, & Huizinga, 1985; Henry et al., 2001; Thornberry & Krohn, 1997).

**Drug use and delinquency problems**—Two separate seven-item subscales from the Problem Behavior Frequency Scales assessed the frequency of drug use and delinquent activity (Farrell, Kung, White, & Valois, 2000). Youth indicated how frequently they had engaged in each behavior in the past 30 days using a 6-point anchored scale (1 = *never*; 2 = 1–2 *times*; 3 = 3–5 *times*; 4 = 6–9 *times*; 5 = 10–19 *times*; and 6 = 20 *or more times*). Six items assessed drug use; the items tapped cigarette, alcohol (beer, wine, liquor), and marijuana use and whether the student had been drunk ( $\alpha = .84$ ). Delinquency was assessed with eight items covering status and other minor offending behaviors (e.g., "skipped school," "been on suspension," "snuck into someplace without paying";  $\alpha = .76$ ). Scores

were based on the mean of the subscale items. Validity of the Drug Use and Delinquency subscales has been shown with expected correlations with aggression, problem situations that place urban youth at risk for violence exposure, and peer victimization experiences (e.g., Farrell et al., 2000; Farrell et al., 2006; Sullivan, Farrell, & Kliewer, 2006) and with short-term longitudinal studies from a prevention program developed to reduce youth violence (e.g., Farrell, Meyer, Sullivan, & Kung, 2003; Farrell, Meyer, & White, 2001).

**Perpetration of physical dating violence**—This seven-item measure assessed perpetration of physical dating violence. Most items were taken directly from an existing measure (Foshee et al., 1996), with one item added (“punched or hit you with something that could hurt”). The students first reported whether they had a boy/girlfriend in the last 3 months. Those students who responded affirmatively rated whether they had done any of the behaviors to a boyfriend/girlfriend the last 3 months (scratched, slapped, slammed, kicked, pushed or shoved, threw something at them that could hurt, punched or hit). The items were rated on a 4-point scale (0 = *never*; 1 = 1–3 *times*; 2 = 4–9 *times*; 4 = 10 or more *times*); an average score was computed. The internal consistency was excellent ( $\alpha = .91$ ). Validity of the scale has been shown through expected correlations with measures of peer and family violence (Arriaga & Foshee, 2004) and anger expression (Wolf & Foshee, 2003), as well as in terms of significant short- and long-term effects from a school-based preventive intervention designed to reduce dating aggression, Bauman, (Foshee et al., 1998; Foshee, Bauman, et al., 2001; Foshee et al., 2004).

## RESULTS

### Descriptive Information

More than half of the sixth graders (53%) reported having a boyfriend/girlfriend in the last 3 months. Multinomial logistic regressions (controlling for site, cohort and gender or ethnicity) were conducted to compare “dating” and “nondating” students. Girls (45%) were less likely than boys (60%) to date (Wald  $\chi^2 = 132.9$ , odds ratio [OR] = 0.722, confidence interval [CI] = .68, .76). We next examined ethnicity, with Latino as the reference group. European American (46%) youth were less likely to date (Wald  $\chi^2 = 0.34$ , OR = .94, CI = .77, 1.15), and African American youth (59%) were more likely to date (Wald  $\chi^2 = 64.37$ , OR = 1.92, CI = 1.63, 2.24). In terms of risk taking, daters were more likely than nondaters to report drug use (Wald  $\chi^2 = 111.88$ , OR = 3.42, CI = 2.72, 4.29) and delinquent activity (Wald  $\chi^2 = 167.12$ , OR = 3.46, CI = 2.87, 4.18).

Among the dating youth, 29% (15% of the total sample) reported perpetrating at least one act of physical violence against their boyfriend/girlfriend. A greater proportion of girls (31%) than boys (27%) reported perpetrating at least one act of partner violence,  $\chi^2(N = 2,824) = 7.76$ ,  $p < .01$ . However, no gender differences were observed when testing continuous ratings of dating aggression,  $t(df = 2822) = 0.26$ ,  $ns$  ( $M_s$  boys = 0.18, girls = 0.18). For both genders, physical dating violence was significantly and positively correlated with peer deviancy (see Table 1). In terms of ethnicity, dichotomous ratings revealed significant differences,  $\chi^2(N = 2677) = 64.55$ ,  $p < .001$ . A greater proportion of African American (32%) and Latino (33%) youth reported perpetrating at least one act of dating aggression, as compared to 14% of European American youth. A similar pattern was evidenced for continuous ratings,  $F(2, 2674) = 17.79$ ,  $p < .001$  ( $M_s$  African American = 0.20;  $M_{Latin} = .20$ ; European American = 0.07) youth. Perpetration of dating violence was significantly correlated in the expected directions with parental involvement and parent support for aggressive and nonaggressive solutions.

