

# The Role of Peer Group Aggression in Predicting Adolescent Dating Violence and Relationship Quality

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**Abstract** Past research has shown that adolescent peer groups make a significant contribution to shaping behavior but less is known about the role of peer groups in adolescent dating relationships. This longitudinal study examined the contribution of aggressive peer group norms on relationship quality and dating violence among dating adolescents. At the beginning of the school year (T1) and 6 months later (T2), participants ( $n = 1,070$ ;  $M_{\text{age}} = 15.45$ ; 49 % Female) provided self-reports of attitudes towards aggression, and physically- and relationally-aggressive behaviors. Peer groups were identified using a peer-nomination technique and aggressive behaviors and attitudes were averaged across peer groups. Participants with dating experience ( $n = 598$ ) reported on the frequency of their experience with dating violence (both as a victim and perpetrator). Multilevel analyses indicated that peer group relational aggression at T1 positively predicted dating abuse victimization and perpetration, and negatively predicted relationship quality at T2, beyond individual predictions. An unexpected finding was that membership in physically aggressive peer groups at T1 was associated positively with relationship quality at T2. Results point to the importance of the peer group in shaping adolescent dating experiences.

**Keywords** Adolescent dating relationships · Dating violence · Dating relationship quality · Adolescent peer groups · Relational aggression

## Introduction

During adolescence, romantic dating relationships become increasingly important and many youth begin to spend more time with their dating partners than with their family or friends (Furman 2002; Furman and Shaffer 2003). Positive dating relationships may confer a wide range of benefits in social development and psychological adjustment. For example, experiences in healthy dating relationships help adolescents to develop a sense of identity, foster the mastery of interpersonal skills, promote feelings of self worth, and serve as a source of emotional support (Barber and Eccles 2003). On the other hand, negative experiences in dating relationships, such as dating violence, can expose adolescents to risks that have adverse long-term consequences.

Research shows that 25 % to over 55 % of dating adolescents report having experienced some form of physical or psychological abuse in their relationships (e.g., Malik et al. 1997; Roscoe and Kelsey 1986; Sudermann and Jaffe 1997; Wolfe et al. 2001b). Exposure to dating violence in adolescence is associated with a wide range of negative outcomes such as low self-esteem, substance use, school dropout, and feelings of depression and anxiety (Cascardi and O’Leary 1992; Hagan and Foster 2001; Silverman et al. 2001; Holt and Espelage 2005). Moreover, adolescents who have experienced dating violence may be more likely to engage in intimate partner violence in their adult relationships (National Center for Injury Prevention and

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Control 2006). The purpose of the present longitudinal study was to explore predictors of aggressive behavior and relationship quality in adolescent dating relationships.

Many investigators have examined the family context as a pathway to abusive dating relationships. Studies suggest that youth who share close relationships with their parents may be less likely to become involved in abusive dating relationships (Cleveland et al. 2003; Ehrensaft et al. 2003; Lavoie and Vézina 2002). In contrast, contexts in which parents model and reinforce violent behavior are associated positively with adolescent dating violence (Brendgen et al. 2002; Capaldi and Clark 1998; O’Keefe 1998; Schwartz et al. 1997). In addition to family relationships, adolescents’ experiences with their peers also may make important contributions to dating violence. During adolescence, there is an increased orientation towards peers (Crockett et al. 1984; Eccles and Midgley 1989; O’Brien and Bierman 1988), and heightened susceptibility to peer influence (Fergusson et al. 2002; Miller-Johnson and Costanzo 2004). Thus, peers may be particularly influential in socializing attitudes and behaviors surrounding violence and aggression during adolescence (Dishion et al. 1996).

According to social learning theory (Bandura 1986), adolescents learn to engage in aggressive behaviors with dating partners by observing significant others who model aggressive behavior. Because adolescents are new to dating relationships, they may not yet be aware of acceptable behavior in this context and they are likely to learn how to interact with dating partners by observing peers (Arriaga and Foshee 2004). In peer contexts, adolescents are likely to socialize one another to display specific behaviors to gain approval (Clasen and Brown 1985; Dishion et al. 1996; Patterson et al. 1998). Positive reinforcement and encouragement from peers may then lead adolescents to adopt inappropriate behaviors (Ellis et al. 2012; Kandel and Andrews 1987). In peer groups where the modeling of aggressive behaviors elicits positive reactions, adolescents learn that using aggression against others can help them to achieve goals and be accepted by others. Further, dating is a significant topic of conversation among adolescents (Connolly and Goldberg 1999; Simon et al. 1992), and is likely to be the focus of discussions where adolescents look to their peers for advice and information.

Adolescents who are exposed to peers that express support for the use of aggressive behaviors in social interactions may be more likely to engage in dating violence perpetration because they believe that using aggression with dating partners is normative and permissible (Malik et al. 1997; O’Keefe 1997). Indeed, studies have identified affiliation with physically-aggressive friends as a consistent predictor of subsequent dating violence perpetration and positive attitudes towards violence among adolescents (Arriaga and Foshee 2004; Brendgen et al.