### Gender as a Moderator of the Associations Between Parenting and Peer Factors and PPDV

To test gender as a moderator, we compared an unconstrained multiple group model (i.e., all of the parenting domains were allowed to vary by gender) to a model where the set of parenting domains were constrained to be equivalent for boys and girls using Mplus v 3.01 (Muthén & Muthén, 2004). The chi-square difference test was significant,  $\chi^2(4, N = 2,740) = 10.21, p < .05$ .<sup>4</sup>

We then conducted four multiple group model tests where the effect for each of the variables was constrained to be equivalent across gender, resulting in a one degree of freedom test. In our first model, we constrained the effect of parental involvement on PPDV to be equivalent across gender groups, and the chi-square difference effect was significant,  $\chi^2(1, N = 2,740) = 4.79, p < .05$ . In the unconstrained model, the standardized coefficients differed by 0.08 across genders (male,  $-.11$ ; female,  $-.03$ ). Next, we fixed the effect of parent support for nonaggressive solutions to be equal for boys and girls, and this test was also significant,  $\chi^2(1, N = 2,740) = 6.64, p < .05$ . The standardized coefficients differed by 0.11 across genders (male,  $0.01$ ; female,  $-0.09$ ). In our third and fourth models, the tests constraining the effects for parent support for aggressive solutions,  $\chi^2(1, N = 2,740) = 0.19, ns$ , and peer deviance,  $\chi^2(1, N = 2,740) = 0.02, ns$ , were not significant.

Figure 1 portrays the unconstrained model of the associations between peer and parent domains and PPDV by gender. Whereas parental involvement was unrelated to physical dating aggression for girls, boys who reported that their parents monitored them more closely reported lower levels of perpetration. A contrasting gendered pattern was shown for parental support for nonaggressive solutions. Girls (but not boys) who perceived their parents' to be more supportive of non-aggressive solutions reported lower levels of PPDV.

### Parenting as a Moderator of the Association Between Peer Deviancy and PPDV

To test our next question, the model included the three parenting factors, peer deviance, and three interaction terms for each of the parenting factors by peer deviancy. The interaction of parent support for aggressive solutions by peer deviancy was significant ( $b = 0.23, SE = 0.07, r^2 = .01, p < .01$ ). The interactions of parental involvement by peer deviancy ( $b = -0.03, SE = 0.02, ns$ ) and by parent support for nonaggressive solutions ( $b = 0.05, SE = 0.07, ns$ ) were not significant.

Figure 2 portrays the interaction of peer deviancy and parent support for aggressive solutions (scores  $\pm 1 SD$  from the mean). Under conditions of low peer deviance, regardless of the level of parent support for aggression, PPDV levels were low. However, among those youth with many problem-prone friends, PPDV was relatively greater when parental support for aggression was also high (as compared to when parent support for aggression was low). Post hoc probing of the significant moderation effects (Holmbeck, 2002) indicated that the effect for peer deviance was significant under conditions of high parent support for aggression ( $b = .33, SE = .03; p < .01$ ) and low support for aggression ( $b = .20, SE = .03, p < .01$ ).

### Gender as a Moderator of the Interaction Between Peer Deviancy and Dating Aggression

For the last question, we estimated a model that included the four main effects (peer deviancy, three parenting domains) and three interaction terms (interaction of peer deviancy with each of the three parenting domains). We compared an unconstrained multiple group model with a model that constrained the three interaction terms to be equivalent by gender; the overall chi-square difference test was significant,  $\chi^2(3, N = 2,740) = 12.93, p < .01$ . We

<sup>4</sup>Effects for cohort were not significant in all analyses.



then conducted three multiple group model tests where each of the interaction terms was constrained to be equivalent across gender, resulting in a one degree of freedom chi-square test. The interaction of peer deviancy and parent support for nonaggression varied for boys and girls in its association with dating violence,  $\chi^2(1, N = 2,740) = 8.48, p < .001$ . The standardized coefficients for the interaction terms differed by 0.13 across genders (male, 0.06; female,  $-0.07$ ).