2002). Similarly, Capaldi et al. (2001) reported that males with friends who engaged in anti-social behaviors during mid-adolescence were more physically aggressive toward their dating partners in young adulthood. There is evidence to suggest that peer socialization of violence-related behaviors may extend to victimization in dating relationships as well. For example, Arriaga and Foshee (2004) found that adolescents with friends who have been victims of dating violence were more likely to experience dating violence themselves.

Youth who affiliate with peers who have positive *attitudes* toward physical violence also may be more likely to use this type of behavior in their dating relationships. For example, boys who were members of aggressive male friendship dyads that made hostile and derogatory comments about women were more likely to direct physical aggression toward their dating partners than boys who were members of non-aggressive male friendship dyads (Capaldi et al. 2001). Along a similar vein, Lavoie et al. (2000) found that boys who physically abused their dating partners often had friends who condoned violent behavior.

Exposure to aggressive peers also may have consequences for shaping the quality of adolescent dating relationships. High levels of peer conflict in aggressive groups may make it more difficult for group members to engage in intimate emotional communications and to develop close relationships (Crick and Grotpeter 1996; Dishion et al. 1995). When adolescents rely on aggression in their relationships, they also may lose opportunities to practice and perfect healthy strategies for effective problem-solving. In support of this, researchers have found that relationships among children in aggressive peer groups are often characterized by negative features such as low levels of group enjoyment and involvement (Laird et al. 1999). Aggressive adolescents also tend to report that their friendships are less affectionate and cooperative than non-aggressive adolescents (Connolly et al. 2000). As such, it is not surprising that antisocial and aggressive adolescents tend to be involved in poor quality romantic relationships (Capaldi and Crosby 1997; Pawley et al. 1997) that are characterized by low levels of intimacy and affection (Connolly et al. 2000). Moreover, although aggressive preadolescents tend to perceive less support in their romantic relationships, they still may be more willing to engage in unacceptable actions to maintain their romantic relationships in comparison to their less aggressive counterparts (Connolly et al. 2000). Low expectations for relationship support and unhealthy problem-solving strategies paired with a heightened sensitivity to relationship loss likely contribute to a poor emotional climate in aggressive adolescents’ romantic relationships. It remains to be seen if an aggressive peer group climate is a unique predictor of dating relationship quality, beyond these individual predictors.

Social modeling, reinforcement, discussion, and other group processes likely contribute to the socialization of dating behaviors and attitudes in adolescents' peer groups. Existing research has identified connection to aggressive peers who hold positive attitudes towards the use of violent behaviors as a potential antecedent of aggressive behavior and poor relationship quality within the context of adolescent dating relationships. Researchers have long acknowledged the unique contribution of peer groups to behavior during adolescence (Parker et al. 1995; Rubin et al. 2006), and a few studies have shown that involvement with antisocial and physically aggressive peers may increase the likelihood that adolescents will engage in perpetration of dating violence and experience victimization in their dating relationships (Gagné et al. 2005; Schnurr and Lohman 2008; Williams et al. 2008). Nevertheless, much of the research in this area still tends to focus on exploring the linkages between adolescents' experiences within close friendships and dating violence (Arriaga and Foshee 2004; Kinsfogel and Grych 2004; Linder and Collins 2005; Schad et al. 2008). Furthermore, virtually no studies to date have examined peer influences on relational aggression in adolescent dating relationships. One study by Leadbeater et al. (2008) provides preliminary evidence for an association between the use of relational aggression against peers and the experience of this type of aggression in dating relationships. Specifically, these researchers found that adolescents who used relational aggression against their peers also experienced more relational aggression, both as the perpetrator and victim, in their dating relationships.

### Current Study

In summary, extant studies provide evidence that exposure to aggressive peers may positively predict dating violence perpetration and victimization in adolescents. However, no research to date has examined the impact of peer group physical and relational aggression on adolescents' experiences in dating relationships. In the present study, we sought to explore the influence of aggressive peer group contexts on adolescents' experiences of dating violence and overall dating relationship quality. We hypothesized that adolescents who were members of peer groups characterized by aggressive norms and tolerant attitudes toward aggression would use and be victims of aggressive behaviors within their dating relationships. We also hypothesized that adolescents who were members of peer groups characterized by aggressive behaviors and tolerant attitudes toward aggression with peer and dating partners would experience low-quality dating relationships.