Figure 3 portrays the interaction of parent support for nonaggressive solutions by peer deviance separately for boys and girls in the unconstrained multiple group model. Visual inspection of the interaction terms suggests that for girls, the association between peer deviancy and PPDV was stronger when parental support for non-aggressive solutions was lacking. However, for boys, the two lines (low and high parent support for nonaggressive solutions) were quite similar, indicating that parent support for nonaggressive solutions did not moderate the effect of peer deviancy on PPDV. Post hoc probing (Holmbeck, 2002) indicated that the effects of peer deviancy were significant for both genders under conditions of both high parent support for nonaggression (girls:  $b = .19, SE = .05, p < .01$ ; boys:  $b = .33, SE = .04, p < .001$ ) and low parent support for nonaggression (girls:  $b = .31, SE = .04, p < .001$ ; boys:  $b = .23, SE = .03, p < .01$ ). Next, we constrained the interaction of peer deviancy by parental involvement to be equivalent for boys and girls and the effect was not significant,  $\chi^2(N = 2,738) = 2.65, ns$ . In the final model, constraining the interaction of peer deviancy by parent support for aggressive solutions to be equivalent across gender groups resulted in a nonsignificant test,  $\chi^2(N = 2,740) = 0.21, ns$ .

## DISCUSSION

In this large multisite, ethnically diverse sample of sixth graders who reported having a recent boyfriend/girlfriend, about 3 in 10 students reported having perpetrated at least one act of physical dating violence in the prior 3 months. The rate in this study was similar to the rates seen in older adolescent samples (Avery-Leaf et al., 1997; Foshee et al., 1996; Halpern, Oslak, Young, Martin, & Kupper, 2001; Silverman, Raj, Mucci, & Hathaway, 2001). For example, in their sample of high school students, Wolfe et al. (2001) found that 28% of youth had perpetrated physical aggression toward a dating partner. Furthermore, early daters were more likely to engage in drug use and delinquency. Other analyses with these data have also shown that dating students were more likely than nondating students to report acceptance of dating violence by agreeing that it was all right for a boy or girl to hit their girlfriend/boyfriend friend under various circumstances (Simon, Miller, Gorman-Smith, Orpinas, & Sullivan, in press). The results provide additional support for the growing concern around the risk associated with early dating and physical violence within these early adolescent dating relationships. Results also suggest that these behaviors occur in the early development of dating relationships and support the need for attention to this issue at younger ages than is currently the norm.

A higher proportion of girls (31%) than boys (27%) reported perpetrating at least one act of physical aggression towards their partner. Although these gendered findings are consistent with results from other adolescent samples (Avery-Leaf et al., 1997; Foshee et al., 1996) they are complex to interpret. It is worth noting that the mean level test (i.e., continuous scores) showed no gender difference, thus the only gender difference observed was that girls more so than boys reported perpetrating at least one act of physical aggression toward their partner (i.e., categorical ratings). It has been suggested that boys may be reluctant to admit to dating aggression because of the societal unacceptability of such behaviors and therefore may underreport.

Another plausible explanation is that girls may over-report dating aggression because of fewer societal sanctions or because they view their own behavior as having less impact (Avery-Leaf & Cascardi, 2002; Foshee, 1996). From a methodological perspective, the failure to find mean level differences (in spite of finding significant categorical differences), suggests that gender differences in dating aggression are less apparent when considering the frequency or rate of occurrence. Clearly this study cannot purport to decipher gender differences in dating violence. Nevertheless, it does suggest the need to consider the dynamic and interpersonal nature of these behaviors, the context and meaning of the behaviors, and the characteristics of both partners (Capaldi, Kim, & Shortt, 2004; Foshee, 1996).

Both boys and girls who had more deviant friends reported more physical aggression towards their dating partner. Because this study was conducted using cross-sectional data, we cannot conclude that deviant peers influenced the perpetration of physical aggression towards a dating partner per se. It may be that physical aggression with boyfriends/girlfriends reflects overall violence tendencies, and deviance-prone youth extend their physically aggressive propensities to dating relationships. As has been found with violent and delinquent behaviors, youth who are prone toward PPDV may be attracted to each other, reflecting assortative processes that may lead aggressive youth to become involved with deviance-prone dating partners (Capaldi, Kim, & Shortt, 2004). Longitudinal research is needed to examine the temporal ordering of these behaviors over time and the extent to which these patterns are unique to physical dating violence or reflect overall antisocial tendencies.