Gender is also an important consideration in examining the dating behaviors associated with peer relational and physical aggression because past research has revealed patterns of gender bias. Many studies have shown that girls tend to use more relational aggression to manage their peer relationships compared to boys, who more often use physical aggression (Crick and Grotpeter 1995). In dating relationships, men report greater romantic relational victimization than women, but no differences in perpetration have been documented (Linder et al. 2002). Studies have noted that relational aggression in close friendships may be more upsetting for girls than for boys because girls see this behavior as more hurtful and hostile than boys, and as a result relationally aggressive girls may have more maladjustment than similar boys (Crick and Nelson 2002). In terms of age differences, O'Donnell et al. (2006) report that peer-directed aggression declines throughout adolescence, however it persists in the dating domain, suggesting that peer influence on dating may have a peak period. On the other hand, researchers have found that relational peer aggression persists throughout childhood and adolescence although adolescents' relational aggression may be used for gains in status (Rose et al. 2004). Despite these differences, researchers have failed to note gender and age differs in peer group socialization effects (Ellis and Zabatany 2007; Espelage et al. 2003). As such, we did not make specific predictions about age or gender differences but we examined their effects in all analyses.

Unlike much past research in this area (e.g., Arriaga and Foshee 2004; Brendgen et al. 2002; Connolly et al. 2000), we relied on direct accounts of adolescents' attitudes and behaviors rather than participants' opinions of their peers' attitudes and behaviors. Some researchers have argued that peer ratings may be more appropriate for the assessment of aggressive behaviors in children and adolescents than self-reports (see review by Archer and Coyne 2005; Björkqvist et al. 1992). Nevertheless, self-reports may be better able to measure different types of aggressive behaviour across a broad range of situations because they are less likely to be confounded by the context within which these behaviours occur (Card et al. 2008). For example, self-reports may be particularly useful for capturing covert forms of aggressive behaviour that are commonly used by adolescents (Crick and Bigbee 1998). In support of this, researchers have found that whereas adolescents were just as likely to report on their own physical aggression as others, they were more likely to report on their own relational aggression than others (Xie et al. 2002). Studies also have documented the convergence of adolescents' self- and peer-reported physical and relational aggression (Cairns et al. 1989; Espelage et al. 2003). In addition, there is evidence for a positive association between self-reported attitudes that are favorable towards violence and self-reported aggression towards

peers among young adolescents (Vernberg et al. 1999). Thus, the present study used self-reports to assess adolescents' relational- and physical-aggression, attitudes and experiences of aggression within dating relationships (both as a victim and perpetrator), and the perceived quality of dating relationships. A peer nomination process was used to identify adolescents' peer groups and aggregate within-group aggressive attitudes and behaviors.

## Method

### Participants

Participants in this study were recruited from all classes in grades 9, 10, and 11 in two public high schools in a mid-sized Canadian city. Only those students who provided documentation of parental consent and youth assent participated. The initial sample was comprised of 1,070 students (14–17 years of age,  $M_{\text{age}} = 15.45$ ; 522 females and 548 males). There were 340 Grade 9 students (32 %), 379 Grade 10 students (35 %), and 351 Grade 11 students (33 %). Most participants identified as White (80.1 %), and others self-identified as Asian Canadian (9.4 %), Arab Canadian (2.3 %), or Other (8.3 %). Census data on socioeconomic characteristics of the school neighbourhoods revealed that the sample was middle to lower-middle class.

For the purposes of the present study, data from participants who indicated previously or currently being involved in dating relationships was used for the analyses. A total of 589 participants (241 males, 348 females;  $M_{\text{age}} = 15.06$ ,  $SD = 0.80$ ) out of the original 1,070 (56 %) were used for the main analysis. Over the 6 month interval, 95 % of the sample was retained. Out of all of the participants with dating experience, 175 were in grade nine (61 male, 114 female), 193 were in grade ten (76 male, 117 female), and 217 were in grade eleven (102 male, 115 female).

### Measures

#### *Attitudes About Aggression*

Participants were asked to respond to 6 statements designed to assess normative beliefs about the use of peer aggression (e.g., “If another student hits you, it is ok to hit them back”; “If you back down from a fight, everyone will think you are a coward”). One item asked about dating violence: “Violence between dating partners is a personal matter and people should not interfere”. Responses were made on a 4-point scale ranging from “strongly disagree” to “strongly agree”, with higher scores indicating more

positive attitudes towards aggression. These items were averaged to create an overall score. The reliability of this scale was  $\alpha = .61$ . Items were taken from several sources to create this measure (Bandura 1973; Bosworth and Espelage 1995; Funk et al. 1999).

#### *Aggressive Behavior*

Participants were asked to report on their perpetration of relational and physical aggression in their peer relationships (Morales and Cullerton-Sen 2000). Responses were made on a 5-point scale ranging from “never true” (1) to “very often true” (5). Eight items tapped relational aggression (e.g., “I have spread rumors about a person just to be mean”; “When I have been angry at, or jealous of someone, I have tried to damage that person's reputation”;  $\alpha = .82$ ) and 6 items tapped physical aggression (e.g., “When someone makes me really angry, I push or shove the person”; “I have pushed and shoved others around in order to get things that I want”;  $\alpha = .80$ ). These items were averaged to create an overall score. Over 85 % of participants reported using relational aggression and 64 % of participants reported using physical aggression by indicating a “2” or higher for at least one item on the scale.

#### *Dating Violence*

The *Conflict in Adolescent Dating Relationships Inventory* (CADRI; Wolfe et al. 2001a) was used to measure aggression within dating relationships. Only participants who were previously or currently engaged in a dating relationship completed this survey (56 %). The specific instructions were: “The following questions ask you about things that may have happened to you with your boyfriend or girlfriend while you were having an argument. Mark the answer that is your best estimate of how often these things have happened with your current (or ex-boyfriend/ex-girlfriend) in the past year”. Participants were asked to indicate the frequency of occurrence of each statement during any conflicts or arguments with their current or past dating partner over the past year (e.g., “I insulted him/her with put-downs”). Response options ranged from: never happened, 1–2, 3–5, or 6 or more times. The CADRI contained items for physical, relational, and sexual aggression and threatening behavior. Victimization ( $\alpha = .91$ ) and perpetration ( $\alpha = .89$ ) were measured separately. These items were averaged to create an overall score.

According to our data, the prevalence rates of adolescents who reported either zero experiences of dating preparation/victimization (never happened) or some experience of dating perpetration/victimization (a response of “1–2 times” on at least one item) are listed below. This was done using the 5 sub-scales of the CADRI rather than

the total score that was used for hypothesis testing. Prevalence rates are as follows for perpetration and victimization, respectively, for each of the 5 subscales: Sexual Aggression, 27 %; 38 %; Physical Aggression, 21 %; 21 %, Emotional Aggression, 83 %; 84 %, Threatening Behavior, 16 %; 23 %, Relational Aggression, 63 %; 58 %. These rates are largely consistent with previous research and further demonstrate the wide range of reported dating violence cited in the literature (Sudermann and Jaffe 1997).

#### *Dating Relationship Quality*

The *Quality of Relationships Inventory (QRI)* (Pierce et al. 1991) was used to assess the quality of romantic relationships. Only participants who were previously or currently engaged in a dating relationship completed this survey (56 %). The specific instructions were: “The following questions also ask about your relationship(s) with someone who is or was more than just a friend. Please think about someone you have dated for at least 1 month. This may be your current or past partner”. The response options ranged on a 5-point scale from “not at all” (1) to “very much” (5). The seven items that assessed reported social support were averaged to create an overall index (e.g., “How much could you count on this person to help you with a problem?”). This scale had an internal consistency  $\alpha = .93$ .

#### *Peer Group Membership*

The *Social Cognitive Map* technique (SCM; Cairns et al. 1991) was used to identify adolescents’ natural social groups. Participants were asked: “Do you have a group (of three or more members) that you hang around with a lot? Who are they?” and “Are there other people (of three or more members) who hang around together a lot? Who are they?” Participants were asked to nominate only students from their own school in their own grade based on free-recall. Data were analyzed in SCM 4.0 according to Cairns et al. (1991). First, a recall matrix was created that contained all participants’ group nomination information. Second, a co-occurrence matrix was created that revealed a social map (peer group affiliation trends) for each participant. The co-occurrence matrix provides the number of times each participant was nominated as being affiliated with every other participant in the social network. Finally, a correlation matrix was created from the co-occurrence matrix, which contained Pearson product-moment correlation values between all possible pairs of participants. As a guideline, pairs of participants who received a correlation value of  $r \geq .50$  were assigned to the same peer group. In order to create non-overlapping groups, children who were initially affiliated with more than one group were assigned

membership to the group for which they had a .50 correlation with at least 50 % of the group members (Cairns et al. 1991). In cases where this was true of both group assignments, children were placed in the group with the strongest correlations with other group members. A total of 156 groups were identified with an average size of 7.4 (SD = 4.18) members.

#### *Group Attitudes and Aggression*

Group scores for peer physical aggression, peer relational aggression and attitudes about aggression were calculated based on the peer group average on individual responses for these items and therefore included participants, with and without dating experience. We required that all groups have a minimum of three participant members, however, many groups had additional members who were not participants in the present study and their scores were unavailable to create group averages. The percentage of group members who were participants in the study were calculated and ranged from 100 to 25 % ( $M = 65$  %,  $SD = 18.76$ ).

#### *Procedure*

Information sheets, consent and assent forms were distributed to all participants in grades 9, 10 and 11 in two schools. Consent was calculated by grade and ranged from 60 to 77 % ( $M$  consent rate = 69 %). There were no significant differences in consent rates between grades or between boys and girls. In October (Time 1; T1) and again in April (Time 2; T2), participants completed a questionnaire package containing the Social Cognitive Map, aggression and dating questionnaires, and several self-report measures not included in the present study. Undergraduate and graduate student researchers supervised participants’ completion of the questionnaire package within their classrooms. Each session lasted approximately 1 h. Students of classes that brought back all of their parental consent and youth assent forms, regardless of the decisions made, received a class pizza party (approximately 40 % of classes). Schools were given an honorarium of \$500 CAD for their participation in the study.