Gender moderated the association between parenting and PPDV in two domains: parental involvement and parent support for nonaggressive solutions. Boys, but not girls, who reported that their parents were very involved in their activities were less likely to report physical aggression towards their dating partner. On the other hand, girls (but not boys) who perceived their parents as supporting nonaggressive solutions to problems reported less physical dating aggression. Although parenting is clearly an important contributor to aggressive behaviors for boys and girls, our findings are consistent with other studies in suggesting that specific domains of parenting may have particular salience for each gender (Davies & Windle, 1997). To illustrate, MacFayden-Ketchum, Bates, Dodge, and Pettit (1996) found that an authoritative supportive parenting style led to improved behavioral functioning for girls but not for boys. For young teen girls and their parents, early adolescence is a particularly challenging transition in terms of a “mismatch” over independence from parents (Pomerantz & Ruble, 1998). The transition to adolescence may be strained as parents and daughters balance the need for continued family support and intimacy with girls’ need for increased autonomy (Zahn-Waxler et al., 2006).

In our analyses, gender also moderated the interaction of peer deviancy and parent support for nonaggressive solutions on PPDV. Girls with more problem-prone friends who also reported that their parents did not support nonaggressive solutions were more physically aggressive toward their partner. However, among boys, perceived parent support for nonaggressive solutions did not moderate the effect of peer deviancy on physical dating violence. For girls, the lack of parent support for nonviolent strategies combined with having many deviance-prone friends may exacerbate physical aggression toward a dating partner. Although purely speculative, it may be that high parent support for nonaggressive, prosocial behavior buffers girls from involvement with deviant peers. This protective role may operate either by daughters using their parents for emotional support or by parents teaching their daughter effective prosocial problem-solving skills.

Parent support for aggression was another factor that moderated the association between peer deviancy and PPDV. Those youth who were involved with highly deviant peers also reported higher levels of physical dating violence. Among those youth, however, parent support for aggressive solutions exacerbated the association between peer deviancy and PPDV. Our results suggest that parents' support for aggressive strategies may amplify and perhaps encourage deviant peer influences. In such circumstances, youth may be embedded in both peer and family contexts where aggressive behaviors are supported.

The study has several limitations. First, the data were cross-sectional, which limits how differential influence of variables or any causal inferences can be inferred. Accordingly, there are limitations in the extent to which these results can go beyond suggesting relations worthy of further study. Second, the results were from a single source, which precluded a more in-depth understanding of each partner's interpretations and intentions of these behaviors. Third, the study also did not include more detailed measures of these early romantic relationships so it was not possible to describe characteristics of the dating experiences. Qualitative and observational studies would be particularly informative to gain a richer and developmentally sensitive understanding of the nature of dating during early adolescence and the meaning and motivations behind the use of aggressive behaviors with romantic partners. Fourth, some of the statistically significant effects were small given the large sample size.

An additional limitation is that the study did not examine ethnicity as a potential moderator of predictive associations. Within race, youth and families differ on important variables such as family structure and socioeconomic status, and these other variables may contribute to intragroup variability and explain predictive associations (Foshee, Ennett, Bauman, Benefield, & Suchindran, 2005; McLoyd, 1990). Unfortunately, this study did not have data on these potential explanatory variables. Future studies need to examine whether ethnicity moderates predictive associations, with inclusion of variables related to intragroup variability.

### **Implications for Research, Policy, and Practice**

These findings have several implications for research, policy, and practice. Taken as a whole, the results advance prior research by extending findings about violence and dating to young adolescents. Previous work has generally focused on older teens, and these findings emphasize the need for further study of dating aggression as youth transition to middle school when these early cross-gender affiliations are beginning to emerge. The results also suggest considerable overlap with the same predictors of violence in general at this age period. Typically, however, research probing youth violence (and other related behaviors, such as conduct problems) and dating aggression have functioned in isolation, despite the apparent overlap in risk factors. Dating violence may be a developmentally relevant expression of a general antisocial tendency (Capaldi et al., 2004). In this way, a romantic relationship may represent another interpersonal context in which these behaviors are apparent, particularly among high-risk youth who are most likely to date at younger ages (Neeman et al., 1995). Furthermore, in early adolescence, the distinctions between peer and dating affiliations are only beginning to unfold, and early dating relationships emerge out of the peer context (Connolly et al., 2004). Our findings underscore the need to expand current views of adolescent peer affiliations to take into account these emerging romantic relationships and how they are related not only to dating aggression, but to aggressive behaviors more broadly.