## **Results**

### *Grade and Sex Differences in Dating Experiences and Aggression*

A 3 (Grade)  $\times$  2 (Sex) multivariate analysis of variance (MANOVA) was conducted on the six variables examined in this study. There was an overall multivariate effect for

sex (Pillai's Trace = .31,  $F(6, 506) = 36.88$ ,  $p < .001$ ). Univariate main effects for sex emerged for quality of dating relationship ( $F(1, 506) = 4.49$ ,  $p < .05$ ), physical aggression ( $F(1, 506) = 66.68$ ,  $p < .001$ ), and attitudes toward aggression ( $F(1, 506) = 136.77$ ,  $p < .001$ ). Boys reported poorer dating relationship quality than girls ( $M_s = 3.93$  and  $4.03$ ,  $SE_s = .23$  and  $.06$ , respectively), more physical aggression than girls ( $M_s = 1.51$  and  $1.25$ ,  $SE_s = .15$  and  $.06$ , respectively) and stronger attitudes toward aggression compared to girls ( $M_s = 2.32$  and  $1.84$  and  $SE_s = .14$  and  $.03$ , respectively).

There was also an overall multivariate effect for grade (Pillai's Trace = .06,  $F(12, 506) = 2.43$ ,  $p < .05$ ). Univariate main effects for gender emerged for quality of dating relationship ( $F(2, 506) = 4.47$ ,  $p < .05$ ) and attitudes towards aggression ( $F(2, 506) = 5.33$ ,  $p < .01$ ). Adolescents in grade 11 reported the highest quality of dating relationships ( $M = 4.09$ ;  $SE = .07$ ), which significantly differed from adolescent in grade 10 ( $p < .05$ ;  $M = 3.84$ ,  $SE = .02$ ) but not those in grade 9 ( $p = ns$ ;  $M = 3.99$ ,  $SE = .08$ ). Adolescents in grade 10 had the most tolerant attitudes toward aggression ( $M = 2.24$ ,  $SE = .04$ ), which significantly differed from those in grade 11 ( $p < .05$ ;  $M = 2.05$ ,  $SE = .04$ ) but not those in grade 9 ( $M = 2.11$ ,  $SE = .05$ ).

#### Analytic Procedure

Given that the study of peer groups involves nested relations, hierarchical linear modeling (HLM; Raudenbush and Bryk 2002) was used to examine the impact of peer group context at T1 on adolescent outcomes at T2. This analytic technique allowed us to test group level variables, while accounting for the interdependence of participants within the same peer group. A two-level HLM model was used to test the hypotheses concerning the effects of group-level aggression on individual outcomes. Three steps were necessary to construct the final models, and separate models were created for each of the T2 outcome variables (dating violence victimization, dating violence perpetration, dating relationship quality). First, we estimated a fully unconditional model. Intraclass correlations (ICCs) were used to assess the similarity among group members on each of the outcome variables. The ICC values represent the proportion of the total variance between groups relative to the variance within groups. Significant between-group variance was evident for all outcome variables ( $p$ 's  $< .05$ ). Second, we computed a within-group model in which regression equations were used to predict individual-level relations between T2 outcomes as a function of T1 behavior and attitudes. The following variables were

entered at Level 1: sex, grade, T1 attitudes towards aggression, T1 relational aggression and T1 physical aggression. Third, we used the randomly varying intercept from the Level 1 analysis as the dependent variable in the Level 2 (between-group) model to determine significant group-level predictors of T2 individual outcomes, over and above the contribution of T1 behavior and attitudes. The level 2 intercept is the average outcome for each group. The following variables were entered at Level 2: T1 group aggression attitudes, T1 peer group relational aggression, and T1 group physical aggression. Therefore, all significant level 2 predictors were above and beyond any contributions on the individual level. Finally, although no specific predictions were made, interactions between individual gender and grade and group aggression were explored. As recommended by Raudenbush and Bryk (2002), the Level 1 predictors (individual attitudes towards aggression, relational aggression, and physical aggression scores) were group-mean centered, and all Level 2 variables were grand-mean centered. When using continuous predictors group-mean centering centers variables to zero instead of the grand mean. This allows for testing cross level interactions between sex, grade and group level scores.

Equations for the level 1 and level 2 models are summarised below:

$$\begin{aligned}\beta_{ij} &= \beta_{0j} + \beta_{1j}(\text{Sex}) + \beta_{2j}(\text{Grade}) \\ &+ \beta_{3j}(\text{Individual Attitudes}) \\ &+ \beta_{4j}(\text{Individual Relational Aggression}) \\ &+ \beta_{5j}(\text{Individual Physical Aggression}) + r_{ij} \\ \beta_{0j} &= \gamma_{00} + \gamma_{01}(\text{Group Attitudes}) \\ &+ \gamma_{02}(\text{Peer group relational aggression}) \\ &+ \gamma_{03}(\text{Group Physical Aggression}) + u_{0j}\end{aligned}$$

#### Hypothesis Testing

##### *Models Predicting Dating Relationship Quality*

At Level 1, individual T1 grade and aggression attitudes were significant predictors of T2 dating relationship quality. The quality of dating relationships was higher for younger adolescents and those with less tolerant attitudes toward aggression. At Level 2, T1 group-level relational aggression and T1 group-level physical aggression significantly added to the prediction of T2 dating relationship quality; T1 peer group relational aggression was negatively associated with T2 dating relationship quality, whereas T1 group physical aggression was positively associated T2 dating relationship quality. The results are presented in Table 1.