In terms of intervention, the results suggest that preventive efforts to reduce partner violence need to be developed and tested in the early middle school years, as these behaviors are already present among a sizeable minority of young teens. Intervening at this age may prove

to be beneficial in altering maladaptive behaviors before they become more intractable. Our results also highlight the salience of parenting practices and deviant peer affiliations as risk factors for PPDV. Preventive interventions for parents need to address how friendship selection impacts physical dating violence and the importance of being aware of their young teen's friends. The findings are also relevant to current practice and policy efforts highlighting the need for gender-sensitive programming (American Bar Association, 2001; Office of Juvenile Justice and Delinquency Prevention, 1999). Parenting behaviors that emphasize more control-oriented strategies such as monitoring and supervision may be more effective for boys, while parenting strategies that focus on relationship-based techniques that promote prosocial interactions with peers and supportive adult bonds may be particularly relevant for girls.

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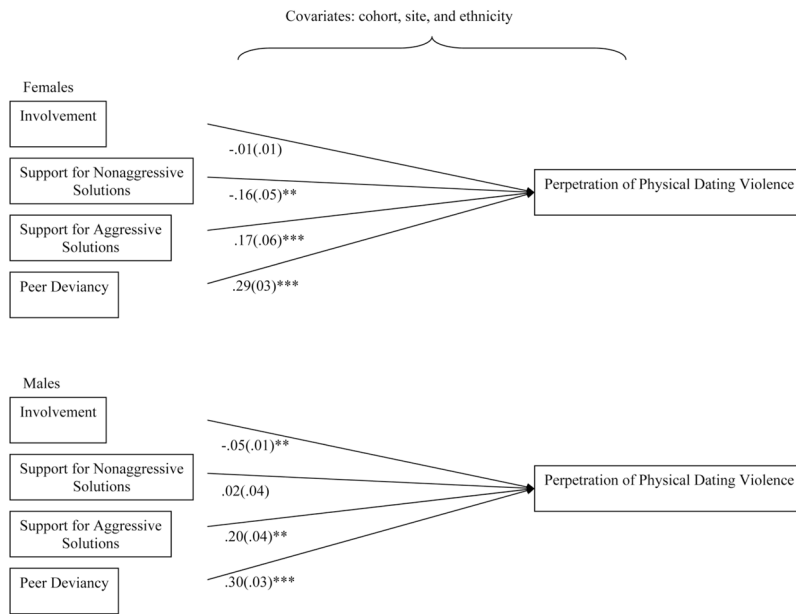
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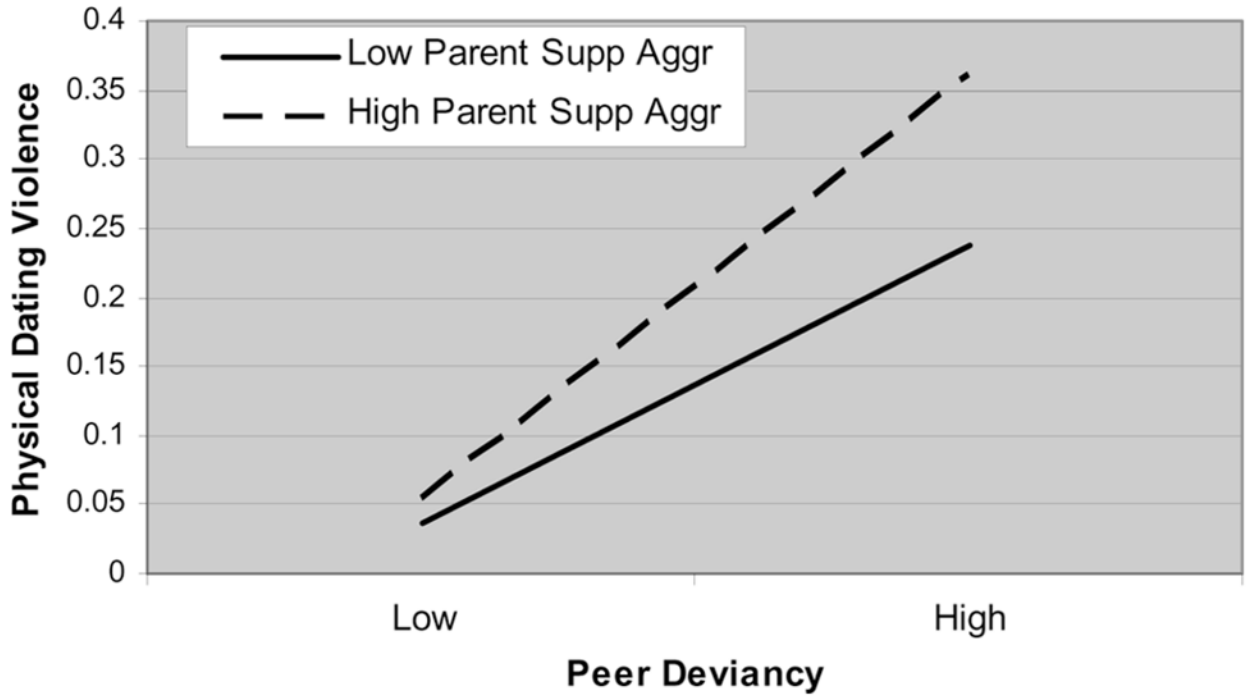
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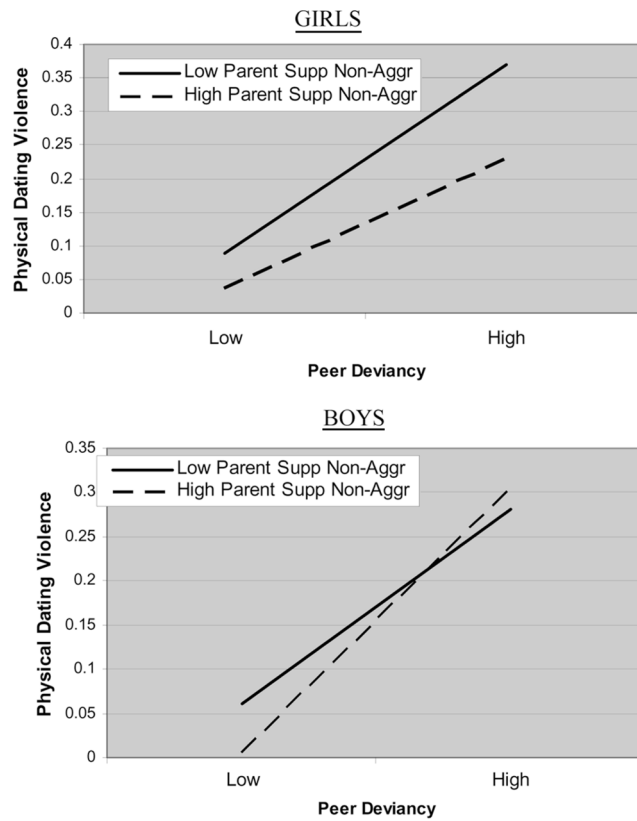
**FIGURE 1.** Relations between parenting and peer variables and perpetration of physical dating violence. *Note:* Betas and standard errors (in parentheses) are reported. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .



**FIGURE 2.**

Parent support for aggressive solutions as a moderator of the effect of peer deviancy on physical dating violence. *Note:* Peer deviancy was significant under conditions of high ( $b = .33$ ,  $SE = .03$ ,  $p < .01$ ) and low ( $b = .20$ ,  $SE = .03$ ,  $p < .01$ ) parent support for aggression.





**FIGURE 3.**

Gender as a moderator of the interaction of parent support for nonaggressive solutions by peer deviancy, reported separately for girls and boys. *Note:* Effects of peer deviancy were significant for both genders under conditions of high (girls:  $b = .19$ ,  $SE = .05$ ,  $p < .01$ ; boys:  $b = .33$ ,  $SE = .04$ ,  $p < .001$ ) and low (girls:  $b = .31$ ,  $SE = .04$ ,  $p < .001$ ; boys:  $b = .23$ ,  $SE = .03$ ,  $p < .01$ ) parent support for nonaggression.

TABLE 1

## Correlations Among Study Variables by Gender

	1	2	3	4	5
<i>M</i>	0.18	3.13	3.64	0.78	0.27
<i>SD</i>	0.45	5.14	0.95	0.27	0.27
1. Physical dating violence	—	0.36***	-0.19***	-0.16***	0.22***
2. Peer deviancy	0.35***	—	-0.15***	-0.27***	0.29***
3. Parental involvement	-0.14***	-0.25***	—	0.22***	-0.22***
4. Parental support for nonaggression	-0.22***	-0.29***	0.25***	—	-0.47***
5. Parental support for aggressive solutions	0.23***	0.29***	-0.22***	-0.45***	—
<i>M</i>	0.18	2.23	3.79	0.85	0.21
<i>SD</i>	0.44	4.28	0.92	0.23	0.24

Note: Correlations for boys' scores are on the top half, and correlations for girls' scores are on the bottom half of the matrix.

\*\*\*

$p < .001$ .