**Table 1** Hierarchical linear models predicting Time 2 (T2) relationship quality, dating victimization and dating perpetration

	Coefficient (B)	Standard error (SE)	t Ratio (p value)
<i>Relationship quality</i>			
Level 1			
Intercept	3.97	.05	69.48
Sex	.21	.17	1.25
Grade	-1.71	.14	-11.69**
Individual attitudes	-.40	.14	-2.97*
Individual relational aggression	.01	.10	.18
Individual physical aggression	.16	.13	1.26
Level 2			
Intercept	4.01	.05	77.88**
Peer group attitudes	.07	.11	.65
Peer group relational aggression	-.25	.11	-2.3*
Peer group physical aggression	.20	.09	2.3*
<i>Dating violence victimization</i>			
Level 1			
Intercept	1.26	.02	65.49**
Sex	-.05	.08	-.77
Grade	.02	.28	.09
Individual attitudes	.08	.05	1.55
Individual relational aggression	.08	.06	1.53
Individual physical aggression	.04	.06	.78
Level 2			
Intercept	1.26	.02	65.18**
Peer group attitudes	-.03	.04	-.68
Peer group relational aggression	.08	.04	1.96*
Peer group physical aggression	.01	.03	.14
<i>Dating violence perpetration</i>			
Level 1			
Intercept	1.21	.01	86.75**
Sex	-.02	.07	-.39
Grade	-.04	.02	-2.02*
Individual attitudes	.02	.03	.67
Individual relational aggression	.12	.04	2.92*
Individual physical aggression	.01	.05	.30
Level 2			
Intercept	1.21	.01	88.09**
Peer group attitudes	-.02	.02	-1.03
Peer group relational aggression	.07	.03	2.12*
Peer group physical aggression	-.00	.02	-.13

**Table 1** continued

	Coefficient (B)	Standard error (SE)	t Ratio (p value)
Peer group relational aggression × sex	.31	.15	2.01*

Male = 1; Female = 2

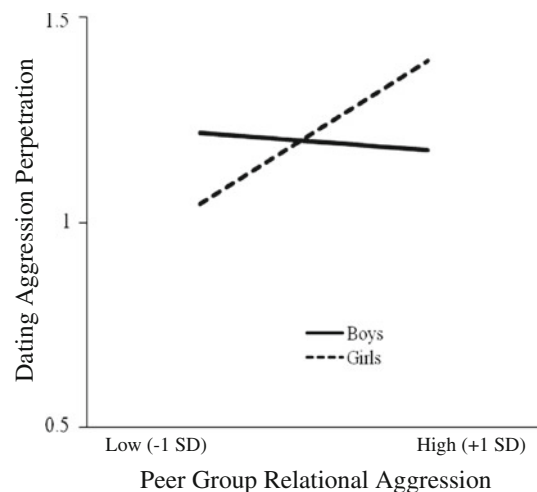
\*  $p < .05$ ; \*\*  $p < .01$

*Models Predicting Dating Violence Victimization*

At Level 1 model, there were no significant individual T1 predictors of T2 dating violence victimization. At Level 2, T1 peer group relational aggression was positively associated with T2 dating violence victimization. The results are presented in Table 1.

*Models Predicting Dating Violence Perpetration*

At Level 1, individual T1 relational aggression was a significant predictor of T2 dating violence perpetration. Adolescents who were high in relational aggression at T1 engaged in more dating violence perpetration at T2. At Level 2, T1 peer group relational aggression was positively associated with T2 dating violence perpetration. That is, adolescents who were members of peer groups that were high in relational aggression at T1 were more likely to experience dating victimization from their dating partners at T2. Further, a cross-level interaction emerged between sex and peer group relational aggression. Significant interactions were analyzed according to the guidelines outlined by Aiken and West (1991) and simple slopes were tested following the procedures outlined by Preacher et al. (2006). The interaction is shown in Fig. 1. Simple slopes



**Fig. 1** The cross-level interaction between sex and peer group relational aggression in predicting dating aggression perpetration

tests revealed that girls who belonged to a more relationally-aggressive peer group engaged in more dating violence perpetration than girls whose peer groups were less relationally-aggressive ( $b = .21, p = .02$ ). The association between peer group relational aggression and dating violence perpetration was not significant for boys ( $b = -.17, p = .06$ ).

## Discussion

In adolescence, the peer group is a major source of influence on adolescents' attitudes and behaviors (Rubin et al. 2006), and research suggests that influence occurs above and beyond that of dyadic friendships (Urberg et al. 1997). Thus, it is important for researchers to consider the role of the peer group if we are to gain a comprehensive understanding of how dating abuse is facilitated in adolescence. To our knowledge, our study is the first to examine the influence of aggressive peer group contexts on relationship quality, and dating violence victimization and perpetration among dating adolescents. Unlike the majority of prior research on the role of friends in dating abuse (e.g., Arriaga and Foshee 2004; Brendgen et al. 2002; Connolly et al. 2000), we directly assessed peers' aggressive attitudes and behaviors rather than relying on participants' opinions of their peers' attitudes and behaviors, thus providing a more accurate measure of these constructs.

Findings indicated that over and above any contributions of individual aggressive attitudes or behaviors, adolescents who were members of peer groups characterized by high levels of relational aggression at the beginning of the school year were more likely to experience dating violence (both victimization and perpetration), and have lower quality dating relationships 6 months later. An unexpected finding was that group-level physical aggression was associated with more supportive dating relationships. These results are consistent with previous research suggesting the importance of peers in shaping adolescent dating experiences (Arriaga and Foshee 2004; Brendgen et al. 2002; Capaldi et al. 2001), and represent a significant contribution to the existing literature by highlighting that peer group influence extends beyond individual behavior and into dating relationship contexts.

In line with previous suggestions on the importance of attitudes toward aggression in promoting dating violence (e.g., Capaldi et al. 2001), we found that, at the individual level, adolescents who reported more tolerant attitudes towards aggression experienced lower quality dating relationships. These adolescents may believe that aggression is an effective manner to resolve conflict, and may find it difficult to effectively communicate and resolve conflicts that arise in their dating relationships. Furthermore, when

physical violence is deemed a reasonable solution to conflict, the emotional give and take that is needed for the development of intimacy may be impaired. Despite this possibility, our findings showed that individual attitudes did not add to the prediction of *behavior* in dating relationships. In addition, there were no significant group-level relations between group attitudes and dating quality or behavior. Adolescents receive many messages about the inappropriateness of physical aggression and the questions asked in the present study may have been particularly susceptible to social desirability biases. The low reliability of this scale also might suggest poor understanding of question items. Even when adolescents react in an aggressive manner because they believe that this is the best course of action, they may not be aware (or willing to admit) these attitudes. It is also possible that the observed actions of peers do more to shape adolescents' behavior than their attitudes. Moreover, group-level behavior may better reflect peer group norms than group-level attitudes. For example, adolescents may engage in certain behaviors to adhere to group norms and secure their group membership even though their personal attitudes may be different (e.g., bullying; Burns et al. 2008). As such, group behaviors may serve as a better proxy of adolescents' experience with aggression than group attitudes, and may thus have more predictive power.

There was also evidence that adolescents who were members of relationally aggressive peer groups reported lower-quality dating relationships and more dating violence victimization and perpetration. At the individual level, the use of relational aggression was also a predictor of dating violence perpetration. This is clearly in line with previous research showing that peer aggressors are likely to be dating aggressors (Connolly et al. 2000; Leadbeater et al. 2008). However, we also demonstrated that, above and beyond individual aggression, aggressive peer group contexts significantly contributed to dating violence. There is evidence to suggest that relational aggression among peers is associated with relationships that are exclusive, intense and stable (when members are similarly aggressive; Ellis and Zarbatany 2007; Grotperter and Crick 1996; Sebanc 2003). Because relationally aggressive relationships tend to be exploitive and controlling, feelings of hurt and betrayal may be frequent and may lead to externalizing behavior (Crick and Nelson 2002; Crick et al. 2006; Ellis et al. 2009). Youth who affiliate with peers who rely on relational aggression to manage relationships may develop higher expectations for exclusivity and control in their dating relationships, and may be particularly vulnerable to feeling victimized when their partner does not attend to them or spends time with others. Consistent with social cognitive theory, studies have shown that relationally aggressive youth may attribute more hostility to their



dating partners' actions and view themselves as victims of hostility (Crick and Grotpeter 1995; Yeung and Leadbeater 2007). For youth in our sample, belonging to a relationally aggressive peer group predicted poor quality dating relationships and dating violence victimization. However, the positive association between peer group relational aggression and dating violence perpetration was seen for females only, which is not surprising in light of past research showing that patterns of relationally aggressive interactions are more hurtful and upsetting for girls than boys (Crick and Nelson 2002). Thus, it is likely that in the presence of relationally aggressive role models, girls may react strongly to relationship threats with some combination of physical and verbal aggression with their dating partners. Boys, on the other hand, may not interpret similar behaviors as threatening even when they belong to relationally aggressive networks.

An interesting, and unexpected, finding emerged for physical aggression: adolescents who were members of physically aggressive peer groups reported higher quality dating relationships. Within aggressive group contexts, adolescents are likely, at some point, to be on the receiving end of aggressive behavior. It may be that adolescent peer victims escape into intimate romantic relationships to avoid peer abuse. Dating partners even may be drawn together through similar peer experiences. For example, the literature on bullying suggests that having a best friend can protect youth against victimization (Hartup 2005). It is possible that romantic relationships can serve a similar purpose in protecting youth from physically aggressive peers. The use of physical aggression is often more outwardly visible than relational aggression and dating partners may want to "protect" their girlfriends/boyfriends from aggressive peer group members, which may then lead to heightened feelings of support and intimacy. In the present study, however, we did not collect peer group victimization data and thus we cannot directly examine the relationship between within-group victimization and increased intimacy in teen dating relationships. This will be an important task for future research.

On the other hand, it is important to note that our finding regarding peer group physical aggression and relationship-quality is inconsistent with past research showing that having physically aggressive best friends is linked to greater violence in dating relationships (Brendgen et al. 2002). Prior research suggests that, within adolescent peer groups, socialization of relational aggression may be stronger than socialization of physical aggression (Espelage et al. 2003). As such, adolescents may have a greater opportunity to apply their peer-influenced relational aggression to dating contexts. Future research is needed to further examine the relationships between different types of peer group aggression and adolescents' experience of

dating violence, and to explore the potential role of differential peer group socialization effects.

Finally, it is important to highlight gender and grade differences that emerged from our data analysis. In line with previous research (Crick and Grotpeter 1995), boys were involved in more physical aggression and endorsed aggression more than girls. Also, girls reported greater dating relationship quality than boys. This finding may be related to girls' heightened experiences of intimacy within their relationships (e.g., Sharabany et al. 1981). Some research suggests that this extends into dating relationships with adolescent girls experiencing greater feelings of support (Connolly and Johnson 1996), attachment and care for their partners (Shulman and Scharf 2000) as compared to adolescent boys. However, even though there were gender differences in the experience of aggression and quality of dating relationships, they did not extend to differential experiences with dating abuse. Regarding grade differences, adolescents in grade 11 reported greater quality of dating relationships and less tolerant attitudes towards aggression as compared to teens in grade 10. This latter finding paired with the lack of grade differences for dating abuse are in line with prior research demonstrating declines in aggression throughout adolescence, except in the dating domain (O'Donnell et al. 2006). Once again, however, these gender differences did not extend to differential experiences with dating abuse in adolescence.

The conclusions of our study should be considered in light of methodological limitations. First, regarding the importance of peer group relational aggression, it is difficult to interpret the cause and effects in the present design. The associations between relational aggression and dating experiences are likely to be bi-directional at both the individual and group levels. Furthermore, it should be noted that during the adolescent period, dating partners are likely to belong to the same group (Connolly et al. 2004). Because we did not identify dating partners in the present study, the extent to which peer group relationships and dating relationships overlap is unknown. In addition, we have no information on underlying family contributions that may simultaneously contribute to both peer and dating relationships.

Second, adolescent peer groups tend to be formed based on shared characteristics of members (Rubin et al. 2006). Thus, the results of our study may reflect the phenomenon of aggressive adolescents selecting into or attracting more aggressive peer groups, and subsequently being exposed to higher levels of aggression in their dating relationships. However, prior research has shown that even after controlling for selection effects, peer groups play a significant role in socializing adolescents' relationally aggressive behaviors (Rubin et al. 2006). The longitudinal design of the present study allowed us to control for participants'

initial individual aggression levels, and predict dating violence as a function of group level aggression. Thus, we can be more confident that peer group relational aggression predicts later dating violence, over and above individual aggressive tendencies.

Finally, we did not examine different aspects of dating violence (e.g., verbal, physical, sexual, threatening and relational) separately. The areas of dating abuse were examined together to get an overall estimate of dating violence. Given the sometimes overlapping categories of dating violence (O'Leary and Slep 2003) and the expectation that both relational and physical aggression in peer relationships could lead to poor relationships and dating violence expressed in any number of ways, the analyses were not further divided into the five categories of dating abuse measured. Nevertheless, it would be interesting for future work to examine the specific associations between categories of peer aggression and categories of dating violence. A related limitation is that participants could respond about a current or past dating partner. However, there is reason to think that relationship quality is somewhat stable during adolescence (Furman and Collins 2008), perhaps due to the underlying stability of peer and family contributions.

In summary, while previous studies have demonstrated peer group influences on adolescents' attitudes and behaviors in a wide variety of domains (see Rubin et al. 2006 for a review), this is the first study to show that group influence extends to dating relationship contexts. Our findings add to the literature on dating violence and suggest a need to consider the inclusion of peer groups in the design and implementation of dating violence prevention and treatment programs. The present study also underscores that peer behavior is at least partially responsible for shaping adolescent dating relationships, and that more attention should be focused on the potential impact of peer groups on the promotion of healthy relationships during adolescence.

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